KNOWLEDGE AND ATTITUDE OF HEALTH WORKERS TOWARDS MENTAL ILLNESS AT HARGIESA, SOMALILAND

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ABSTRACT

Background: Mental neurological and substance use disorders are prevalent in all regions of the world. The prevalence of mental illness in Somaliland is relatively high

. Despite this high burden, there is lack of mental health proffesional and psychotropic medications available in the general health institutions. This situation legitimately warrant provision of mental health by non mental health professionals which inturns need assessment of the knowledge and attitude of the general health professionals towards mental illness.

Objectives: This study aims to assess the knowledge and attitude of health workers towards mental illness in Hargeisa city, Somaliland.

Methods: Institutional based cross-sectional study was implemented among 7 health centers and two hospitals in October 2013 at Hargeisa Somaliland. The institutions were selected by simple random sampling technique. Structured questionnair was distributed to all health workers. The data was analyzed by SPSS version 16 for windows. Simple frequency distribution, bi-variate and multi-variate logistic regressions were computed to see and identify independently associated factors. P-value <0.05 was declared as statistically significant.

Results: Of the total participants, 131 (44.4%) of the health workers were considered to have adequate knowledge. About 242 (82.0%) health workers had favorable positive attitude towards mental illness and mental health service. Female health workers were less knowledgeable than male health workers with AOR: 0.51, 95% CI: {0.28-0.97}. Degree level graduates were more knowledgeable than Diploma level with {AOR: 7.02, 95%CI: 3.5-13.7}. Non physicians were less knowledgeable than physicians, like Nurses {COR: 0.47, 95% CI: 0.02-0.108}, Midwives {COR: 0.04, 95% CI: 0.17-0.12}, Pharmacy {COR: 0.01, 95% CI: 0.05-0.06}, Health Officers, {COR: 0.07, 95% CI: 0.20-0.30} and laboratory {COR: 0.01, 95% CI: 0.00-0.05}. Health workers who did not take psychiatry course were less knowledgeable than those who did AOR: 0.22, (0.89-0.57).

Conclusion: The study revealed that majority of the health workers had inadequate knowledge but positive attitude towards mental illness and mental health service.

Recommendation: Providing in-service mental health training and supportive supervision of health workers is critical to improve the situation.

Keywords: mental health, knowledge, attitude, health worker

Table of content

ACRONYMS /ABBREVIATIONS

MNS: Mental, Neurological, and Substance use

WHO: World Health Organization

DALYS: Disability-Adjusted Life Years

AMHF: Africa Mental Health Foundation

ICCMH: Integrated Clinical & Community Mental Health

LMICs: Low- and middle-income countries

MhGAP: Mental Health Gap Action Program

PHC: Primary Health Care

GAVO: General Assistant voluntary Organization

MOHL: Minister of Health and Lobour

VIVO: Alliance of professionals experienced in the fields of psycho grammatology, international health, humanitarian aid, scientific laboratory, field research, sustainable development and human rights advocacy.

HGH: Hargeisa Group Hospital.

HMIS: Health Management Information System

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Chapter One: Introduction

1.1 Background

World health organization estimated 450 million people worldwide suffer from mental, behavior or psychological problems. One in four people will be affected by some form of mental illness at some time in their life. The burden of mental illness is considerably very high accounting for about 14% of the global burden of disease; and many studies showed that the prevalence of mental health problem is likely to increase even further in the coming years (1, 2).

Community survey in 28 countries throughout the world looking for the prevalence distribution, burden and treatment of mental illness reported that the life time prevalence of DSM-IV mental disorders is 18.1%-36.1%. Neuropsychiatric disorders (bipolar, schizophrenia, depression and alcohol use disorders) are fourth of leading causes of disability adjusted life years (DALYs) and account for 13% of DALYs lost due to all diseases and injuries in the world (3 4).

In low and middle income countries mental health is one of neglected areas in public health. Furthermore personal stigma, care giver burden of family members, human rights violation, functioning and loss of work productivity can cause high costs on the health system (5). Low and middle income countries allocate less than 1% of their health budget leading to significant proportion of the individuals with mental illness not receive medication for their mental health problem in fifteen out of 19 African countries. Lack of mental health services in many countries means, people with mental illness have incomplete access to the treatment and care they need (1,6).

When compared to the world, the prevalence of mental health problem in Somaliland is high. Somaliland has the least of mental health facilities in the world. The Mental Health World Report in 2001, which estimates one in four families as being likely to have at least one member with a behavioural or mental disorder in the whole world (7).Somalia has very high mortality rates, but there are no health statistics for Somaliland alone, and mental health is not included in government health indicators (8).

1.2 Statement of the problem

The prevalence of the mental disorders in the world are very high, psychotic disorders like schizophrenia and bipolar disorders affect 1-3% of the populations in the world but the most common mental disorders in the world are anxiety and depression. The prevalence of depression is higher than diarrheal disease, ischemic heart disease, malaria and tuberculosis, even road traffic accidents (9).

Mental illnesses in all countries are linked with social disadvantage poverty and marginalization. Health system around the world faces huge challenges in delivery of protection of human rights and mental health care above with challenges like scarce financing, inefficient allocation, human resource (10). In developing countries scarcity of human resource are main causes for huge gap between the provision of mental services and prevalence of mental illness. Providing mental health services in developing country, in sufficient financial resources are the main reasons that shows the poor services of mental health for example 0.04 psychiatrist, 0.20 psychiatric nurse and 0.05 psychologist are in Africa compared Europe 9.8, 24.8 and 3.1 respectively psychiatrist, psychiatric nurse, and psychologist (10).

Mental illness comprises directly and indirectly important part of the global health burden by putting individuals at great risk and worsening the outcome of communicable and non-communicable disease (11). The high prevalence of mental illness and poor knowledge of both community and health professional worsened the huge gap in the developing countries (12).

The Mental Health Situation in Somaliland

The former British protectorate Somaliland declared independence in 1991, becoming the Republic of Somaliland and although not internationally accepted, has developed with increasing stability in contrast to the Somalia. Somaliland has an estimated population of 3.85 million with annual population growth of 3.14%. The life expectancy at birth is 47 years, in addition to that 60% of the population is considered to be living below poverty line. From government budget the health sector receives about 3%. These mainly support salaries and maintenance (13). The

prevalence of mental illness in Somaliland is thought to be high. It is estimated that at least one person in every two households has some form of mental illness though there is no accurate nationally representative data in the entire country except in Hargeisa. This figure is high when compared to the Mental Health World Report in 2001, which estimates one in four families as being likely to have at least one member with a behavioural or mental disorder in the whole world. The report indicated that 21% of surveyed households care for at least one family member with severe mental health problem. The situation is further aggravated by rapid increase in the number of people who either face mental illness or psychological disorder (14).

A survey conducted by VIVO in Hargeisa 2002, indicated that 21% of surveyed households, care for at least one family member with severe mental health problem. The situation is further aggravated by rapid increase in the number of people who either face mental illness or psychological disorder. There are many factors behind it including; drug abuse, post war trauma, physical illness/diseases and un employment are some of the most common one. The situation of the mentally ill people is further worsened by the fact that Somali believe that once a person becomes mentally ill, he/she will never be recover (15).

In Somaliland there are no well functioning mental health structures. The ministry of health in Somaliland has communicable disease control and prevention department under which mental health unit also exists with very little focus and attention to it. There is no budget for mental health from the government of Somaliland. The government only financially contributes to mental health paying the salaries of staff members include general practitioners cleaners, watchman, and social workers (16). In general, public health institutions of primary health care and national health system are not equally distributed in the country. The numbers of Hospitals are 24 having with 1977beds, 85 Health centers, and 170 Health posts. There are only two public inpatient psychiatric units in Somaliland. Although There are privately owned health facilities which have inpatient and outpatient facilities for physical illness with pharmacies but any of them have not out-or in –patient mental health care unit (17).

Mental health strategy, plan or policies do not exist and they are not in development for Somaliland. The two public inpatient psychiatric units in Somaliland are Hargeisa Group

Hospital mental ward with 110 beds and Berbera Mental Hospital with 42 beds. However Borama and Burao have an outpatient mental health Units recently opened. Psychiatric staffs are auxiliary nurses with limited formal training, and until recently there was no mental health professional available in either psychiatric inpatient unit other than one general physician available to one of the Mental Hospital (HGH). Conditions are poor in the psychiatric ward of Hargeisa Group Hospital in comparison to the general wards, and it is common for patients there to be chained. There are no psychiatric staffs or psychotropic medications available in general primary or secondary health care services, including maternal and child health centers and other health posts Traditional mental health facilities exist in the local community playing a significant role in managing for mental illness. These traditional and spiritual mental health centers are run by some of the community members (18).

1.3 Significance of the Study

In Somaliland there is no mental health strategic plan or policy. There is no well functioning mental health department under the ministry of health in Somaliland. Mental health facilities in Somaliland are poor by comparing to other countries in the world. This obstacle lead the country to be one of the countries in the world which has no any mental health professionals be it a psychiatrist or psychiatry nurse. However there are very few efforts taking place in the country, in which the Government, WHO (world health Organization), international NGOs, and local NGOs are attempting to consider mental health care.

According to the WHO plan for mental health care access to all, the non psychiatric health professionals are required to help mentally ill people like general doctors, nurses, and other health workers who are working in the general health institutions whether hospitals or MCHs.

In order to plan how general health workers can help people +how they can help peoples suffering from mental health problems, understanding their level of knowledge and attitude of health care workers towards people with mental illness is crucial. The finding of this study will be helpful to health service planners, decision makers and other stakeholders working on mental health related issues in Somaliland. The study could also serve as a bench mark for future researchers as there is no data in the area.

Chapter Two: Literature Review

2.1. Knowledge of health workers towards mental illness

In a cross sectional study done in Delta State Nigeria on evaluation of knowledge, belief and attitude of health care providers towards mental health, showed that 60.25%, 29.8%, and 1.2% of the participants reported that their source of knowledge of mental health were reading text books, co-staffs or workshop and seminars, respectively. For the causes of mental illness, 62.9% of health care workers reported as psycho active substance, 14.2% as cursed punishment and 15.3% as witches and wizard (19).

A cross sectional study conducted in 10 Kenyan health facilities, assessing on knowledge attitude and practice regarding mental health, showed that 83% of medical staffs responded to the questions on suspecting significant psychiatric components, were us 69% of medical staffs referring patients to mental health care specialist. Only 33.4% of participants' diagnosed psychiatric illness, 17.9% of staffs thought that mental illness could be managed only by a psychiatrist. At the same time 89.1% of medical staffs thought that non psychiatric doctors had important role to play. More doctors assessed patients despite greater than any other participants, with a significant statistical difference (20).

Another cross sectional study conducted in Jimma south west Ethiopia, assessed knowledge attitude and practice of nursing staffs towards mental health problem, Showed that 89% of the participants were knowledgeable of mental illness of which 79% and 23% of the nurses obtained the information from the school and other health workers respectively. The common symptoms of mental illness reported were talkativeness, talking alone, aggression, sleep disturbance and self neglect. Hereditary, physical illness, biomedical disturbance and spirit were reported as causes of mental illness (21).

In cross sectional study done in Nigeria evaluating knowledge, attitude and beliefs about causes and treatment of mental illness, illustrated that 21%, 16.1%, and 13.3% of participants reported common signs and symptoms of mental health problems as aggression, talkativeness and abnormal behavior. When asked about preferred source of treatment for mental illness, 46.0% of participants reported from medical care, 34.0% from spiritual healing, 18.0% from traditional

herbal medicine. As perceived causes of mental illness, 34.3% of health workers reported by misuse of drugs, 18.8% by divine punishment, 18.0% by magic or spiritual possession and 11.7% by hereditary(22).

In a recent study conducted in Jimma South West Ethiopia on 15 primary health care workers found that 18.5% of participants were not able to identify type of mental illness. However about 60.0%, 41.1%, 40.4% and 27.8% % identified depression, anxiety, schizophrenia and Bipolar disorder respectively. About 6%, 3.3% and 25.8% of participants were able to recognize treatment of mental illness by naming chlorpromazine, Amitriptyline and Diazepam, respectively (23).

In a study done in India about knowledge and attitude of Doctors regarding Provision of mental health care demonstrated that 50.0% of participants were able to correctly name three sign and symptoms of depression while less than one third 28.3% of participants correctly named three signs and symptoms of schizophrenia. 78.0% and 76%of participants were confident in recognizing signs and symptoms of depression or anxiety and schizophrenia respectively.
As a kind of mental illness, 76.1%, 58.6% and 76.1% of the participants correctly recognized Schizophrenia, Bipolar and depression, respectively (24).

In study investigating knowledge and attitude about mental illness among nursing staffs in Nepal, showed that 70.0% of participants reported that treatment of mental illness was modern medicine, and 40.0% reported homeopathic. 77.3% of participants stated that the general practitioners were not effective in treating mentally ill people. The majority of the respondents (94.0%) reported to have received information from seeing mentally ill people, 84.5%, from doctors and health workers 79.0%, from friends and relatives, 80.0% form print media and electronic media (radio 59.1%, TV78.1%), 25.4% from family members 23.6% from Faith healers and 75.0% from other sources. About 68.2%, 65.4% 90.0%, 89.0%, 86.3% and 60.0% of the participants believed that the causes of mental illness were financial constrain, genetic heritability, bio-medical disturbance in brain, sin or disregard for religion, evil spirits/ghost/witchcraft, and promiscuity respectively Sixty-five percent respondents expressed their satisfaction with current knowledge. (25).

2.2 Attitude of health workers towards mental illness

In Study, assessing attitude of mental health care workers to care psychiatric patients in Kanu Teaching Hospital in Nigeria resulted 59.1% of the participants said that patients in psychiatric ward would not make any danger within the hospital and 54.7% of the participants said they would be no difference for locating psychiatric ward inside the hospital. About 64.1% of the respondents developed fearfulness when they heard admitted peoples with mental disorders in their wards. Male and female perceived mental illness with slight difference in that male accepted it more favorably than females (65.5% and 51.2% respectively). Majority of the doctors, pharmacist and nurses would not care about whether psychiatric patients get admitted to the ward they are working which means that they have positive attitude while other professionals felt discomfort of having mentally ill patient in their ward (26). `

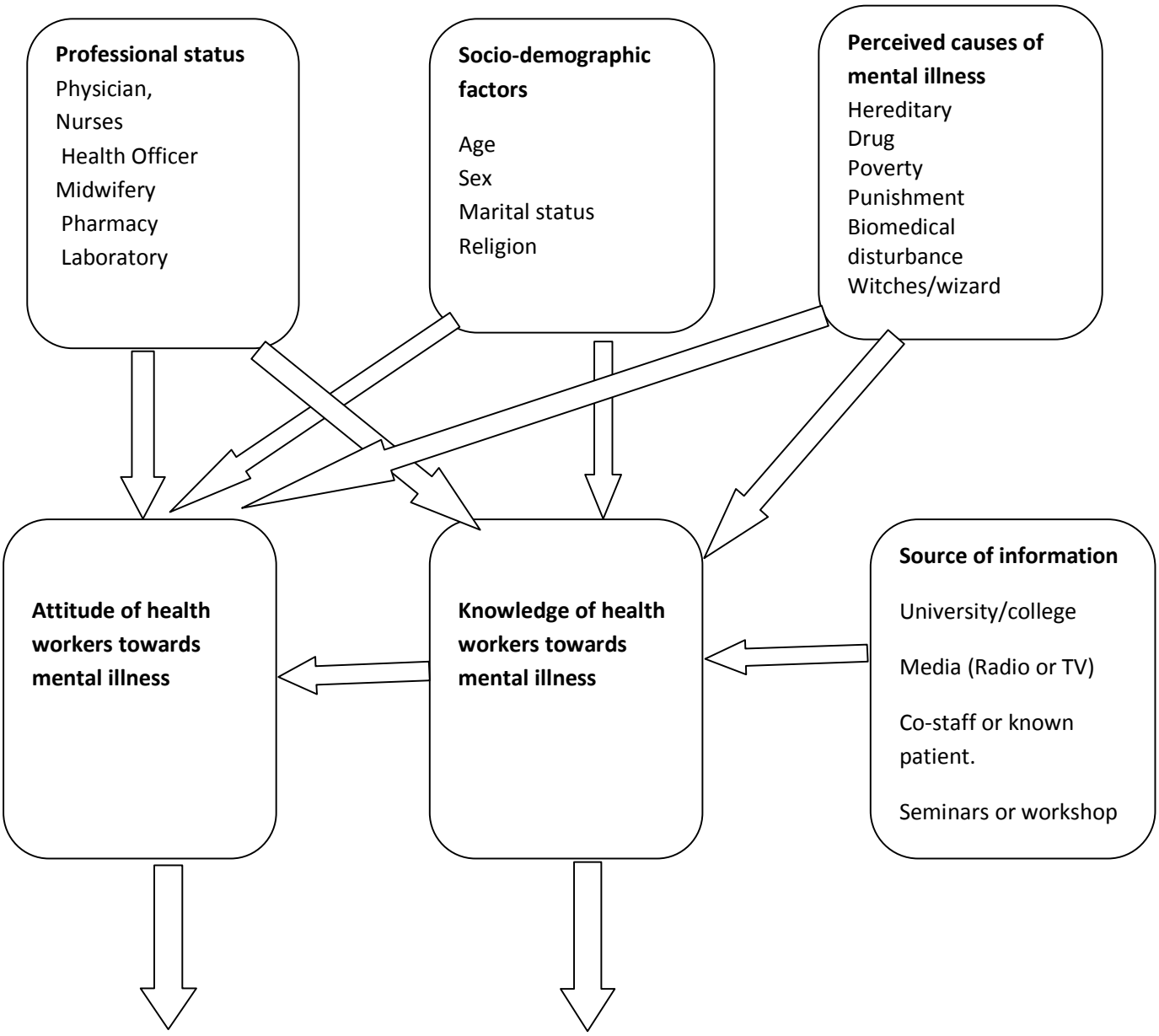
Another study in 2009 comparing mental disorder and emotional empathy in mental health and other health care professionals in United Kingdom, participated by 58 mental health care professionals and 60 non mental health care professionals, revealed generally positive attitudes towards people with mental disorders in both groups. Non-mental healthcare professionals regarded people with a mental disorder as significantly more dangerous and unpredictable than did mental healthcare professionals. There was no statistically significant difference in emotional empathy between the two groups. Both groups cited illicit drug use as one of the most significant causes of mental disorder. The study said that the majority of both groups felt sympathy towards people with mental illness. 70% of the mental health professionals preferred to support people with mental illness more than that of non mental health professionals which was 46% (27).

Study done in Malaysia assessing on attitudes of Malaysian general hospital staff towards patients with mental illness and diabetes, revealed common attitudes towards person with mental illness in both groups. The combined Level of agreement across the five items for the two groups indicated no substantial difference. Overall, 33.6% of participants agreed on that woman would be foolish to marry a man who has had a severe mental illness, even though he seems to be fully recovered. 36.4% of the participants aver all agreed on that it is frightening to think of people

with mental problems living in your own neighborhood. 47.3% and 67.1% of the participants agreed that someone with a history of mental illness should not be given a job of high responsibility and “although some mental patients seems all right, it is dangerous to forgot for a moment that they are mentally ill respectively while 71.4% of staffs over all agreed that a woman who has had a history of mental illness should not be hired as a babysitter. However when compared those participating to mental illness to those in diabetes they had higher scoring on avoidance, negative stereotyped expectation and decreased caring and supporting (28).
A cross-sectional survey of patients and careers attending mental health and non-mental health related clinics in a general hospital in Blantyre, Malawi resulted that most attributed mental disorder were to alcohol and illicit drug abuse (95.7%). This was closely followed by brain disease (92.8%), spirit possession (82.8%) and psychological trauma (76.1%) (29).

A cross-sectional descriptive study of a convenience sample of 208 participants from the University of Uyo Teaching Hospital, Uyo, Nigeria, The respondents held strongly negative views about the mentally ill, 52.0% of them believed that witches could be responsible, 44.2% thought mental illness could be due to possession by demons, and close to one-third (30%) felt that it could be a consequence of divine punishment (30).

Conceptual frame work



Knowledge and attitude of health workers towards mental illness

Figure 1 Conceptual Frame work about knowledge and attitude of health workers towards mental illness after reviewing literature

Chapter Three: Objectives

3.1 General Objective

- To assess knowledge and attitude of general health workers towards mental illness In Hargeisa, Somaliland

3.2 Specific Objectives

- To assess the level of knowledge of health workers towards mental illness in Hargeisa, Somaliland.
- To determine the pattern of attitudes of health workers towards mental illness in Hargeisa, Somaliland.
- To identify factors associated with inadequate knowledge of health workers towards mental illness.
- To identify factors associated with negative attitude of health workers towards mental illness.

Chapter Four: Methods and Materials

4.1 Study Area and period

The study was conducted in Hargeisa city, the capital city of Somaliland. It is located in an enclosed valley of Ogo highland with an elevation of 4,377 Feet (1337 meters). Its temperature ranges from 13 to 32 degree Celsius with annual rain fall of 400mm. The latitudinal position of Hargeisa is 9.5 north and longitudinal position 44.1 east. Hargeisa has six districts. There is no census but the total population of the city was estimated to be 0.85 million. Currently in Hargeisa, there are 17 Public Health Institution (4 Hospitals, and 13 Maternal and Child Health Centers). 993 health care workers are working in the all Health Institutions. The health workers were Doctors, Nurses, midwifery, pharmacy laboratory and other health workers working in clinical duties (31).

This study was conducted from 1st -30th, November 2013 in Hargeisa Somaliland.

4.2 Study design

Cross-sectional study design was used

4.3 Population

4.3.1 Source Population:

All health workers working in health centers of Hargeisa city were considered as source population.

4.3.2 Study population

The study population was all health workers working in the selected health institutions.

Inclusion Criteria

Health workers working in the health institutions and were on work during the study time.

Exclusion Criteria

- Health workers who were off duty or on annual leave during data collection period.
- Health workers who were severely ill and not able to communicate during data collection period.
- Health workers who were involved other activities like administration and not caring patients for the last year

4. 4 Sample Size and Sampling Procedure

4.4.1 Sample size determination:

There was no study done in Somaliland related to knowledge and attitude of health workers towards mental health and mental health services. So by taking 69.9% proportion of knowledgeable health workers from a study conducted India assessing about knowledge and attitude of doctors regarding the provision of mental health care [24] to estimate for the current study the following calculations were done

$n = \frac{Z^2Pq}{d^2} = \frac{(1.96)^2 * 0.68 * 0.32}{(0.05)^2} = : 335$

The study was used correction formula technique since the total population is less than 10,000.

$$\frac{n}{1 + \frac{n-1}{N}} = 280.$$

Then by adding 10% non-response rate the total sample size became =308

- n= sample size=308
- z=standardized normal distribution at 95% CI =1.96
- p= proportion of knowledgeable Doctors regarding to mental health care=69.6%
- q=1-p
- d=degree of precision= (5%)

4.4.2 Sampling technique.

Using simple random sampling technique, 308 Health workers were selected from 9 health Institutions in Hargeisa (7 MCHs +2 Hospital). The selected Health Institutions were Hargeisa Group Hospital (HGH) Menhal Hospital, Khalid health Center, Mohamed moge health center, Iftin health center, Sahardid health center, Sheikh Nuur health center, Dami A health cemter, Abdi iidaan health center. All health centers had similar access of health service facilities. The health care workers from those health centers were selected by using lottery method in this study.

4. 5 Study Variables

4.5.1 Dependent Variables

- Knowledge and attitude of health care worker about mental illness

4.5.2 Independent Variables

- Socio-demographic variables (sex, age, marital status, religion, ethnicity)
- Educational back ground (level of study, type of profession and experience)
- Mental health training background (courses of mental illness and training of psychiatry)

4.6 Data Collection Tools and Measurement

4.6.1 Data Collection tools

- A structured questionnaire was developed in English by reviewing relevant literature.
- The questionnaire had three parts:

Part one: Questionnaire for socio-demographic factors.

Part two: Knowledge of health workers towards mental illness about diagnosis, treatment, signs/symptoms and etiology.

Part three: Attitudes of health workers towards mental illness

4.6.2 Measurement

Questionnaires related to knowledge of health care workers towards mental illness: items on knowledge regarding symptoms and signs, diagnosis, treatments, causes and information of mental health problem were asked. Participants were allowed selecting sources and causes of mental illness form the questionnaire. Some of the questions were open ended questions in which respondents listed the most common kinds of mental illness, signs and symptoms of mental illness and the common medications used to treat mental illness that they knew. Questions regarding knowledge were reviewed from previous literatures and from the WHO assessing mental health, psychological needs and resource settings (32).

Questionnaires related to attitude of mental illness.

Community attitude towards mental illness (CAMI Scale) was used in this study to measure attitude of health workers towards mental illness. CAMI sale is a standardized tool developed by Taylor et al (1979) to measure for attitude of mental illness. It has 40 items and four subscales (Authoritarian, Social restrictiveness benevolence and community Mental Health Ideology), each subscale had 10 statements (30).

4.7. Data Collection Method and Data Collectors

The data collectors were three bachelor graduated staff levels who can speak English and Somali language. Two days of training was given for data collectors and supervisors before the pretest. The data collectors gave adequate time for participants to complete the questionnaire. The supervisor was one medical doctor. The responsibility of the data collectors were to distribute and collect the questionnaires and to check for missing items at the field level properly. The supervisors were following and supporting the whole process of data collection.

4.8 Data Quality Management

In addition to the training given to the data collectors, 5% of the questionnaires was pre tested seven days before actual data collection in Hargeisa from two MCH clinics of the city which was not included in the study to check for applicability and understandability of the instrument. Strict supervision and follow up was done by the supervisors. Epi data version 3.1 was used for the data entry to minimize errors during entry and another time all the data was checked before the analysis.

4.9 Data Processing, Analysis and Interpretation

The date was checked every day for completeness. For editing and cleaning the collected data was double entered in to Epidata statistical software version 3.1 and exported in to SPSS version 16 for windows for statistical analysis. The data was processed by used descriptive methods which include frequency distribution, cross- tabulations, mean, and standard deviation. Binary logistic regression was used to see and describe the strength of association between the selected study variables. Variables on bivariate logistic regression analysis with p-values of less than 0.25 were entered to multivariate logistic regressions. Then multivariate logistic regression was computed by controlling for the effect of possible confounders to identify independent predictors. Lastly variables which showed statistical significance on multivariate logistic regression analysis with p-value less than 0.05 were considered as independent predictors of knowledge and attitude towards mental illness. Measures of strength (odds ratio, with 95% confidence intervals) of their associations with their level of confidence intervals is finally reported in this study.

4.10 Ethical Consideration

Ethical approval and clearance was obtained from ethical review committee of the College of Public health and Medical Science of Jimma University. An official letter of co-operation was written to Hargeisa health regional Administration then the regional health office send a letter to all selected health institutions. The purpose of the study was presented in detail to the study participants and informed them that they had a full right either to cooperate and participate or to decline if they don't want to participate in the study. Participants were clearly informed that the information is confidential. Written informed consent was taken from all the participants.

4.11 Dissemination Plan

The result of the study was submitted to department of psychiatry, collage of Public Health and Medical Science of Jimma University. The report also will be disseminated to Somaliland ministry of health, WHO, International NGOs, and other respected health institutions.

4.13 Operational Definitions and Terms

Mental Health: Can be understood as: a state of well-being in which the individual realizes his or her own abilities, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to his or her own community.

Mental illness: Any mental health problem that makes person a distress full situation which he/she can find support or help with health professionals. Psychological state of someone who has emotional or behavioral problems serious enough to require psychiatric intervention

Mental health service: is every kind of service dealing with the diagnosis and treatment of mental illness that can be personal or non personal service. Or delivery of health interventions likes Staff, Equipment, Money and Drugs

Negative attitude: Attitude is the feeling and willingness of health workers towards mental health Scale value of (Strongly Agree, Agree, Neutral/ Disagree and Strongly Disagree respectively), were collapsed in to Agree, Neutral and Disagree. The first two was assigned as Agree while the last two was considered as Disagree. The remained number three was taken as neutral. The negative attitude was defined as below all average questions (the sum average of all attitude Questions or <50%).

Inadequate knowledge: For this study knowledge was classified into "adequate" and "inadequate"**.** Adequate knowledge was defined as a score above average (the sum average of all questions about knowledge or below 50%)

Health workers: health professionals who are licensed and have regular contact and care in patients. In this study health workers are physician, Nurse, Health officer, midwifery, pharmacy and laboratory

Chapter Five: Results

5.1 Socio demographic information

Of the total 308 health workers intended to participate in this study, 295 of them actually took part in the study making a response rate of 95.7%. Five of the respondents did not returned the questionnaire back to the data collectors and eight of the other questionnaires were incomplete. The majority 171 (58%) health workers were male. One hundred sixteen (30.3%) of health workers were found in the average age between 25 to 29 years. One hundred seventy seven (60%) of the health workers were single. In educational status 172 (58.3%) and 119(40.3%) of the health workers were bachelor degree and diploma graduate respectively. Thirty eight percent of the participants were nurses and 82 (27.8%) of the respondents were physician. Regarding to the work experience 162(54.9%) of health workers worked from 1 to 3 years. The mean working yours of health workers was 5yrs (SD=6) [The mean age of the health workers was 29, 06 years with SD of (±8.35). (See Table-1)

Table 2: Socio demographic factors of health workers (n=295)

Variables	Category	Frequency	Percent
Sex	Male	172	58%
	Female	123	41.7%
Age	18-24	85	28.8%
	25-29	116	30.3%
	≥30	94	31.9%
Marital status	Single	177	60%
	Married	118	40%
Educational Status	Diploma	119	40.3%
	Degree	172	58.3%
	Master	4	1.4%
Field of the study	Physician	82	27.8%
	Nurses	112	38%
	Midwifery	40	13.6%
	Pharmacist	27	9.2%
	Laboratory	22	7.5%

	Others	12	4.1%
Working Experience	1-3yrs	162	54.9%
	4-6yrs	79	26.8%
	>=7 years	54	18.3%
Taken psychiatry course at college or university	No	67	22.7%
	Yes	228	77.3%
Psychiatric training	No	131	44.4%
	Yes	164	55.6%

5.2 Knowledge of health workers towards mental illness

One hundred thirty one (44.6%) health workers had adequate knowledge about mental illness regarding etiology, signs and symptoms, diagnosis and treatment of mental illness while 164 (55.4%) had inadequate knowledge of mental illness. A total of 224 (75.7%) health workers didn't know the role of their health centers regarding mental health while only 71(24.1%) of the health workers reported that the role is to manage and care for people with mental illness. Majority 267 (90.5%) of health workers reported that in-service training is important to health workers to provide mental health care.

5.2.1. Perceived causes of mental illness by health workers

Health workers were allowed to make multiple choices regarding the causes of mental illness. One hundred fifty five (52%) of health workers identified hereditary factors as a risk of mental illness were as 158 (53.2%) reported drugs, 109 (36.5%) poverty, 38(12.9%) witches/wizard, 198 (67.1%) reported psychological stress as a causes of mental illness. (figure2)

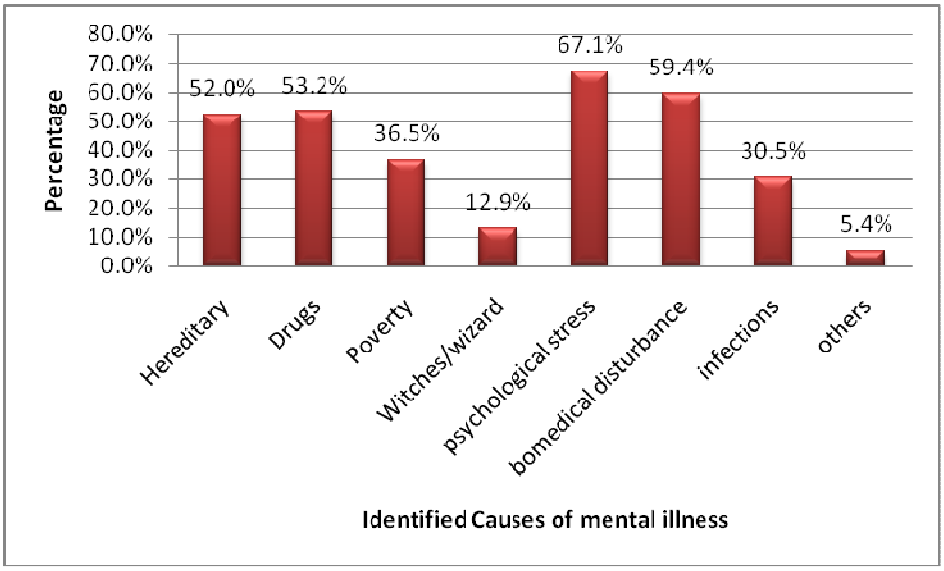


Figure 1 perceived causes of mental illness by health workers

5.2.2 Signs and symptoms of mental illness recognized by health care workers

Ninety six (32.9%) of the health care workers recognized depressed mood while 93 (31.5%) and 62(21%) recognized hallucinations and insomnia as a sign of mental illness respectively. According to the field of the study 97 (32.9%) of the physicians, 39(40.2%) of the nurses and 12(12.4%) of the midwives, recognized depressed mood. Forty six (49.5%) of the physicians, 36 (38.7%) of the nurses, 5(5.4%) of the midwives, and 6(6.5%) of the pharmacy recognized hallucination as a symptom of mental illness. Forty three (65.2%) of the physicians, 16(24.2%) of the nurses, 5(7.6%) of the midwives and 2(3%) of the pharmacy recognized delusions as a sign and symptoms of mental illness (Table2).

Table 3 Signs and Symptoms of mental illness recognized by Health Care Workers (n=295).

sign and symptoms of mental illness	Over all listed	Specified by field of the study						
		Physician N=82	Nurse N=112	Midwives N=40	Pharmacy N=27	Others N=12	Laboratory N=22	Total%
Depressed mood	n=97 (32.9%)	42(43.3%)	39(40.2%)	12(12.4%)	3(3.1%)	1(1.0%)	0.0%	100%
Hallucination	n=93 (31.5%)	46(49.5%)	36(38.7%)	5(5.4%)	6(6.5%)	(0.0%)	0.0%	100%
Delusion	n=66 (22.4%)	43(65.2%)	16(24.2%)	5(7.6%)	2(3%)	(0.0%)	0.0%	100%
Grandiosity	N=36 (12.2%)	25(69.4%)	7(19.4%)	0.0%	2(5.6%)	2(5.6%)	0.0%	100%
Dirty	N=46 15.6%)	21(45.7%)	17(37%)	0.0%	4(8.7%)	2(4.3%)	2(4.3%)	100%
Insomnia	N=62 (21%)	92(46.8%)	23 (37.1%)	7 (11.3%)	3 (4.8%)	(0.0%)	0.0%	100%

5.2.3 Diagnosis and treatment of mental illness by health care workers.

One hundred fifty six (55.9%) of the health care workers listed depressive disorders, as one of the diagnosis of mental illness. One hundred fifty five (55.5%) and 144 (48.0%) of the health

workers listed, schizophrenia and bipolar disorders respectively as a diagnosis of mental illness. According to the level of educational status, 32.8% diploma and (65.1%) degree level of health workers listed schizophrenia as a type of mental illness. Forty (33.6%) of diploma and 115(59.3%) of degree level health workers recognized depressive disorder. Thirty eight (31.9%) of diploma and 102 (59.3%) of Degree level health workers recognized bipolar disorder.

One hundred forty nine (50.5%) and 31(26.1%) of health workers listed chlorpromazine and Haloperidol respectively, as one of the medications used for treatment of mental illness while 39(13.2%) and 36(12.2%) of the health workers listed Carbamezapine, and fluoxetine as a drug of treatment for mental illness. According to the level of educations, 54 (45.5%) of diploma and 90 (52.3%) of degree level of education listed chlorpromazine as one of the medications of mental illness. Thirty (26.1%) of diploma level and 97(56.4%) of degree listed haloperidol as one of the medications of mental illness. Five (4.2%) of diploma level of education and 34(19.8%) of degree level of educations recognized Carbamezapine as one of the common medications for mental illness (Table3).

Table 4 Diagnosis and treatment of mental illness by Health Care Workers (n=295)

VARIABLES	Over all	EDUCATIONAL STATUS		
		Diploma(n=119)	Degree (n=172)	Masters (n=4)
Listed type of mental illness		listed	listed	listed
Schizophrenia	155 (55.5%	39(32.8%)	112(65.1%)	4(100%)
Bipolar disorders	144 (48.0%)	38 (31.9%)	102(59.3%)	4(100%)
Depressive disorders	156 (55.9%)	40(33.6%)	115(66.9%)	1(25%)
Listed medications of mental illness	**Over all**	**diploma (n=119)**	**degree (n=172)**	**Masters (n=4)**
Chlorpromazine	149(50.5)	54(45.5%)	90(52.3%)	2(50%)
Carbamezapine	39(13.2%)	5(4.2%)	34(19.8%)	0.0 %
Haloperidol	128(43.4)	31(26.1 %)	97(56.4%)	0.0%
Fluoxetine	36(12.2)	3(2.5%)	33(19.2%	0.0%

Diazepam	52(17.6%)	18(15.1%).	30(17.4%	4(100%)

5.2.4 Source of information of knowledge of health workers towards mental illness

One hundred ninety one (64.7%) of the health workers acquired the in formations of mental health from colleges or universities while 108(36.6%) of the respondents from reading books or mass media were as 41(13.9%) of the respondents from co-staffs or known patients.

5.2.5 Factors that associated with Knowledge of health care workers towards mental illness.

Binary logistic regressions were done for each variable to show possible associations of knowledge of health workers towards mental illness.

On bi-variate logistic regression analysis, female participants were found to be less knowledgeable compared to male with {COR: 0.53, 95% CI: 0.54-0.333}.Degree levels of graduate were more knowledgeable than diploma levels of graduate with {COD: 7.2, 95%CI: 4.16-12.6}. Non physicians were more likely to be less knowledgeable than physicians, like Nurses {COR: 0.47, 95% CI: 0.02-0.108}, Midwives {COR: 0.04, 95% CI: 0.17-0.12}, Pharmacy {COR: 0.01, 95% CI: 0.05-0.06}, Health Officers, {COR: 0.07, 95% CI: 0.20-0.30} and laboratory {COR: 0.01, 95% CI: 0.00-0.05}. Health workers who did not take psychiatric courses were less knowledgeable than participants who took psychiatric courses with {COR: 0.13, 95% CI: 0.06-0.28}. Respondents who took training were more knowledgeable than participants who did not take Psychiatry training with {COR: 2.22, 95% CI: 1.39-3.59}.

However variables of age, marital status and attitude of health workers towards mental illness were not associated with inadequate level of knowledge (Table 4).

Table 5 Factors associated with knowledge of health care workers towards mental illness (n=295)

Variables		No knowledgeable	Knowledgeable	OR (95%CI)	p-value
Sex	male	85(49.4%)	87(50.6%)	1	1
	female	79(64.2%)	44(35.8%)	0.53(0.54-0.33)*	0.012*
Age	18-24yrs	51(60.0%)	34(40.0%)	1	1
	25-29yrs	61(52.6%)	42(44.7%)	1.34(0.76-2.38)	0.296
	≥30 yrs	52(55.3%)	42(44.7%)	1.22(0.66-2.19)	1.212
Marital status	Single	101(57.1%)	76(42.9%)	1	
	married	63(53.4%)	55(46.6%)	1.10(0.72-1.85)	0.534
Educational status	Diploma	97(81.5%)	22(18.5%)	1	1
	degree	65(37.8%)	107(62.2%)	7.24(4.16-12.6)*	0.001*
	master	2(50.0%)	2(50.0%)	4.48(0.57-330)	0.149
Field of the study	physician	8(9.8%)	74(90.2%)	1	1
	Nurses	78(69.6%)	34(30.4%)	0.47(0.02-0.10)*	0.001*
	midwives	28(70.0%)	12(30.0%)	0.04(0.17-0.12)*	0.001*
	pharmacy	23(85.2%)	4(14.8%)	0.01(0.05-0.06)*	0.001*
	Others	7(58.3%)	5(41.7%)	0.07(0.20-0.30)*	0.001*
	laboratory	20(90.9%)	2(9.1%)	0.01(0.00-0.05)*	0.001*
Working experience	1-3yrs	96(59.3%)	66(40.7%)	1	1
	4-6yrs	34(43.0%)	45(57.0%)	1.92(1.11-3.31)	0.018
	more than 7yrs	34(63.0%)	20(37.0%)	0.85(0.45-1.61)	0.630
Taken psychiatric course	yes	106(46.5%)	58(86.6%)	1	1
	no	58(86.6%)	9(13.4%)	0.13(0.06-0.28)*	0.001*
Psychiatric training	no	87(66.4%)	44(33.6%)	1	1
	yes	77(47.0%)	87(66.4%)	2.22(1.39-3.59)*	0.001*
Attitude	negative	24(45.3%)	29(54.7%)	1	
	positive	140(57.9%)	102(42.1%)	1.69(0.92-3.01)	0.097

Note (* Factors associated with knowledge of health workers towards mental illness. P value less than 0.05 were consider as statistical significant difference)

5.2.6 Factors independently associated with knowledge of health workers towards mental illness.

Multivariate logistic regression analyses were done to identify factors independently associated with knowledge of health care workers towards mental illness. Female health workers were less knowledgeable than male health workers with {AOR: 0.51 95% CI: 0.28-0.97}. Degree levels of graduate were more knowledgeable than Diploma level with {AOR: 7.02, 95%CI: 3.5-13.7}. Non physicians were less knowledgeable compared to Physicians with Nurse AOR=0.06, midwifery AOR=0.04, pharmacy AOR=0.02, health officers AOR=0.0001, and laboratory AOR=0.01. Health care workers who did not take psychiatric courses were less knowledgeable than those who did with {AOR: 0.22, 95%CI: 0.89-0.57} (Table 6).

Table 6 Factor independently associated with knowledge of health care workers towards mental illness (n=295).

Predictor variables of knowledge		Non knowledgeable	knowledgeable	adjusted or(95%ci)	P-value
Sex	Male	85(49.4%)	87(50.6%)	1	1
	Female	79(64.2%)	44(35.8%)	0.51(0.28-0.97)*	p=0.040*
Educational status	Diploma	51(60.0%)	34(40.0%)	1	1
	Degree	61(52.6%)	42(44.7%)	7.02(3.51-13.7)*	p=0.001*
	Master	52(55.3%)	42(44.7%)	2.42(0.24-24.2)	p=0.442
Field of the study	Physician	101(57.1%)	76(42.9%)	1	1
	Nurses	63(53.4%)	55(46.6%)	0.06(0.22-0.17)*	p=0.001*
	Midwives	97(81.5%)	22(18.5%)	0.04(0.01-0.16)*	p=0.001*
	Pharmacy	65(37.8%)	107(62.2%)	0.02(0.00-0.10)*	p=0.001*
	Others	2(50.0%)	2(50.0%)	0.00(0.09-0.17)*	p=0.001*
	Laboratory	8(9.8%)	74(90.2%)	0.01(0.00-0.10)*	p=0.001*
Taken Psychiatry Course	yes	78(69.6%)	34(30.4%)	1	1
	no	28(70.0%)	12(30.0%)	0.22(0.89-0.57)*	p=0.02*
Psychiatry Training	no	23(85.2%)	4(14.8%)	1	1
	yes	7(58.3%)	5(41.7%)	0.74(0.39-1.42)	p=0.36

Note (*P value less than 0.05 were considered as statistical significant association)

5.3 Attitude of health care workers towards mental illness

Regarding the attitude of health workers towards mental illness, majority 242(82.0%) had positive attitude whereas 53 (18.0%) had negative attitude. The attitude questioners were divided into four dimensions. They are authoritarian, social restrictiveness, benevolence and community mental health ideology

5.3.1 Authoritarian subscale attitude of the CAMI scale

Regarding the attitude of Authoritarian subscale the majority of the health workers had Positive Attitudes.

One hundred eighty four (62.4%) of health workers agreed on that mentally ill people should not be isolated from the rest of the community while 202(68.5%) mental illness is an illness like any other. One hundred forty six (49.6%) of the health workers agreed on that mental illness are burden on society.

when it comes to the negative attitude, within this subscale, 78(26.4%) health workers agreed on that as soon as person shows signs of mental disturbance he should be hospitalized while only 29.8% of health workers stated that 'the best therapy for money mental patients is to be a part of normal community. About 102(34.6%) health workers agreed on that mentally ill patients are far less of danger than most people suppose.

The mean average for this authoritarian score is 16. 9 with SD of (±3.6)

5.3.2 Social restrictiveness subscale attitude of the CAMI scale

Majority of the participants had positive attitudes towards mental illness.

One hundred fifty eight (53.6%) of health care workers agreed on that 'less emphasis should be placed on protecting the public from mental illness' only 19.0% of health care workers reported that "increased spending of mental health service is a waste of text dollar". Seventy (24%) of the participants agreed on that 'mental patients need the same kind of control and discipline as young child' were us 206(69.8%) of participants reported that "as far as possible Mental Health service should be provided through community based facilities.

the negative attitude within this subscale, 208(70.5%) of the participants agreed to the item that state "I would not want to live next door to some who has been mentally ill".

The mean average of this social restrictiveness subscale score is 17.8 with standard deviation of (3.07) (Table7).

Table 6 Percentage of health workers agreeing or disagreeing with Authoritarian and Social restrictiveness subscale Attitude (n=295)

	Variables	**Disagree**	**Neutral**	**Agree**
	Authoritarian			
1	as soon as person shows signs of mental disturbance he should be hospitalized	213(72.2%)	4(1.4%)	78(26.4%)
2	more tax money should be spend on the care and treatment of mental ill	60(20.3%)	21(7.1%)	214(72.5)
3	mentally ill should not be isolated from the rest of the community	90(30.5%)	21(7.1%)	184(62.4%)
4	the best therapy for many mental patients is to be part of normal community	193(65.4%)	14(4.7%)	88(29.8%)
5	Mental illness is an illness like any other	78(26.4%)	15(5.1%)	202(68.5%)
6	mental illnesses are burden on society	122(41.4%)	27(9.2%)	146(49.5%)
7	Mentally patients are far less of danger than most people suppose	174(59.0%)	18(6.1%)	102(34.6%)
8	locating mental health facilities in residential area downgrades the	135(45.8%)	31(10.5%)	129(43.7%)

	neighborhood 8			
9	There is something about mental ill that makes people it easy to tell them from normal people 9	227(76.9%)	5(1.7%)	63(21.4%)
10	Mental ill have far too long been the subject of ridicule 10	126(42.7%)	29(9.8%)	140(47.5%)
	Social restrictiveness			
11	Woman would be foolish to marry a man who has suffered from a mental illness even though he seems fully recovered	149(50.5%)	15(5.1%)	131(44.4%)
12	As far as possible Mental Health service should be provided through community based facilities	79(26.8%)	10(3.4%)	206(69.8%)
13	Less emphasis should be placed on protecting the public form MI	107(36.3%)	29(9.8%)	158(53.6%)
14	Increased spending of mental health service is a waste of tax dollar	228(77.3%)	11(3.7%)	56(19.0%)
15	no one has the right to exclude the MI their neighborhood	74(25.1%)	8(2.7%)	213(72.2%)
16	having mental patient living within residential neighborhood might be good therapy but the risks of residents are too good	107(36.3%)	24(8.1%)	164(55.6%)
17	mental patients need the same kind of control and discipline as young child	225(76%)	- -	70(24%)
18	We need to adopt far more tolerant attitude towards mentally ill in our society	83(28.1%)	9(3.1%)	203(68.8%)
19	I would not want to live next door to someone who has been mentally ill	77(26.1%)	10(3.4%)	208(70.5%)
20	Residents should accept the location of mental health facilities in their neighborhood to serve the needs of the local community	33(11.2%)	13(4.4%)	249(84.4%)

Factors associated with Authoritarian and Social restrictiveness attitudes

The independent variables like age, sex, and marital status, field of the study, working experience, psychiatric training, psychiatric courses and educational status did not significantly associated with authoritarian and social restrictiveness as dependent variable at $p > 0.05$.

As showed in the following tables the entire test performed do not show any significance ($P>0.05$) (Table 7) and (Table 8).

Table 7Factors associated with Authoritarian subscale attitude of the CAMI scale (n=295).

a**Variables**		**Negative Attitude**	**Positive Attitude**	**Crude Odds Ratio(95%CI)**	**P-value**
Sex	Male (n=172)	68(39.9%)	103(60.1%)	1	1
	Female (n=123)	69(56.1%)	54(43.9%)	1.18(0.74-1.89)	P=0.478
Age	18-24yrs (n=85)	34(40.0%)	51(60.0%)	1	1
	25-29yrs (n=116)	48(41.4%)	68(58.6%)	1.03(0.58-1.83),	P=0.901
	30<= yrs (n=94)	41(43.6%)	53(56.4%)	1.42(0.64-2.10),	P=0.624
Marital Status	Single (n=177)	72(40.7%)	105(59.3%)	1	1
	Married (n=118)	51(43.2%)	67(56.8%)	1.64(0.70-1.80),	P=0.623
Educational status	Diploma(n=119)	48(40.3%)	71(59.7%)	1	1
	Degree (n=172)	74(43.0%)	98(57.0%)	1.10(0.68-1.77),	P=0.689
	Master (n=4)	1(25.0%)	3(75.0%)	0.49(0.50-4.88),	P=0.545
Field of the study	Physician (n=82)	33(40.2%)	49(59.8%)	1	1
	Nurses (n=112)	47(42.0%)	65(58.0%)	1.07(0.60-1.91)	P=0.810
	Midwives (n=40)	23(57.5%)	17(42.5%)	1.09(0.51-2.36)	P=0.812
	Pharmacy (n=27)	11(40.7%)	16(59.3%)	1.02(0.42-2.47)	P=0.964
	Others (n=12)	4(33.3%)	8(66.7%)	0.74(0.20-2.66)	P=0.648
	Laboratory (n=22)	11(50.0%)	11(50.0%)	0.54(1.35-3.53)	P=0.515
Working experience	1-3 yrs (n=162)	65(40.1%)	97(59.9%)	1	1
	4-6 yrs (n=79)	35(44.3%)	44(55.7%)	1.06(0.79-1.44)	P=0.667
	7 yrs< (n=54)	23(42.6%)	31(57.4%)	1.23(0.52-1.73)	P=0.861
Taken Psychiatric Course	No (n=67)	30(44.8%)	37(55.2%)	1	1
	Yes (n=228)	93(40.8%)	135(59.2%)	0.830(0.50-1.52)	P=0.648
Psychiatry Training	No (n=131)	52(39.7%)	79(60.3%)	1	1
	Yes (n=164)	71(43.3%)	93(56.7%) 9	1.18(0.47-1.88)	P=0.483

Table 8 Factors associated with social restrictiveness subscale attitude (n=295)

Variables		Negative Attitude	Positive Attitude	Crude Odds Ratio(95%CI)	P-value
Sex	Male (n=172)	13(7.6%)	159(92.4%)	1	1
	Female (n=123)	20(16.3%)	103(83.7%)	2.37(1.13-4.9),	P=0.02
Age	18-24yrs (n=85)	9(10.6%)	76(89.4%)	1	1
	25-29yrs (n=116)	14(12.1%)	102(87.9%)	1.15(0.47-2.81),	P=0.745
	30<= yrs (n=94)	10(10.6%)	84(89.4%)	0.75(0.38-2.60),	P=0.99
Marital Status	Single (n=177)	18(10.2%)	159(89.2%)	1	1
	Married (n=118)	15(12.7%)	103(87.3%)	1.28(0.62-2.66),	P=0.498
Educational status	Diploma(n=119)	15(12.6%)	104(87.4%)	1	1
	Degree (n=172)	16(9.3%)	156(90.7%)	0.14(0.01-1.10),	P=0.062
	Master (n=4)	2(50.0%)	2(50.0%)	0.28(0.14-0.77),	P=0.028
Field of the study	Physician (n=82)	5(6.1%)	77(93.9%)	1	1
	Nurses (n=112)	17(15.2%)	95(84.8%)	2.75(0.97-7.80)	P=0.05
	Midwives (n=40)	5(12.5%)	35(87.5%)	2.20(0.59-8.09)	P=0.235
	Pharmacy (n=27)	4(14.8%)	23(85.2%)	2.67(0.66-10.8)	P=0.999
	Others (n=12)	0(0.0%)	12(100%)	0.1(0.02-1.01)	P=0.621
	Laboratory (n=22)	2(9.1%)	20(90.0%)	1.54(0.27-8.53)	P=0621
Working experience	1-3 yrs (n=162)	19(11.7%)	143(88.3%)	1	1
	4-6 yrs (n=79)	9(11.4%)	70(88.6%)	1.28(0.80-2.64)	P=0.319
	7 yrs< (n=54)	5(9.3%)	49(90.7%)	1.30.45-2.70)	P=0.671
Taken Psychiatric Course	No (n=67)	12(17.9%)	55(82.1%)	1	1
	Yes (n=228)	21(9.2%)	207(90.8%)	0.725(0.35-1.49)	P=0.385
Psychiatry Training	No (n=131)	17(13.0%)	114(87.0%)	1	1
	Yes (n=164)	16(9.8%)	148(90.2%)	0.95(0.52-1.73),	P=0.874

5.3.3 Benevolence statement attitudes

Two hundred nine (70.8%) of health workers agreed that, 'Mentally ill patients should be encouraged to assume the responsibilities of normal life' while 23.4% of health care workers stated that "the best way to handle mentally ill is to keep them behind the locked door". One hundred ten (37.3%) of health care workers agreed on that "Anyone with history of mental problem should be excluded from taking public office.

However 147(49.8%) of health workers reported that our mental hospital seems more like prison while 48.1% of health care workers agreed on that "mental hospitals are an outdated means of treating the mental ill.

The mean average of this benevolence subscale score is 20.5 with standard deviation of 3.11

5.3.4 Community mental health ideology statement attitudes

Two hundred twenty six (76.6%) of health workers agreed on that "The mentally ill should not be denied their individual right" were us 70.5% of health care workers reported 'virtually any one can become mentally ill'. Two hundred forty (81.4%) of the health care workers reported that they have the responsibility to provide the best care for mental ill. About 9.8% of the health care workers agreed that "most women who were once patients in mental hospital can be trusted as babysitter" while 32.5% the respondents stated that 'it is best to avoid any one who has mental problem.

However 158(53.2%) of the health workers agreed on that "it is frightening to think of people with mental problems living in residential neighborhoods"

The average mean score is 19.5 with STD of (2.4) for this community mental health ideology subscale (Table 9)

Table 9 Percentage of health workers agreeing or disagreeing with Benevolence and Community mental health ideology subscale attitude (n=295)

	Variables	Disagree	neutral	agree

	Benevolence			
21	the mentally ill should not be treated as out casts of society	118(40.0%)	21(7.1%)	156(52.9%)
22	there are sufficient existing service for the mental health	106(35.9%)	23(7.8%)	166(56.3%)
23	Mental ill patients should be encouraged to assume the responsibilities of normal life	68(23.1%)	18(6.1%)	209(70.8%)
24	local resident have good reason to resist the location of mental health service in their neighborhood	208(70.5%)	14(4.7%)	73(24.7%)
25	the best way to handle mentally ill is to keep them behind the locked door	205(69.5%)	21(7.1%)	69(23.4%)
26	Anyone with history of mental problem should be excluded from taking public office	163(55.3%)	22(7.5%)	110(37.3%)
27	*Our mental hospital seems more like prison*	*126(42.7%)*	*22(7.5%)*	*147(49.8%)*
28	locating mental health service in resident neighborhood does not endanger local resident	114(38.6%)	34(11.5%)	147(49.8%)
29	*Mental hospitals are an outdated means of treating the mental ill*	*133(45.1%)*	*20(6.8%)*	*142(48.1%)*
30	Mentally ill people don't deserve our sympathy	204(69.4%)	17(5.8%)	74(25.1%)
	Community mental health ideology			
31	the mentally ill should not denied their individual right1	67(22.7%)	2(0.7%)	226(76.6%)
32	Mental ill facilities should be kept out of residential neighborhood	139(47.1%)	38(12.9%)	118(40.0%)
33	One of the main causes of mental illness is lack of self discipline and will power	225(76.3%)	7(2.4%)	63(21.4%)
34	We have the responsibility to provide the best possible care for mental ill	54(18.3%)	1(0.3%)	240(81.4%)
35	The mentally ill should not be given any responsibility	179(60.7%)	20(6.8%)	96(32.5%)
36	residents have nothing to fear from people coming into their neighborhood to obtain mental health service	77(26.1%)	8(2.7%)	210(71.2%)
37	virtually any one can become mentally ill	58(19.7%)	29(9.8%)	208(70.5%)
38	It is best to avoid any one who has mental problem	184(62.4%)	15(5.1)	96(32.5%)

39	Most women who were once patients in a mental hospital can be trusted as baby sitters	246(83.4%)	20(6.8%)	29(9.8%)
40	It is frightening to think of people with mental problems living in residential neighborhoods	103(37%)	23(7.8%)	158(53.2%)

Factors associated with Benevolence and Community mental health ideology

All the variables studied were not significant as the significance was greater than 0.05 in all the cases. This illustrates that the variables age, sex, marital status, field of the study, working experience, psychiatric training, psychiatric courses and educational status do not have influence on the benevolence and Community mental health ideology subscale of the Community attitude towards mental illness scale (Table10) and (Table11).

Table 10 Factors associated with benevolence subscale attitude of the CAMI scale (n=295)

Variables		Negative Attitude	Positive Attitude	Crude Odds Ratio(95%CI)	P-value
Sex	Male (n=172)			1	1
	Female (n=123)			2.37(1.13-4.98),	P=0.02
Age	18-24yrs (n=85)	2(2.4%)	83(97.6%)	1	1
	25-29yrs (n=116)	5(4.3%)	111(95.7%)	1.15(0.47-2.81),	P=0.745
	30<= yrs (n=94)	3(3.2%	91(96.8%)	1.00(0.38-2.60),	P=0.991
Marital Status	Single (n=177)	6(3.4%)	171(96.6)	1	1
	Married (n=118)	4(3.4%)	114(96.6%)	0.77(0.37-1.61),	P=0.498
Educational status	Diploma(n=119)	6(5.0%)	113(95.0%)	1	1
	Degree (n=172)	4(2.3%)	168(97.7%)	0.37(0.33-1.50),	P=0.371
	Master (n=4)	0(0.0%)	4(100%)	6.93(0.90-52.9),	P=0.62
Field of the study	Physician (n=82)	3(3.7%)	79(96.3%)	1	1
	Nurses (n=112)	4(3.6%)	108(96.4%)	2.75(0.97-7.80)	P=0.060
	Midwives (n=40)	2(5.0%)	38(95%)	2.20(0.59-8.09)	P=0.235
	Pharmacy (n=27)	0(0.0%)	27(100%	2.67(0.66-10.8))	P=0.166
	Others (n=12)	0(0.0%)	12(100%)	1.54(0.27-8.53)	P=0.0.54
	Laboratory (n=22)	1(4.5%)	21(95.5%)	0.50(0.13-1.18)	P=0.621
Working experience	1-3 yrs (n=162)	4(2.5%)	158(97.5%)	1	1
	4-6 yrs (n=79)	4(5.1%)	75(95.9%)	0.939(0.41-2.24)	P=0.968
	7 yrs< (n=54)	2(3.7%)	52(96.3%)	0.76(0.27-2.16)	P=0.618
Taken	No (n=67)	3(4.5%)	64(95.5%)	1	1

Psychiatric Course					
	Yes (n=228)	5(3.0%)	159(97.0%)	0.46(0.21-1.00)	P=0.060
Psychiatry Training	No (n=131)	5(3.8%)	126(96.2%)	1	1
	Yes (n=164)	5(3.8%)	126(96.2%)	0.72(0.35-1.49),	P=0.385

Table 11 Factors associated with community mental health ideology subscale attitude of the CAMI scale (n=295)

Variables		Negative Attitude	Positive Attitude	Crude Odds Ratio(95%CI)	P-value
Sex	Male (n=172)	5(2.9%)	167(97.1%)	1	1
	Female (n=123)	2(1.6%)	121(98.4%)	0.55(0.01-2.89),	P=0.482
Age	18-24yrs (n=85)	2(2.4%)	83(97.6%)	1	1
	25-29yrs (n=116)	1(0.9%)	115(99.1%)	0.36(0.03-4.04),	P=0.409
	30<= yrs (n=94)	4(4.3%)	90(95.7%)	1.8490.32-10.3),	P=0.488
Marital Status	Single (n=177)	3(1.7%)	174(98.3%)	1	1
	Married (n=118)	4(3.4%)	114(96.6%)	2.03(0.44-9.26),	P=0.358
Educational status	Diploma(n=119)	1(0.8%)	118(99.2%)	1	1
	Degree (n=172)	6(3.5%)	166(96.5%)	4.26(0.50-35),	P=0.182
	Master (n=4)	0(0.0%)	4(100%)	0.55(0.06-6.71),	P=0.184
Field of the study	Physician (n=82)	2(2.4%)	80(97.6%)	1	1
	Nurses (n=112)	2(1.8%)	110(98.2%)	0.729(0.10-5.27)	P=0.753
	Midwives (n=40)	1(2.5%)	39(97.5%)	1.02(0.09-11.6)	P=0.984
	Pharmacy (n=27)	1(3.7%)	26(96.3%)	1.53(0.13-17.6)	P=0.729
	Others (n=12)	1(8.3%)	11(91.7%)	3.62(0.30-43.5)	P=0.308
	Laboratory (n=22)	0(0.0%)	22(100%)	0.02(0.01-1.17)	P=0.998
Working experience	1-3 yrs (n=162)	4(2.5%)	158(97.5%)	1	1
	4-6 yrs (n=79)	1(1.3%)	78(98.7%)	0.50(0.05-4.60)	P=0.546
	7 yrs< (n=54)	2(3.7%)	52(96.3%)	1.51(0.27-8.53)	P=0.6355
Taken Psychiatric Course	No (n=67)	1(1.5%)	66(98.5%)	1	1
	Yes (n=228)	6(2.6%)	222(97.4%)	1.80(0.21-15.0)	P=0.595

Psychiatry Training	No	(n=131)	4(3.1%)	127(96.9%)	1	1
	Yes	(n=164)	3(1.8%)	161(98.2%)	0.60(0.13-2.70),	P=0.497

Chapter Six: Discussion

This study assessed the level of knowledge and attitude of health workers towards mental illness in October 2013 in Hargeisa Somaliland. In this study 164(55.6%) of health workers had inadequate knowledge of mental illness compared to the 131(44.4%) of health care workers had adequate knowledge of mental illness. Majority 82.0% of the health care workers had positive attitude toward mental illness where as 18% had negative attitude of mental illness towards health care workers. However, lack of psychiatric course at college or university, being diploma level of graduate, being female, and non physicians (like Nurse, Midwives, pharmacy, other health professional, and laboratory clinicians) were associated with inadequate knowledge of mental illness.

About 44.4% of health workers were knowledgeable about mental illness in this study. In contrast to this, study done in Jimma, Ethiopia revealed 89% of the health workers were knowledgeable (21). The reason for the discrepancy could be there is no mental health school in our study area. Nearly half of the health care workers did not take psychiatric training in universities or colleges in Hargeisa, Somaliland. For the other study the entire participant took psychiatric training and the way they measured knowledge level was different.

In this study more than half (59.4%) and (52%) of the health care workers identified causes of mental illness as biomedical disturbance and genetic heritability respectively, which is in line with study done in Nepal (25).

About 55.9%, 55.5% and 48.0% of the health workers listed depressive disorder, schizophrenia and bipolar disorder respectively as one of the diagnosis of mental illness in this study, which is lower than the percentages of 76.1%, 76.1% and 58.6% of the participants that correctly

recognized depression schizophrenia, and bipolar respectively, in the study in India (24). The reason could be because we found in this study that significant number of health workers in Hargeisa did not take psychiatric course in college or university and also no in service mental health training. The other study was done on doctors while this study included mainly non-doctors.

This was very challenging to the health workers which makes difficult to diagnose mental illness in Hargeisa.

Less than half of health workers listed common medications used to treat mental illness in our study which is similar with the study conducted in Jimma, Ethiopia (23).

Majority of the health workers (82.0%) had positive attitude toward mental illness in this study, however, study done in Nigeria. Showed in contrast to this, in which respondents held strongly negative view about mental illness (30).This difference could be cultural variations between the two countries.

However there are negative attitude statements like, only 29.8% of health workers stated that 'the best therapy for money mental patients is to be a part of normal community. About 102(34.6%) health workers agreed on that mentally ill patients are far less of danger than most people suppose. possibly this reflects the general view on mentally illness in the general population.

Two hundred eight (70.5%) of the participants agreed to the item that state "I would not want to live next door to some who has been mentally ill". This may be due to the fact that they receive the patients who are mainly abandoned and neglected in the streets. As there are scarce interventions in the community, the patients who are brought to health institutions are those with neglected hygiene, with agitation and aggressively and other conditions not easy to be with as they think

Health workers with degree level of educations were five times more knowledgeable compared those with diploma level of educations in this study. In line with study done in Jimma, South west Ethiopia found that the degree level of professionals were more knowledgeable than diploma level (23). Non physicians health workers, like nurses, midwives, other health workers, pharmacy and laboratory were more likely to have inadequate knowledge than physicians in this

study. This was in line to the study done in Kenya were Significant proportion of Doctors were knowledgeable about mental disorders than that of nurses (20).

In this study, health workers who had lack of psychiatry course were less knowledgeable than those who did. The reason could be that the participants did not take enough psychiatry courses at school and psychiatric school is not present in Somaliland. This is comparable to World Health Organization mental health report in Somalia (7) in which medical institutes, universities and schools do not have standardized psychiatric curriculum.

Female health workers were less knowledgeable than male health workers.
Minority of the physicians were male only 10% of them were female in this study, while majority of the female participants took diploma level of educations, in addition to that they took less training and coarse than male participants. Culturally related most of the females stay home.

In general the study revealed that favorable attitude and lack of knowledge of health workers towards mental illness, the reason could be that the participants may respond the questions in socially acceptable direction

Limitation and strength of the study

Limitations

The design is cross sectional one. The instruments used for this study was not used before in Somaliland, so we are not sure if this instrument is applicable to the country.

Strength of the study

This is the first study in its type in the area trying to assess the level of knowledge and attitude of health workers towards mental illness. The study was done in urban area which people with mental illness could have an access of health care since the health worker is not equivalent. The study can be appropriate to participants from every health workers who can care patients. High response rate of the study indicated how much interest they had on participating in this study.

Chapter Seven: Conclusion and Recommendations

Conclusion:

The study revealed that majority of the health workers had inadequate knowledge while larger proportion of the respondents had positive attitude towards mental illness.

Inadequate knowledge of health workers were associated with lack of psychiatry course in college or university, health workers with diploma level of education, being female health workers and non physician health workers (like nurse, midwives, pharmacy, laboratory technician and other health workers) .

Recommendations

Educations of health professionals is a key issue of this study, universities and health colleges should evaluate on bases of curriculum as internationally standardized curriculum recognized by WHO (world health organization). This study revealed that 22.7% of health workers never took psychiatric courses university or college.

Considering to provide in-service training, regular on-sight supportive supervision would boost the knowledge and furthermore the attitude of general health workers about mental health. Improving training of health workers at the college and University level is also very crucial.

Other research can be done in this area, like evaluation of this study before and after training of health workers.

REFERENCE

1. WHO. Challenges and priorities for global mental health research in low- and middle-income countries, world health organization, The Academy of medical sciences, London December 2008;
2. WHO. Scaling up care for mental, neurological and substance use disorders. World health organization 2008; Geneva, Switzerland.
3. WHO. Investing in mental health. World health organization, 2003; Geneva, Switzerland.
4. WHO. Prevention of mental disorders: effective interventions and policy options. World Health Organization 2004; Geneva, Switzerland.
5. Bruckner T, scheffler R, Gordon S, Chishlm D. et al. The mental health workforce gap in low- and middle-income countries. A needs-based approach. Bull World Health Organ 2011; **88:**184-194. Geneva, Switzerland.
6. WHO. Research capacity for mental health in low- and middle- income countries. Results of mapping projects. Global Forum for Health Research and World Health Organization 2007; Geneva, Switzerland.
7. WHO. A situational analysis of mental health in Somalia World Health Organization 2010; WHO Somalia liaison Office, Nairobi, Kenya.
8. Rebecca S, Abdirazak FH. Et al. improving human resource provision for mental health in Somaliland. Psychiatryonline.org March 2010; 61: 3. 225-227.
9. Lazarus R. & Freeman M. Primary-Level Mental Health Care for Common Mental Disorder in Resource-Poor Settings: Models & Practice - A Literature Review. Sexual Violence Research Initiative, Medical Research Council, Pretoria, South Africa 2009;

10. WHO. Global Mental Health 6 Scale up services for mental disorders: a call for action Department of health systems and financial World health Organization *Lancet* 2007; Published Online September 4, 2007; 370:1241-52.
11. WHO: The world health report: mental health: new understanding, new hope. World Health Organization 2001; Geneva, Switzerland.
12. Ganasen K, Parker S, Hugo CJ. et al. Mental Health Literacy: Focus on Developing Countries. Afr J Psychiatry 2008; 11:23-28
13. Republic of Somaliland notional health policy 2ND edition. Ministry of Health November 2011; Hargeisa, Somaliland.
14. GAVO. General assistance and volunteers' organization. A local NGO, Community mental health initiative: baseline survey report on mental health situation in Somaliland conducted four regions of Somaliand. GAVO and Somaliland Ministry of Health November- December 2004;
15. Odenwald M, Lingenfelder B. et al. A pilot study on community-based outpatient treatment for patients with chronic psychotic disorders in Somalia: Change in symptoms, functioning and co-morbid khat use. International Journal of Mental Health Systems 2012; 6:8. 1-17.
16. WHO-AIMS. Report on mental health system in Somaliland region of Somalia. Ministry of health Republic of Somalia, ministry of health Somaliand and world health organization 2009.
17. Mohammed F. Patience and Care: Rebuilding Nursing and Midwifery in Somaliand. Published by Africa Research Institute 2011; 16(7):1-28.
18. WHO-AIMS Report on mental health system in Somalia. Ministry of Health Republic of Somalia and World Health Organization2009.
19. Ewhrudjakpor C. Knowledge, Beliefs and Attitudes of Health Care Providers towards the Mentally Ill in Delta State Nigeria. Ethno-Med published 2009; 3(1): 19-25.
20. Ndetei D M. Mutiso V. khasakhala L, Mutiso V, Mbwayo AW. Knowledge, Attitude and Practice of mental illness among staff in general medical facilities in Kenya: Practice and Policy implication. African journal of psychiatry July 2011; (14):225-235

21. Derbachew A, Tesfaye M. Assessment of knowledge, attitude and practice of nursing staff towards mental health problems in jimma zone, south western Ethiopia. Ethiop.J Health sci july 2005; 15: 2. 199-206.
22. Kabir M, Iliyasu Z, Abubakar I, Aliyu M. perception and beliefs about mental illness among adult in Karfi Village Nigeria; BMC International Health and Human rights 2004; 4.3:1-5
23. Abera M, Tesfaye M, Belachew T. perceived challenges and opportunities arising from integration of mental health into primary care: cross sectional survey of primary health care in south west Ethiopia. BMC Health services Research 2014; 14: 113.1-18.
24. Cowan J, Shoba Raja SH et al: Knowledge and attitudes of doctors regarding the provision of mental health care in DoddaballapurTaluk, Bangalore Rural district, Karnataka. International journal of mental health system 2012; 6:21. 1-8.
25. Shyangwa P M, Singh S, Khandelwal S K. knowledge and attitude about mental illness among nursing staff. Journal of Nepal Medical Association 2003; 42: 27-31.
26. Nkereuwem A. Attitude of health workers to the care of psychiatric patients. Annals of General Psychiatry 2009 Published 23 August 2009; *8:19*. 1-7.
27. Georgina G Kate K. et al. Attitudes towards mental disorders and emotional empathy. Psychiatrist 2011; 35: 101-105
28. Minas H. et al Attitude of Malaysian general hospital staffs towards patients with mental illness and diabetes BMC (BioMed Central) Public Health 2011, 11:317. 1-10.
29. Crabb J. et al; attitudes towards mental illness in Malawi a cross sectional survey. BMC(BioMed Central) Public Health 2012; 12: 541. 1-6.
30. Ignatius D and Abasiubong F. stigmatizing attitudes towards the mentally ill: a survey in a Nigerian university teaching hospital. SALP 2010, **15** NO: 2 (56-60).
31. Republic of Somaliland: Ministry of health. HMIS Office annual plan report 2011/12;
32. WHO. Assessing mental health and psychological needs and resource. Toolkits for humanitarian settings. World Health Organization 2012;

APPENDIX ONE: QUESTIONER

QEUSRIONER

Introduction & Consent

Good morning/afternoon, my name is _____ I came from Jimma University to your institution. We are conducting a study in Hargeisa City of Somaliland. Mental health service offered by hospitals and MCHs are limited. For this reason we are interviewing health professions working in the health institution at_____ (name of institution) to evaluate knowledge attitude, and perceptions of mental health toward health professions in Hargeisa

So the information that you give us which is related to your experience as health profession will support as and also help other stake holders who went to participate increasing quality of health service in addition to that a policy makers who went to make mental health policy or acts. Or this reason we need to increase our ability to support mental health people in Somaliland as we support health professions we increase quality of health service including mental health. This will help so many peoples who are suffering mental illness in our country.

I am going to ask you some questions using self administered questionnaire about MI & MH service. Your responses are completely confidential; your name will not be written on the form and will never be used in connection with any of the information you provide. You don't have to answer any question you don't want to answer, however your honest answer to these questions

will help us to better understand of assessing knowledge and attitude of health care workers towards people with mental illness in Hargeisa Somaliland. We would like to say thank you for your help.

Do I have your permission to continue? (Circle)

YES ------- Continue. NO ------ Stop

*Name of data collector_____ _____Signature_____

*Date of data collection: dd/mm/yy_____

*Checked by supervisor

Name_____

Signature_____

Date_____

Part I: demographic information

Sr. No	Question	Response coding categories	skip	code
101	What is your sex? *Tick box*	☐ 1=Male ☐ 2=Female		
102	How old are you?	_____ in Years		
103	What is your religion	1. Muslim 2. Christian 3. Others specify_____		
104	What is your current marital status?	☐ 1 = Single ☐ 2 = Married ☐ 3 = Divorced/Separated ☐ 4 = Widowed		
105	What is the highest level of study you completed?	☐1=Certificate ☐ 2=Diploma ☐ 3=Degree ☐ 5 = Other, Specify _____		
106	What is your field of study?	☐ 1= physician ☐ 2= Clinical Nurse		

		☐ 3=Midwives ☐ 4=Pharmacy ☐ 5= Other (specify)_____		
107	What is your work experience in terms of year?	_____year & _____month		
108	Have you take mental health/ psychiatry course in your college/university study?	☐ 1 Yes ☐ 2 No ☐ 3 don't know ☐ 4 No response		
109	Have you ever take in-service training on mental health/psychiatry	☐ 1=Yes ☐ 2=No ☐ 3=I don't know ☐ 4=No response		

Part II: knowledge of mental health towards health workers**.**

No	Question	Coding categories	skip	Co
200	Is mental illness part of most health problem in your health institution	☐ 1=Yes ☐ 2=No ☐ 88=I don't know ☐ 99=No response		
201	What do you think is the cause of mental illness? *(multiple answer possible)*	1) Hereditary 2) Drugs 3) Poverty 4) Biomedical disturbance 5) Punishment/ 6) Witches/ wizard 7) Psychological stress(marries, job, education war) 8) Infectious or non infectious diseases. 9) Other specify……		
202	Where did you get the source of information related to mental health *(multiple answer possible)*	☐ 1=Your college/university study ☐ 2=Mass media (Radio, TV, etc) or reading books. ☐ 3=co-staff or known patient ☐ 4= workshop/seminars		

		☐ 5=other, specify_____		
203	What kind of mental disorders do you know by name?	_____ _____ _____		
204	Can you write any of a drug that can be used to treat mental illness?	---------- ---------- ----------		
205	What will be the role of your institution towards mental illness?	---------- ---------- ----------		
206	Can you write sign & symptoms of mental illness related with kind of mental illness	---------- ---------- ---------- ----------		

Part III: Attitude of mental illness towards health workers

301	as soon as person shows signs of mental disturbance he should be hospitalized	1☐ Strongly Agree 2 ☐ Agree 3☐ Neutral 4☐ Disagree 5☐ Strongly Disagree		
302	more tax money should be spend on the care and treatment of mental ill	1☐ Strongly Agree 2 ☐ Agree 3☐ Neutral 4☐ Disagree 5☐ Strongly Disagree		
303	mentally ill should not be isolated from the rest of the community	1☐ Strongly Agree 2 ☐ Agree 3☐ Neutral 4☐ Disagree 5☐ Strongly Disagree		
304	*the best therapy for many mental patients is to be part of normal community*	1☐ Strongly Agree 2 ☐ Agree 3☐ Neutral		

		4☐ Disagree 5☐ Strongly Disagree		
305	Mental illness is an illness like any other	1☐ Strongly Agree 2 ☐ Agree 3☐ Neutral 4☐ Disagree 5☐ Strongly Disagree		
306	*mental illnesses are burden on society*	1☐ Strongly Agree 2 ☐ Agree 3☐ Neutral 4☐ Disagree 5☐ Strongly Disagree		
307	*Mentally patients are far less of danger than most people suppose*	1☐ Strongly Agree 2 ☐ Agree 3☐ Neutral 4☐ Disagree 5☐ Strongly Disagree		
308	locating mental health facilities in residential area downgrades the neighborhood	1☐ Strongly Agree 2 ☐ Agree 3☐ Neutral		

		4☐ Disagree 5☐ Strongly Disagree		
309	There is something about mental ill that makes people it easy to tell them from normal people	1☐ Strongly Agree 2 ☐ Agree 3☐ Neutral 4☐ Disagree 5☐ Strongly Disagree		
310	Mental ill have far too long been the subject of ridicule	1☐ Strongly Agree 2 ☐ Agree 3☐ Neutral 4☐ Disagree 5☐ Strongly Disagree		
311	Woman would be foolish to marry a man who has suffered from a mental illness even though he seems fully recovered	1☐ Strongly Agree 2 ☐ Agree 3☐ Neutral 4☐ Disagree 5☐ Strongly Disagree		
312	As far as possible Mental Health service should be provided through community based facilities	1☐ Strongly Agree 2 ☐ Agree 3☐ Neutral 4☐ Disagree		

		5☐ Strongly Disagree		
313	Less emphasis should be placed on protecting the public form MI	1☐ Strongly Agree 2 ☐ Agree 3☐ Neutral 4☐ Disagree 5☐ Strongly Disagree		

Sr.No	Question	Response Coding category	Skip	code
314	Increased spending of mental health service is a waste of tax dollar	1☐ Strongly Agree 2 ☐ Agree 3☐ Neutral 4☐ Disagree 5☐ Strongly Disagree		
315	no one has the right to exclude the MI their neighborhood	1☐ Strongly Agree 2 ☐ Agree 3☐ Neutral 4☐ Disagree 5☐ Strongly Disagree		
316	having mental patient living within residential neighborhood might be good therapy but the risks of residents are too good	1☐ Strongly Agree 2 ☐ Agree		

		3☐ Neutral 4☐ Disagree 5☐ Strongly Disagree		
317	mental patients need the same kind of control and discipline as young child	1☐ Strongly Agree 2 ☐ Agree 3☐ Neutral 4☐ Disagree 5☐ Strongly Disagree		
318	We need to adopt far more tolerant attitude towards mentally ill in our society	1☐ Strongly Agree 2 ☐ Agree 3☐ Neutral 4☐ Disagree 5☐ Strongly Disagree		
319	*I would not want to live next door to someone who has been mentally ill*	1☐ Strongly Agree 2 ☐ Agree 3☐ Neutral 4☐ Disagree 5☐ Strongly Disagree		
320	Residents should accept the location of mental health facilities in their neighborhood to serve the needs of the local community	1☐ Strongly Agree 2 ☐ Agree 3☐ Neutral		

		4☐ Disagree 5☐ Strongly Disagree		
321	the mentally ill should not be treated as out casts of society	1☐ Strongly Agree 2 ☐ Agree 3☐ Neutral 4☐ Disagree 5☐ Strongly Disagree		
322	there are sufficient existing service for the mental health	1☐ Strongly Agree 2 ☐ Agree 3☐ Neutral 4☐ Disagree 5☐ Strongly Disagree		
323	Mental ill patients should be encouraged to assume the responsibilities of normal life	1☐ Strongly Agree 2 ☐ Agree 3☐ Neutral 4☐ Disagree 5☐ Strongly Disagree		
324	local resident have good reason to resist the location of mental health service in their neighborhood	1☐ Strongly Agree 2 ☐ Agree 3☐ Neutral		

		4☐ Disagree 5☐ Strongly Disagree		
325	the best way to handle mentally ill is to keep them behind the locked door	1☐ Strongly Agree 2 ☐ Agree 3☐ Neutral 4☐ Disagree 5☐ Strongly Disagree		
326	Anyone with history of mental problem should be excluded from taking public office	1☐ Strongly Agree 2 ☐ Agree 3☐ Neutral 4☐ Disagree 5☐ Strongly Disagree		
327	*Our mental hospital seems more like prison*	1☐ Strongly Agree 2 ☐ Agree 3☐ Neutral 4☐ Disagree 5☐ Strongly Disagree		

Sr.No	Question	Response Coding category	Skip	code
328	locating mental health service in resident neighborhood does not endanger local resident	1☐ Strongly Agree 2 ☐ Agree 3☐ Neutral 4☐ Disagree 5☐ Strongly Disagree		
329	*Mental hospitals are an outdated means of treating the mental ill*	1☐ Strongly Agree 2 ☐ Agree 3☐ Neutral 4☐ Disagree 5☐ Strongly Disagree		
330	Mentally ill people don't deserve our sympathy	1☐ Strongly Agree 2 ☐ Agree 3☐ Neutral 4☐ Disagree 5☐ Strongly Disagree		
331	the mentally ill should not denied their individual right1	1☐ Strongly Agree 2 ☐ Agree 3☐ Neutral 4☐ Disagree 5☐ Strongly Disagree		

332	Mental ill facilities should be kept out of residential neighborhood	1☐ Strongly Agree 2 ☐ Agree 3☐ Neutral 4☐ Disagree 5☐ Strongly Disagree		
333	One of the main causes of mental illness is lack of self discipline and will power	1☐ Strongly Agree 2 ☐ Agree 3☐ Neutral 4☐ Disagree 5☐ Strongly Disagree		
334	We have the responsibility to provide the best possible care for mental ill	1☐ Strongly Agree 2 ☐ Agree 3☐ Neutral 4☐ Disagree 5☐ Strongly Disagree		
335	The mentally ill should not be given any responsibility	1☐ Strongly Agree 2 ☐ Agree 3☐ Neutral 4☐ Disagree 5☐ Strongly Disagree		
336	residents have nothing to fear from			

	people coming into their neighborhood to obtain mental health service	1☐ Strongly Agree 2 ☐ Agree 3☐ Neutral 4☐ Disagree 5☐ Strongly Disagree		
337	virtually any one can become mentally ill	1☐ Strongly Agree 2 ☐ Agree		
338	It is best to avoid any one who has mental problem	1☐ Strongly Agree 2 ☐ Agree 3☐ Neutral 4☐ Disagree 5☐ Strongly Disagree		
339	Most women who were once patients in a mental hospital can be trusted as baby sitters	1☐ Strongly Agree 2 ☐ Agree 3☐ Neutral 4☐ Disagree 5☐ Strongly Disagree		
340	It is frightening to think of people with mental problems living in residential neighborhoods	1☐ Strongly Agree 2 ☐ Agree 3☐ Neutral 4☐ Disagree 5☐ Strongly Disagree		

Thank you very much for taking time to answer these questions. We welcome your collaboration

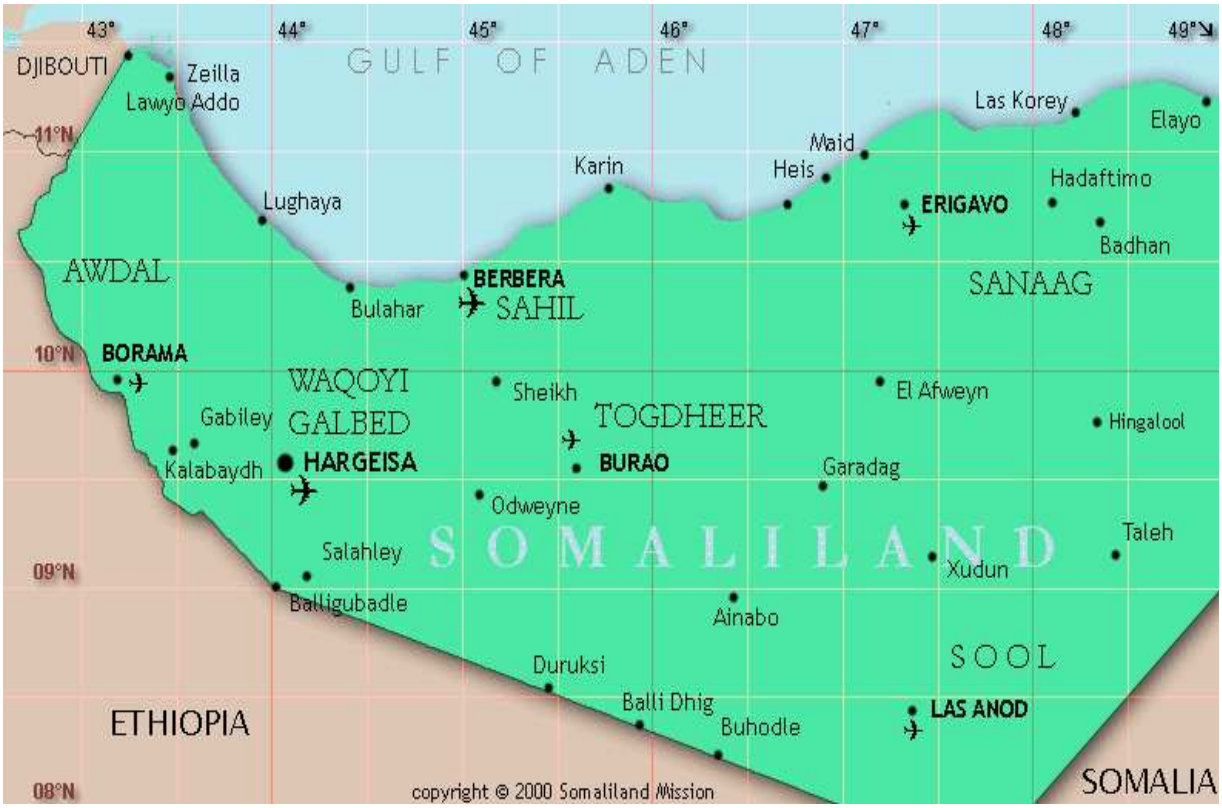


Figure 1 Map of Somaliland

ASSURANCE OF PRINCIPAL INVESTIGATOR

I, Ayanle Suleiman, declare that the work presented in this MSc thesis is original. It has not been presented to any other university or institution. Where, the work of other people has been used, reference has been provided. It is in this regard that I declare this work as original mine, and it is here by presented in partial fulfillment of the MSc Degree in Integrated Clinical and Community Mental Health.

Name of the student: _____

Date._____ Signature _____

APPROVAL OF ADVISORS

Name of the first advisor: _____

Date._____ Signature _____

Date of submission: _____

Name of the second advisor: _____

Date._____ Signature _____

Date of submission: _____