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Determinants of self and public stigma and discrimination against people with mental illness and their family in Jimma zone, Southwest Ethiopia

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Abstract

Background: Stigma can be detrimental to the quality of life, as well as the treatment and rehabiltation process of people with mental illness. The purpose of this study was to measure the extent and determine correlates of public and self-stigma against people with mental illness (PWMI) and their families in Jimma Zone, Southwest Ethiopia.

Methods: Community and institution based quantitative and qualitative cross-sectional studies were conducted among 845 randomly selected community members at GGFRC, consecutive 422 PWMI and 422 family members of PWMI at Jimma University Specialized Hospital. Univariate, bivariate and multivariate linear regression analyses were done.

Results: The mean scores of public stigma against PWMI and their family members were 2.62 ($\pm$0.34) and 2.16 ($\pm$0.49), respectively, on a range of 1 to 5. The mean self-stigma score among PWMI, on a range of 1 to 4, was 2.32 ($\pm$0.30). Place of residence, belief in the supernatural, psychosocial and biological explanations of mental illness were associated with stigma towards PWMI and family members of PWMI. Level of education and income predicted PWMI public stigma. A higher number of perceived signs of mental illness was correlated with lower stigma against family members of PWMI. Females, individuals with history of traditional treatment, individuals experiencing higher number of drug side-effects, and individuals who subscribed to more signs and supernatural explanations had significantly higher levels of self-stigma. In contrast, patients with higher education level and higher self-esteem showed significantly lower levels of self-stigma. Supporting supernatural explanations of mental illness was associated with greater care-givers' self-stigmatization.

Conclusion: High public stigma against PWMI and high levels of patients' self-stigma were found. Care-givers demonstrated reluctance to be identified with PWMI. Systematic forms of discrimination against PWMI and their family members were identified. PWMI and their family members faced behavioral and structural challenges. Thus, reducing stigma against patients may help to reduce stigma against family members. Developing strategies to improve patients' self esteem, and developing policies and guidelines about mental illness may be helpful in reducing stigma. Effective intervention strategies that target patients, their families, as well as the public need to be designed to reduce stigma.

Key Words: *mental illness, stigma, public stigma, self-stigma, internalized stigma, attitude*

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Abbreviations

ANOVA: Analysis of Variance

CAMI: Community Attitudes towards the Mentally Ill

CGI: Clinical Global Impression

DCFS: Devaluation of Consumer Families Scale

FIS: Family Interview Schedule

GGFRC: Gilgel Gibe Field Research Center

ISMI: Internalized Stigma of Mental Illness

JUSH: Jimma University Specialized Hospital

PWMI: People With Mental Illness

SD: Standard Deviation

WHO: World Health Organization

1. Introduction

1.1 Global overview of mental health and mental illness

According to the World Health Organization (WHO) constitution, mental health is conceptualized as a "more than the mere lack of mental disorders" [1-2]. Mental illness is also defined as "collectively all diagnosable mental disorders" or "health conditions that are characterized by alterations in thinking, mood, or behavior (or some combination thereof) associated with distress and/or impaired functioning" [3]. Globally, mental illness affects 1 in 4 people and causes health problems, contributes to a poor quality of life, and places social and economic burdens on the patients, their families, and entire nations [4-6]. For example the 2010 Global burden of disease study reported that mental illness and substance use disorders accounted approximately 184 million disability-adjusted life years (DALYs), and were the leading cause of years lived with disability (YLDs) worldwide [7]. Moreover, mental illness is a well-known risk factor for many communicable and non-communicable diseases [8].

The magnitude of mental health problems in developing countries like Ethiopia is not different from developed countries [4-6]. The problem is due to low access to mental health services [9-10], which further exacerbates the burdens caused by mental illness. For example, in low and middle income countries, 76 to 85 percent of people with severe mental disorders receive no treatment, and there is only one psychiatrist to serve 200, 000 or more people [4]. In addition to the scarcity of mental health services, there are also a number of cultural and behavioral barriers, such as harmful beliefs and practices that hinders treatment and rehabilitation [5, 11]. Combined with the illness itself, the economic, emotional and social suffering associated with mental illness inhibits the lives of individuals affected by the disease and leads to a poor quality of life [12-18].

1.2 Stigma and mental illness

Stigma is "a social process, experienced or anticipated, characterized by exclusion, rejection, blame or devaluation that results from experience or reasonable anticipation of an adverse social judgment about a person or group" [19]. It is a complex concept and materializes in different forms, ranging from cognitive aspects to behavioral reactions (enacted stigma) on the stigmatized persons [20-21]. Mental illness stigma can be largely attributed to low awareness and knowledge about mental illness, fear of contamination, and prejudice towards the patients and their illness [16, 22-23].

Mental illness stigma is not only directed to the patients, but also to the patients' family members and care-givers by association [24-25]. The worst consequences of mental illness stigma are when the patients, family members, and care-givers surrender to the public stigma and stigmatize themselves (internalized or self-stigma) [16, 26-27]. Unfortunately, in some cases, these individuals stigmatize themselves without the presence of actual public stigma because of anticipated or perceived stigma [25, 28-31].

There are numerous documented negative consequences of stigma on PWMI, their family members and/or care-givers. For example, previous findings revealed that stigma may result in social isolation, delay in seeking treatment, unemployment, and suicidal ideation in PWMI [13, 15, 32-38]. In addition, families and care-givers of PWMI may be exposed to shame, low self-esteem and social withdrawal as a consequence of stigma. As a result, families may hide patients, and patients may refrain from seeking treatment or fail to adhere to treatment [25, 30, 39-44]. The WHO has described stigma to be one of the greatest challenges for improving mental healthcare [45].

1.3 Mental health and mental health-related stigma in Ethiopia

Ethiopia is one of the least developed countries in the world and the second most populous country in Africa. Though mental illness is common in Ethiopia, mental health services are disproportionately scarce and have been given less attention than other health services [46]. For example, there is only one psychiatric hospital (in the capital city) and 40 psychiatrists in the entire country. Fewer than 1 in 10 of people with severe mental illness receive treatment [10, 46-47]. Prior to 2012, no mental health policy existed in the country. In 2012, the Federal Ministry of Health of Ethiopia developed a five-year mental health strategy for the first time [10].

In addition to the scarcity of mental health services, there is also low mental health literacy, a deeply entrenched traditional explanation for mental illness, and low mental health service utilization [28, 48-51]. High stigma against PWMI and their family members are reported throughout the country [28, 51]. Our community and facility-based investigations are the first of their kind to examine the southwest region of Ethiopia. The study was inspired by previous findings that a high delay in treatment seeking may be attributable to stigma, as well as explanatory models of mental illness [50]. Therefore the purpose of this project is to measure the level of stigma among patients, families, caregivers, and the general public in Jimma zone, Southwest Ethiopia.

2. Rationale and Objectives

In Ethiopia, there is limited data on stigma and discrimination against people with mental illness [28, 38, 49, 51]. However, research reports indicate significant delay in treatment seeking behavior among those suffering from mental illness [48, 50]. This project stems from a previous study done at JUSH on patterns of treatment-seeking among PWMI [50]. In our previous study, stigma was hypothesized to be one of the possible factors for high delay in treatment-seeking. Upon reviewing existing literature, we found out that delay in treatment seeking has been linked to stigma and discrimination [8-9]. We posit that a better understanding of stigma and how it manifests among the public and among PWMI may help improve the lives of PWMI, as well as promote continued resilience and aid recovery. Hence, we seek to generate information about the various aspects of stigma and discrimination against PWMI and their family, and the factors associated with them. From this project four manuscripts were published on peer reviewed scientific journals on patient self-stigma, caregivers' self-stigma, public stigma against PWMI and public stigma against family members of PWMI.

The findings from our project may be helpful for developing mental health programs that reduce stigma and discrimination against PWMI and their family. Our findings may help inform better approaches and interventions in order to minimize the consequences of stigma and discrimination. Furthermore, researchers interested in the nuanced dimensions and consequences of stigma may benefit from the information obtained by our study. Therefore, the main objective of our project is to measure the level and correlates of self (PWMI and their caregivers) and public stigma against people with mental illness and their family members in Jimma zone, Ethiopia.

3. Methods

3.1 Study design and settings

Community and institution based studies using quantitative cross-sectional and qualitative interviews were conducted. The data collection took place from June to August 2012 in Jimma University Specialized Hospital (JUSH) and Gilgel Gibe Filed Research Center (GGFRC) in Jimma zone, Southwest Ethiopia. Jimma zone is 1 of the 14 administrative zones of Oromiya region. According to the central statistical agency's report of 2007, Jimma zone has a combined population of over 2.8 million in its 18 districts [52]. Among the health institutions in the zone, only JUSH has inpatient and outpatient mental health care serving the southwest region of Ethiopia (catchment population of 15 million). It is located in Jimma city [53].

GGFRC is located about fifty kilometers from Jimma city, on the road from Jimma to Addis Ababa. The area serves as the field research center for Jimma University Health Sciences Research Institute (HSRI). A particular characteristic of the area is the Gibe hydro-electric dam. The center comprises 11 kebeles (the smallest administrative structure), 3 of which are small towns. The catchment population of the center is 54,538: 15,719 (28.8%) in urban areas and 38,809 (71.2%) in rural Kebeles [54].

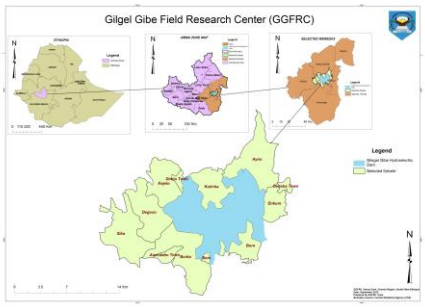

Figure 3.2: Map of GGFRC (source: GGFRC, 2013)

Figure 3.1: Picture of Psychiatry clinic at JUSH, Ethiopia

3.2 Sample size and sampling procedure

Public stigma studies were conducted among 845 randomly selected individuals living in the GGFRC and self-stigma was studied among 422 PWMI and 422 care givers from JUSH. One urban and four rural kebeles out of 11 kebeles were selected by simple random sampling technique (Figure 3.1). The size of households to be included in each kebele was allocated proportionally. Heads of household were included if available during the time of visit of each

household. Otherwise, individuals aged 18 years and older were included by simple random sampling technique. The Clinical Global Impression (CGI) scale was used to identify whether a patient was eligible to respond to study questions [55].

In-depth interviews were conducted among a convenience sample of 4 patients and 4 care givers in JUSH psychiatry clinic. Key informant interviews were also undertaken with police, health professionals, religious leaders, and teachers at GGFRC since it is believed that these informants have more influence and experience in regards to mental health. The qualitative studies focused on beliefs, experiences, feelings, and challenges related to mental illness and the roles of key informants related with mental illness.

3.3 Data collection procedures and instruments

Quantitative data were collected using interviewer-administered questionnaires. A 40-item Likert scale measure called the Community Attitude towards the Mentally Ill (CAMI) scale [56] was used to measure public stigma against PWMI. To measure PWMI self-stigma, the 29-item Likert scale of Internalized Stigma of Mental Illness (ISMI) Scale [57] was used. Public stigma against family members of PWMI was measured using the 10-item Likert scale responses adapted from the Devaluation of Consumer Families Scale (DCFS) and other two previous studies [58-60]. Caregivers' self-stigma was measured using an adapted version of the WHO Family Interview Schedule (FIS) [39, 61-62]. Self- esteem of people with mental illness was measured using the Rosenberg self-esteem scale [63]. In each measure, the items were summed to get total scores of stigma so that higher scores indicated more stigma. A checklist was used to extract relevant data on the diagnosis, as well as other medical information (example: co-morbidity and drug side effects) from the patients' charts in the clinic. Each key informant and in-depth interview was taped and notes were taken.

3.4 Data processing and analysis

Quantitative data were checked for completeness and entered into EPI-DATA version 3.1 and then exported to STATA version 10.0 for analysis. Univariate, bivariate (ANOVA and t-tests) and multivariate analysis (linear regression) were computed to determine the correlates of stigma. The qualitative data was transcribed in Amharic and then translated to English. The transcription was thematically organized.

3.5 Ethical considerations

Ethical clearance was obtained from Jimma University Research Ethical Review Board. Written informed consent was obtained from each respondent.

4. Results

4.1 Background characteristics

Eight hundred forty-five community members in the field, 422 PWMI, and 422 caregivers in the hospital were interviewed. There were more males than females among the patients (70.14%) and caregivers (70.38%). In all the three samples, individuals who had ever been married, and those identified as religiously Muslim and ethnically Oromo were over-repesented. In the community sample, the majority of the respondents were illiterate (62.72%) and lived in a rural residence (68.17%). In all the three samples, the mean age of respondents was below 40 years, and the mean family monthly income was less than 90 USD (See Table 4.1) and publications 1 to 4.

Table 4.1: Background characteristics of community members, patients and care givers in GGFRC and JUSH, Southwest Ethiopia, 2012.

Variable	**Community (N=845)**	**Patients (N=422)**	**Care givers (N=422)**
	Number (%)	**Number (%)**	**Number (%)**
Sex			
Female	517 (61.18)	126 (29.86)	125(29.62)
Male	328 (38.82)	296 (70.14)	297(70.38)
Marital status			
Ever been married*	638(75.50)	213(50.47)	317 (75.12)
Never been married	207(24.50)	209 (49.53)	105(24.88)
Religion			
Muslim	752(88.99)	250 (59.24)	266(63.03)
Others (orthodox, Protestant)	93(11.01)	172 (40.76)	156 (36.97)
Ethnicity			
Oromo	770(91.12)	255 (60.43)	259 (61.37)
Others***	75(8.88)	167 (39.57)	163 (38.63)
Educational status			
Illiterate	530(62.72)	45 (10.66)	65(15.40)
Read and write only	96(11.36)	37(8.77)	55(13.03)
Elementary and above	219(25.92)	340 (80.57)	302 (71.57)
Occupation			
Farmer, house wife and unemployed	676(80.00)	179 (42.42)	210 (49.76)
Others**	169(20.00)	243(57.58)	212 (50.24)
Setting			
Rural	576 (68.17)	195 (46.21)	213(50.47)
Urban	269 (31.83)	227 (53.79)	209(49.53)
Age (mean, SD)	37.4 (±14.8)	33.11 (±11.37)	37.8 (+13.9)
Average family monthly income (mean, SD) in USD	20.40(±21.22)	74.70(±120.15)	89.0 (±139.0)

**Married, divorced, and widowed, **Private work, student, government employee, house worker (maid), ***Yem, Guraghe, Amhara, Keffa, and Dawro*

4.2 Stigma and self-esteem scores

As mentioned on publication 2 and 4, the mean public stigma against PWMI and family members of PWMI scores were 2.62 (±0.34) and 2.16 (±0.49), respectively, on a range of 1 to 5. The mean self-stigma and self-esteem scores among patients were 2.32 (±0.30) and 2.68 (±0.27), respectively, on a range of 1 to 4 (see publication 1). On a range of 0 to 15, the average caregivers' self-stigma was 4.68 (±4.11) (See Table 4.2). The majority of the patients were diagnosed for mood (49.05%) and psychotic (36.02%) disorders. On a 1 to 4 scale with

higher scores indicating higher self-esteem, the mean self-esteem score among PWMI was 2.68 (SD ±0.27) which is published in publication 1.

Table 4.2: Public and self-stigma measures and scores against PWMI and their family members in GGFRC and JUSH, Southwest Ethiopia, 2012.

Stigma type	Tools used	Number of items	Score method	Mean Sacle Range	Mean (SD)
Public stigma against PWMI	CAMI	40	1=s.agree to 5=s. Disagree	1-5	2.62 (±0.34)
Public stigma against family members of PWMI	DCFS	10	1=s. disagree to 5=s. Agree	1-5	2.16 (±0.49)
Self-stigma among PWMI	ISMI	29	1 =s. agree to 4=s. Disagree	1-4	2.32 (±0.30)
Self stigma among care givers of PWMI	FIS	15	yes=1 or no=0	0-15	4.68 (±4.11)

4.3 Correlates of stigma

Rural GGFRC residents had significantly higher stigma scores towards PWMI and family members of PWMI than urban residents. Residents with higher scores in perceived supernatural and psychosocial and biological explanations of mental illness had significantly lower stigma levels for both PWMI and family members (see publications 2 and 4). A significant inverse relationship was found between the level of education and degree of stigma towards PWMI, and higher income was associated with more stigma towards PWMI by the public in GGFRC (see publication 2). Higher score on perceived signs was associated with lower stigma against family members of PWMI (see publication 4). As stated in publication 1, female patients, those with a history of traditional treatment, those with a history of a higher number of drug side effects, and those who endorsed supernatural explanations felt higher levels of self-stigma, while patients with higher education level and higher self-esteem showed lower levels of self-stigma. Publication 3 indicated that greater support for supernatural explanations of mental illness was associated with higher self-stigma among caregivers, and was the only independent predictor of caregivers' self-stigma (Table 4.3).

Table 4.3: Multivariate linear regression analysis to identify correlates of public and self-stigma against PWMI and their family members in GGFRC and JUSH, Southwest Ethiopia, 2012.

Stigma score	Variables	Adjusted β (standardized)
Public stigma against PWMI	Age	-0.06*
	Rural community	0.61***
	Educational level	-0.14**
	Average family monthly income	0.07*
	Belief that mental illness can be cured	0.07**
	Perceived supernatural causes of mental illness	-0.09**
	Perceived psychosocial and biological explanations	-0.14***
Public stigma against family members of PWMI	Rural	0.43***
	Perceived signs of mental illness	-0.07*
	Perceived supernatural explanations	-0.12**
	Perceived psychosocial and biological explanations	-0.11**
Self-stigma among PWMI	Female	0.11*
	Private enterprise (reference = farmers)	−0.15*
	Ever had traditional treatment	0.11*
	Education	−0.17**
	Perceived signs	0.13*
	Perceived supernatural causes	0.16**
	Number of drug side effects	0.15*
	Self esteem	−0.14**
Self-stigma among caregivers of PWMI	Perceived supernatural explanations	0.22***

*P<0.05, **P<0.01, ***P<0.001

4.4 Findings from the qualitative study

Religious leader, police, healthcare provider, PWMI, and their caregivers were interviewed to identify the challenges for PWMI that can lead to stigma and discrimination. Access to mental health care, severe shortage of trained health workers, drug side effects, delay in treatment-seeking, lack of policy and referral guidelines for treatment of patients, loss of hope that the illness can be cured and PWMI "could not think and feel like a human being", high perceived dangerousness, and complex explanations were the main factors identified.

Systematic forms of stigma and discrimination hinder PWMI and their family members. For example, PWMI were victims of pity, torture in traditional healing places, police brutality, denial of public transportation, divorce, and unemployment. Caregivers also experienced exclusion from social networks and blame from the community for not keeping patients in a restricted area. Policemen found themselves in a dilemma between protecting the public from disturbing behaviour of PWMI and protecting the human rights of PWMI.

Patients and families who attended the hospital for treatment, but who still subscribed to a predominantly supernatural explanation of mental illness were also found. There were families and patients who sought treatment in religious instituions that were different from theirs. Different denominations held different explanations (supernatural, psychosocial, biological, mixed explanations, etc) toward mental illness.

5. Discussion

We found that self-stigma among patients suffering from mental illness was the highest in comparison to other forms of stigma. Self-stigma among PWMI may be the highest compared to the other forms because self-stigma can sometimes be more severe than the actual stigma from the public due to anticipated or perceived stigma [64]. The qualitative study suggested that community-based patient empowerment interventions in the study area were almost non-existent. The observed correlation between self-esteem and self-stigma among patients is consistent with the report from a previous study [65]. The identified challenges and attributes of stigma and discrimination against PWMI in the qualitative studies suggest that the elevated self-stigma among PWMI might be the consequence of the widespread public stigma.

Since the same study participants were interviewed for stigma against PWMI and family members of PWMI, further analysis was conducted to examine the relationship between the two measures. The analysis showed that respondents with high levels of stigma against PWMI

also exhibited significantly higher stigma against family members of PWMI. This may be related to the pattern of blaming family members for the mental illness of the patients [25]. Similar positive correlations between stigma against PWMI and family stigma were evidenced in other studies [25, 28, 30].

Only self-stigma of PWMI living in rural area was not significantly associated with higher stigma; in the remaining three studies, rural respondents had significantly higher stigma than urban respondents. This ecological variation in stigma may be due to lack of awareness, lack of access to information, and therefore, rampant misconceptions about mental illness. Many misconceptions about mental illness were observed among patients and care givers from rural areas in the qualitative study.

Awareness, exposure, and knowledge about an attitudinal object are pre-requisites in order to develop a feeling of like or dislike. The direction of influence depends on whether individuals are exposed to correct information or to misconceptions [66]. In the current study, explanations of mental illness significantly influenced respondents' degree of stigma, and were identified as one of the most important predictors of stigma. For example, higher perceived supernatural explanations of mental illness corresponded to higher self-stigma in caregivers and PWMI, and lower public stigma against PWMI and their family members. Possible explanations for such association could be that: (1) when the public has any form of etiological explanation, even supernatural, fear of the illness may decrease, which results in lower stigma, because it provides an explanation of the illness that reduces fear [16, 22-23]; (2) On the other hand, higher supernatural explanations were significantly associated with elevated self-stigma among PWMI and caregivers, which may be attributable to supernatural explanations encouraging self-blame for being mentally ill. However, these need to be investigated further.

In our study, the general literacy or higher educational status was either directly associated with lower stigma (in the public stigma studies) or mediated other variables to reduce stigma among respondents. Perhaps literacy increases the possibility of utilizing multiple sources of information and understanding complex ideas to increase one's knowledge about mental illness or other aspects of health, which can reduce stigma. The qualitative findings also revealed that well-educated respondents tended to challenge and denounce misconceptions about mental illness and PWMI.

This project was the first of its kind in Ethiopia that investigated the different dimensions and perspectives of stigma quantitatively and qualitatively. On the other hand, there are possible limitations that need to be acknowledged. (1) The source population for the community and institution studies may be different and different types measurements were used, which makes it difficult to compare across findings. (2) Since all the studies were cross-sectional studies, there is weak causality among the measured variables. (3) The items for stigma measurement may be vulnerable to social desirability biases.

6. Conclusion

In general, high levels of public stigma against PWMI, as well as high levels of patients' self-stigma were found. Caregivers demonstrated reluctance to be identified with PWMI. Systematic forms of discrimination against PWMI and their family members were identified. PWMI and their family members faced barriers, such as behavioral misconceptions and lower self-esteem, to structural challenges, such as access to mental health care, policy, etc. Reducing stigma against patients may help reduce stigma against family members. Strategies to improve patients' self-esteem and reduce drug side effects may help reduce self-stigma among PWMI. Information, education and communication about the causes, signs, and symptoms of mental illness can also help reduce stigma. Finally, further research projects on the effects of stigma, treatment seeking, adherence to treatment, and quality of life of PWMI in Ethiopia should be investigated.

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Public Stigma against People with Mental Illness in the Gilgel Gibe Field Research Center (GGFRC) in Southwest Ethiopia

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Abstract

Background: Public understanding about mental illnesses and attitudes towards people with mental illness (PWMI) play a paramount role in the prevention and treatment of mental illness and the rehabilitation of PWMI. The aim of this study was to measure public stigma against PWMI and the factors associated with stigma in the Gilgel Gibe Field Research Center (GGFRC) in Southwest Ethiopia.

Methods: This community-based, cross-sectional study was conducted from June to August 2012 among 845 randomly selected respondents by using the Community Attitudes towards the Mentally Ill (CAMI) scale, an interviewer-administered questionnaire. Data was entered with EPI-DATA and then exported to STATA for analysis. Simple descriptive and linear regression analyses were performed to identify predictors of stigma against PWMI.

Results: Of the total of 845 respondents, 68.17% were from rural districts. The mean stigma score was 2.62 on a 5-point score. The majority of the respondents (75.27%) believed that mental illness can be cured. Stress, poverty, and rumination were the most often perceived causes of mental illness. Rural residents had significantly higher stigma scores (std. $\beta = 0.61$, $P<0.001$). A statistically significant inverse relationship was found between the level of education and degree of stigma (std. $\beta = -0.14$, $P<0.01$), while higher income was significantly associated with more stigma (std. $\beta = 0.07$, $P<0.05$). Respondents with higher scores for perceived supernatural causes (std. $\beta = -0.09$, $P<0.01$) and perceived psychosocial and biological causes (std. $\beta = -0.14$, $P<0.001$) had significantly lower stigma levels.

Conclusions: The study found a more undermining but less avoidant attitude towards PWMI. Rural residents showed higher levels of stigma. Stigma against PWMI was lower in people with an explanatory concept about the causes of mental illness and a higher level of education. Information, education, and communication about the causes, signs, and nature of mental illnesses would help to reduce stigma.

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Background

Stigma is generally a result of illogical generalization, lack of knowledge, and fear about people who are different from oneself [1–3]. Although mental illness is a universal and common health problem [4], communities tend to show stigmatizing behavior towards people with mental illness (PWMI) for one or more of the above mentioned reasons. As a result, PWMI and family members of PWMI find stigma a great challenge to cope with, and international organizations like the United Nations (UN) and the World Health Organization (WHO) strongly suggest that systematic and multifaceted interventions are put into place to fight stigma [5–9] against PWMI.

As a consequence of stigma, PWMI usually can have difficulty in maintaining their day-to-day social interactions, which in the worst case may result in them committing suicide [6,10–13]. Stigma is not only a consequence of mental illness but also a factor that interferes with help-seeking behavior, and it may delay treatment-seeking in patients with mental illness [6,14–17] and, as a consequence, the cure and rehabilitation process. For instance, one study conducted in Ethiopia indicated that more than eighty percent of patients with mental illness reported that the community perceives mental illness as a shameful illness, and the same study reported that there was a significant delay in seeking modern treatment for mental illnesses [18].

Mental health is considered a vital element of overall health. The right to mental health care and protection from discrimination is also a human right, but it may be undermined by exclusion of affected individuals through stigma [9,19]. Although guidelines and conventions on stigma against mental illness are available, much work is required to fight stigma against PWMI. The spectrum of care and the need for rehabilitation services of this particular patient group justifies determined consideration, protection, and advocacy by the respective health care and social systems. In addition, PWMI are disadvantaged with respect to several social determinants of health and exposed to numerous health risks like malnutrition, drug abuse, and homelessness, as well as violence and material deprivation [20]. Moreover, there is a need to fight the negative publicity attached to mental illness in the media and entertainment industries [21–23].

Studies from Nigeria, Southern Ghana, and Ethiopia have reported high levels of stigma against PWMI. In these studies, literate participants were more likely to exhibit positive feelings towards the mentally ill than illiterate ones [14,24,25]. In contrast, other studies showed that family members with higher levels of education were more likely to report higher levels of stigma [26,27]. Therefore, education may play negative or positive role for stigma against PWMI or there may be factors which mediate the influence of education on stigma against PWMI. Religion is another important factor with regards to stigma; for example, people of Muslim faith showed less stigma against PWMI than people of other faiths [28]. The difference of stigma against PWMI among different religion followers is because religion usually may dictate some form of explanations of mental illness and may influence the level of stigma a community has against PWMI.

A community's understanding about mental illnesses and its attitude towards PWMI play a paramount role in mental health, because community members act as reinforcing agents for preventive, illness, treatment-seeking, and drug compliance behaviors and also as special rehabilitation agents, because of the chronic nature of mental illnesses. In developing countries like Ethiopia, where mental health services are limited or too scarce and PWMI often delay seeking treatment for their mental illness [29], the community plays an essential role in the treatment and rehabilitation of patients with mental illness. However, community members commonly play a negative role and worsen the consequences of mental illness among patients [30]. Therefore, the aim of this study was to evaluate public stigma against PWMI and the factors associated with stigma in the Gilgel Gibe Field Research Center (GGFRC), which is located in Southwest Ethiopia. The findings of this study will help also organizations working on mental health programs, particularly in fighting stigma against PWMI.

Methods

Study design and setting

This community-based, cross-sectional study was conducted at the GGFRC from June to August 2012. The center is located in Southwest Ethiopia, about 50 km from Jimma, on the road from Jimma to Addis Ababa (the capital of Ethiopia), and comprises the area surrounding the Gilgel Gibe Hydroelectric Dam. The center comprises 11 kebeles (the smallest administrative structure in Ethiopia), 3 of which are small towns. In September 2011, the population of the center was 54,538: 15,719 (28.8%) in an urban setting and 38,809 (71.2%) in a rural one [31]. The area serves as a field research center for the Jimma University Health Sciences Research Institute (HSRI).

Sampling procedure

Of the 11 kebeles, one urban and four rural ones were selected by simple random sampling for inclusion in the study. According to information obtained from the HSRI data center, in June 2012 the five selected GGFRC kebeles comprised a total of 4,268 rural and 1,598 urban households. The proportion of urban and rural households was calculated on the basis of the total number of households in the five kebeles and used to calculate the number of households to be included in each kebele. A simple random sampling technique was used to select the house numbers to be included in the study from the sampling frame obtained at the HSRI data center.

A total of 845 individuals were interviewed in the study community. The maximum sample size was calculated by assuming a 50% level of public stigma–since no data are available about the levels of public stigma in the area–with a 95% confidence interval and considering a tolerable error of 5% and a design effect of 2 as well as adding a 10% non-response rate.

Whenever possible, heads of households were included in the study. Heads of households in this situation were typically spouses (either husband or wife). This might have increased the representativeness of the study since they could have represented their family's thoughts and ideas on the topic. However, individuals aged 18 years and above were included by a lottery method whenever heads of household were absent during data collection.

Data collection procedure

Data was collected by using an interviewer-administered questionnaire. Training was given to data collectors and supervisors on the contents and procedures of data collection. The training included how to get consent, making familiar to the items of the questionnaire, interviewing techniques, how to administer the questions, principles of confidentiality, and role play of the data collection process. The data was collected by going house-to-house to the randomly selected house numbers.

Measurement

Public stigma against PWMI was measured with the Community Attitude towards the Mentally Ill (CAMI) scale [32]. The CAMI scale rates a total of 40 items on a 5-point Likert scale (1 = strongly agree to 5 = strongly disagree) and has four subscales, each with 10 items: Authoritarianism (AU), Benevolence (BE), Social Restrictiveness (SR), and Community Mental Health Ideology (CMHI). AU is a 'view of the mentally ill person as someone who is inferior and requires supervision and coercion.' BE corresponds to 'a humanistic and sympathetic view of mentally ill persons'; in this study, a higher BE score corresponded to a less humanistic and less sympathetic (malevolent) view of PWMI. SR means 'the belief that mentally ill patients are a threat to society and should be avoided.' Community Mental Health Ideology (CMHI) is 'the acceptance of mental health services and the integration of mentally ill patients in the community' [32]; a higher score on the CMHI subscale indicated a rejection of mental health services and the integration of PWMI in the community. Overall stigma against PWMI was computed by summing up the subscales. Negatively stated items were reversely recoded for analysis. Higher scores indicated more stigma against PWMI.

A study conducted in Ghana found good reliability (Cronbach's Alpha) of the CAMI subscales, as follows: BE, $\alpha = 0.71$; SR, $\alpha = 0.73$; CMHI, $\alpha = 0.75$; AU, $\alpha = 0.31$ [24]. In our study, the reliabilities of the subscales were as follows: AU, $\alpha = 0.43$; BE, $\alpha = 0.50$; SR, $\alpha = 0.70$; CMHI ($\alpha = 0.67$). When all 40 items were considered, the overall reliability of the CAMI scale was $\alpha = 0.79$.

Table 1. Socio-demographic characteristics of respondents in the Gilgel Gibe Field Research Center, Southwest Ethiopia, 2012 (N = 845).

Variable	Urban ($n_1 = 269$)	Rural ($n_2 = 576$)	X^2, P value or *t* test, P value
	% for n_1	% for n_2	
Sex			
Female	61.71	60.94	$X^2 = 0.05$, P = 0.83
Male	38.29	39.06	
Marital status			
Ever been married*	64.68	80.56	$X^2 = 24.97$, P<0.001
Never been married	35.32	19.44	
Religion			
Muslim	71.75	97.05	$X^2 = 119.85$, P<0.001
Others (orthodox, Protestant)	28.25	2.95	
Ethnicity			
Oromo	75.09	98.61	$X^2 = 125.40$, P<0.001
Others***	24.91	1.39	
Educational status			
Illiterate	33.46	76.39	$X^2 = 222.27$, P<0.001
Read and write only	7.81	13.02	
Elementary and above	58.74	10.59	
Occupation			
Farmer and house wife	47.96	94.97	$X^2 = 253.27$, P<0.001
Others**	52.04	5.03	
Age (mean, SD)	32.67 (14.16)	39.55 (14.65)	F = 41.27, P<0.001
Average family monthly income (mean, SD) in ETHB (1 USD = 18.5 ETB)	545.54 (594.02)	298.56 (204.89)	F = 79.33, P<0.001
Family size (mean, SD)	5.01 (2.13)	5.26 (2.18)	F = 2.50, P = 0.11

*Married, divorced, and widowed,
**Private work, student, government employee, house worker (maid),
***Yem, Guraghe, Amhara, Keffa, and Dawro.
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A pre-test of the scale was conducted in a similar district outside the study area. The scale was translated and administered in the local languages (Affan Oromo and Amharic) and was back-translated into English to ensure semantic equivalence. In addition to the CAMI scale, demographic and psychosocial characteristics were recorded. Exposure to mental illness information and PWMI was measured by using 9 dichotomous items (for example: message from radio/TV, family/relative with mental illness, ever worked/lived with PWMI, etc) using yes = 1 and no = 0 scores. Higher scores indicated more exposure to mental illness (continuous score). Similarly, a continuous measure of perceived causes (supernatural or psychosocial and biological) and perceived signs of mental illness (example: talking to oneself, suicide attempt, etc) on the basis of yes = 1 and no = 0 were computed by summing up the dichotomous items for each measure.

Statistical analysis

Each questionnaire was checked for completeness. Data was entered by using EPI-DATA version 3.1 and then exported to STATA version 10.0 for analysis. After data cleaning and editing, the frequency distribution of socio-demographic characteristics was analyzed. Histograms and kernel density plots were used to check the normal distribution of stigma scores. ANOVA (to analyze mean difference among more than two groups) and *t* (to analyze mean difference between two group) tests were also computed to identify the mean difference in public stigma on the basis of socio-demographic and psychographic variables. For each subscales, variables which showed significant statistical association during t tests or ANOVA were included in the multivariate linear regression models. A separate linear regression analysis was performed for each subscale using enter method. A final linear regression model was developed for the overall stigma score. Unadjusted and adjusted standardized regression coefficients were presented for each variable in each model.

A significance level of <0.05 was used to determine a significant association between variables and stigma against PWMI. After the regression analysis, the occurrence of multicollinearity among the independent variables was checked by a variance inflation factor (tolerance) analysis. Then, an interaction analysis was performed to show the multicollinearity effects.

Ethics statement

Ethical approval was obtained from the Jimma University Research Ethical Review Board. Then, written permission was obtained from the HSRI. Written informed consent was obtained from each study participant. After reading the consent statement by the data collectors, finger prints were obtained from those participants who could not read and write.

Results

Socio-demographic characteristics

Of the total 845 study participants, 68.17% were rural residents. Females were over-represented in both the urban (61.71%) and rural subgroups (60.94%). Majority of the respondents were of Muslim faith (71.75% of the urban respondents and 97.05% of the rural ones) and belonged to Oromo ethnic groups (75.09% of the urban respondents and 98.61% of the rural ones).

In general, 76.39% of the rural and 33.46% of the urban respondents were illiterate. Most of the rural respondents were farmers or housewives (94.97%), while in the urban subgroup a higher proportion (52.04%) had other occupations–such as studying or working in small enterprises, as housemaids, or for the government–and only about 48% were farmers or housewives. There were statistically significant differences in the mean age and average monthly family income between urban and rural study participants ($P<0.001$) (Table 1).

Exposure to and perception of mental illness

The reported lifetime prevalence of mental illness among the respondents was 1.66%, and 9.70% had at least one family member or relative with mental illness either currently or in the past. Among all respondents, 29.23% had been scared by a person with mental illness, and 2.49% reported an experience of physical aggression at some time in their live. In the year preceding the time of the survey, 19.29% of the respondents had heard any type of information about mental illness on the radio; 11.48%, in religious places; and 9.59%, on television. A significant number of respondents (95.15%) had seen a person perceived to have a mental illness, and 14.91% had worked, lived, or studied with a person with mental illness at some time in their live.

The majority of the respondents (75.27%) believed that mental illness can be cured by some means. Among them, 57.08% reported that it can be cured with both traditional and western treatment, while 37.74% believed that it can be cured only with modern treatment. Stress, poverty, and rumination were the most often perceived causes of mental illness, while talking to oneself, self neglect, and talking too much were the most frequently perceived signs of mental illness (Table 2).

Scores for public stigma against PWMI

The four CAMI subscales (AU, BE, SR, and CMHI) showed statistically significant mean differences in the items setting (urban vs. rural), religion, ethnicity, educational status, and occupation ($P<0.001$). None of the four subscales showed a significant mean statistical difference between males and females. A significant mean difference was found in the AU and CMHI subscales between the 'ever been married' and 'never been married' respondents ($P<0.05$). The overall CAMI score showed statistically significant mean differences in stigma against PWMI in the items marital status (ever been married vs. never been married), setting (urban vs. rural), religion, ethnicity, educational status, and occupation ($P<0.01$), but again not between males and females. Higher ages and higher scores for perceived supernatural causes of mental illness had a significant positive correlation with stigma against PWMI ($P<0.01$). On the other hand, higher average family income and higher perceived signs and psychosocial and biological causes of mental illness had a significant negative correlation with stigma against PWMI ($P<0.01$) (Table 3).

Predictors of public stigma against PWMI

Four independent multivariate models were developed for each of the subscales of the CAMI measures:

Authoritarianism. The analysis showed that rural respondents had a significantly higher authoritarianism score than urban participants (std. $\beta = 0.28$, $P<0.001$). Level of education had a significant, inverse statistical relationship with authoritarianism (std. $\beta = -0.15$, $P<0.01$). People who believed that mental illness can be cured had significantly higher authoritarianism scores than their counterparts (std. $\beta = 0.20$, $P<0.001$). As the number of reported signs and symptoms of mental illnesses increased, the tendency to have an authoritarian attitude towards PWMI increased significantly (std. $\beta = 0.16$, $P<0.001$). Respondents who perceived a higher number of psychosocial and biological causes and those who had a higher exposure to PWMI had significantly lower authoritarianism scores (std. $\beta = -0.17$, $P<0.001$, and std. $\beta = -0.18$, $P<0.001$, respectively, for each unit increase of those characteristics).

Benevolence. Compared with urban residents, rural residents had significantly higher benevolence scores (i.e. they had a lower humanistic and a less sympathetic approach towards PWMI; std. $\beta = 0.35$, $P<0.001$). When subgroups of respondents were compared that had an educational status differing by one unit, the benevolence score decreased significantly by std. $\beta = -0.12$ ($P<0.05$) units for the subgroup with higher education.

Social restrictiveness. Similar to the case for the authoritarianism and benevolence scores, rural residents had also significantly higher (std. $\beta = 0.41$, $P<0.001$) restrictiveness scores, and a higher educational level had a significant, inverse relationship (std. $\beta = -0.12$, $P<0.05$) with social restrictiveness. Individuals with higher number of perceived signs and perceived psychosocial and biological causes of mental illness had significantly lower social restrictiveness scores ($P<0.001$).

Community mental health ideology. Rural residents were significantly more likely to refuse mental health services and to be against integrating PWMI into the community (std. $\beta = 0.59$, $P<0.001$). Significantly lower community mental health ideology scores were obtained among individuals with a belief that mental illness can be cured, those with higher scores for perceived signs of mental illness, and those with higher scores for perceived psychosocial and biological causes ($P<0.01$).

The multivariate models for authoritarianism, benevolence, social restrictiveness, and community mental health ideology explained 21%, 17%, 23%, and 44% of the variances (adj. R^2), respectively.

Overall stigma against PWMI. For a unit increase in age of respondents, there was a significant decrease in stigma against PWMI by std. $\beta = -0.06$ ($P<0.05$) units. Compared with urban residents, rural residents had a significantly higher stigma score (std. $\beta = 0.61$, $P<0.001$). A significant inverse relationship was observed between the level of education of respondents and stigma (std. $\beta = -0.14$, $P<0.01$), while higher average family income was significantly associated with higher levels of stigma (std. $\beta = 0.07$, $P<0.05$) against PWMI.

Individuals' beliefs that mental illness can be cured in some way was correlated with significantly higher (std. $\beta = 0.07$, $P<0.01$) level of stigma against PWMI. Respondents with higher scores for perceived supernatural causes (std. $\beta = -0.09$, $P<0.01$) and perceived psychosocial and biological causes (std. $\beta = -0.14$, $P<0.001$) had significantly lower stigma levels. Among the predictors of stigma variables, rural residency had the highest coefficient of regression. The regression model for overall stigma explained 44% of the variability (adj. R^2) (Table 4).

Interaction effects

Subsequent analyses found significant interactions between income and education, income and exposure to mental illness,

Table 2. Exposure to mental illness and perceived causes and signs of mental illness in the Gilgel Gibe Field Research Center, Southwest Ethiopia, 2012.

Variables	Number	Percent
Exposure to mental illness		
Ever seen a person with mental illness	804	95.15
Ever been scared by a person with mental illness	247	29.23
Ever heard about mental illness on radio within the last year	163	19.29
Ever worked/lived/studied with a person with mental illnesses	126	14.91
Ever heard about mental illness in religious places within the last year	97	11.48
Ever had family/relative with mental illness	82	9.70
Ever seen information about mental illness on television within the last year	81	9.59
Ever been injured by a person with mental illness	21	2.49
Ever had a mental illness	14	1.66
Belief on cure for mental illness		
Belief that 'mental illness can be cured'	636	75.27
Mental illness can be cured only with traditional treatment	33	5.19
Mental illness can be cured only with modern treatment	240	37.74
Mental illness can be cured with both traditional and western healing system	363	57.08
Perceived causes of mental illness		
Stress	455	53.85
Poverty	451	53.37
Rumination	356	42.13
God's punishment	177	20.95
Evil spirit	168	19.88
Sinful act	158	18.70
Drug addiction	80	9.47
Physical illness	38	4.50
Germs	9	1.07
Others (evil eye, failed an exam, and are frightened)	55	6.51
Perceived signs of mental illness		
Talking to oneself	475	56.21
Self neglect	424	50.18
Talking too much	348	41.18
Strange behaviors	285	33.73
Suicide attempt	192	22.72
Aggression	184	21.78
Restlessness	179	21.18
Sleep disturbance	108	12.78
Unable to learn	33	3.91
Drug addiction	32	3.79
Shivering	24	2.84
Others (calling the evil eye, keeping quiet, to be naked)	39	4.62

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education and exposure to mental illness, and perceived supernatural causes of mental illness and exposure to mental illness. As shown in Figure 1.1, at all three levels of education (low, medium, and high) stigma generally increased as the respondents' income increased, but the increase was statistically significant only at the lower (std. $\beta = 0.28$, $P<0.001$) and medium (std. $\beta = 0.17$, $P<0.001$) levels of education. Similarly, as income increased, stigma against PWMI increased significantly at all three levels of exposure to mental illness information (lower level of exposure: std. $\beta = 0.18$, $P<0.001$; medium level: std. $\beta = 0.13$, $P<0.01$; higher level: std. $\beta = 0.07$, $P<0.01$). The greatest difference in stigma levels between lower and higher income groups was found for those with lower exposure to mental illness information, as shown in Figure 1.2.

In contrast to the findings regarding income, stigma generally decreased as the educational status increased at different levels of exposure to mental illness information. In particular, there was a statistically significant decrease in stigma at high (std. $\beta = -0.11$,

Table 3. Stigma mean scores differences based on socio-demographic backgrounds in the Gilgel Gibe Field Research Center, Southwest Ethiopia, 2012.

Variable	[1]AU			[2]BE			[3]SR			[4]CMHI			Over all stigma		
	M	SD	t/F-test	M	SD	t/F-test	M	SD	t/F-test	M	SD	t/F-test	M	SD	t/F-test
Sex															
Female	3.18	0.38	t = 0.02, P = 0.88	2.62	0.44	t = 1.33, P = 0.25	2.43	0.58	t = 0.81, P = 0.37	2.59	0.58	t = 0.02, P = 0.90	2.70	0.35	t = 0.71, p = 0.40
Male	3.18	0.40		2.59	0.41		2.39	0.56		2.58	0.55		2.68	0.32	
Marital Status															
Ever married	3.20	0.39	t = 4.94, P = 0.03	2.62	0.43	t = 2.84, P = 0.09	2.42	0.57	t = 0.19, P = 0.66	2.63	0.54	t = 13.56, P<0.001	2.72	0.32	t = 8.29, P<0.01
Never married	3.13	0.38		2.56	0.44		2.40	0.58		2.46	0.62		2.64	0.38	
Community															
Rural	3.26	0.40	t = 95.63, P<0.001	2.71	0.45	t = 115.70, P<0.001	2.56	0.61	t = 143.67, P<0.001	2.83	0.50	t = 539.62, P<0.001	2.84	0.30	t = 531.06, P<0.001
Urban	3.00	0.28		2.39	0.27		2.09	0.28		2.07	0.28		2.39	0.18	
Religion															
Muslim	3.20	0.39	t = 16.55, P<0.001	2.63	0.43	t = 24.89, P<0.001	2.44	0.58	t = 18.02, P<0.001	2.63	0.56	t = 58.19, P<0.001	2.73	0.33	t = 61.18, P<0.001
Others	3.03	0.31		2.40	0.31		2.17	0.46		2.18	0.43		2.45	0.29	
Ethnicity															
Oromo	3.20	0.39	t = 21.53, P<0.001	2.63	0.43	t = 24.07, P<0.001	2.45	0.58	t = 28.14, P<0.001	2.63	0.56	t = 55.57, P<0.001	2.73	0.33	t = 70.02, P<0.001
Others	2.98	0.31		2.38	0.30		2.08	0.37		2.14	0.41		2.40	0.27	
Educational status															
Illiterate	3.24	0.38	F = 23.35, P<0.001	2.67	0.45	F = 21.01, P<0.001	2.50	0.60	F = 28.66, P<0.001	2.71	0.55	F = 62.00, P<0.001	2.78	0.33	F = 74.35, P<0.001
Read and write only	3.14	0.43		2.62	0.42		2.48	0.58		2.66	0.53		2.73	0.32	
Elementary and above	3.04	0.34		2.45	0.35		2.17	0.43		2.24	0.47		2.48	0.28	
Occupation															
Farmer or housewife	3.22	0.39	t = 35.38, P<0.001	2.65	0.44	t = 40.07, P<0.001	2.48	0.59	t = 42.42, P<0.001	2.68	0.55	t = 109.83, P<0.001	2.76	0.33	t = 124.01, P<0.001
Others	3.02	0.32		2.43	0.33		2.16	0.43		2.20	0.47		2.45	0.28	

[1]AU = authoritarianism,
[2]BE = benevolence,
[3]SR = social restrictiveness,
[4]CMHI = community mental health ideology.
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P<0.01) and medium (std. $\beta = -0.11$, P<0.01) levels of exposure to mental illness information (Figure 1.3). The group with a higher score for perceived supernatural causes of mental illness had significantly lower stigma levels at lower (std. $\beta = -0.16$, P<0.001) and medium (std. $\beta = -0.09$, P<0.01) levels of exposure to mental illness, as shown in Figure 1.4.

Discussion

In this study, the strongest predictor of stigma was whether people live in an urban or rural setting: the rural community showed significantly higher levels of stigma against PWMI than people living in an urban area in both the overall score and all four subscales. One explanation for this finding might be that most members of a rural community are illiterate, and another could be a poor dissemination of information on mental illness among rural communities as compared to urban communities. Health service accessibility and availability difference can be also another reason.

One unique finding of this study is that an increase in respondents' level of both perceived supernatural and psychosocial and biological causes of mental illness resulted in a reduction in stigma. This implies that when people have any form of explanation about the causes of mental illness, their stigma level decreases. This is in line with literature reporting that stigma is a result of fear and lack of explanation about an illness and patients [1–3], but the way in which supernatural explanations result in lower levels of stigma needs further exploration.

In this study, there was more undermining (higher authoritarianism) but less avoidant (less social restrictiveness) attitudes towards PWMI. The overall level of stigma was lower than in a study in south Ghana [24]. The time differences between the two studies and cultural variability of the study population can be possible factors for the lower level of stigma in the current study. For example, one study has reported being Muslim faith follower was associated with a less stigmatizing attitude towards PWMI [28], although in our study Muslims showed higher stigma scores than non-Muslims. The lower stigma scores among non-Muslims

Table 4. Predictors of public stigma against PWMI in the Gilgel Gibe Field Research Center, Southwest Ethiopia, 2012.

Variables	Unadjusted β (standardized)	Adjusted β (standardized)
Age	0.10**	−0.06*
Rural community	0.62***	0.61***
Educational level	−0.40***	−0.14**
Farmer or housewife	0.36***	−0.01
Average family monthly income	−0.15***	0.07*
Belief that mental illness can be cured	−0.10**	0.07**
Perceived signs of mental illness	−0.12**	−0.03
Perceived supernatural causes of mental illness	0.19***	−0.09**
Perceived psychosocial and biological causes of mental illness	−0.25***	−0.14***

*P<0.05,
**P<0.01,
***P<0.001.
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may be caused by the small proportion of non-Muslims in the sample; the difference was not statistically significant in the multivariate analysis.

The mean stigma score was comparable between males and females, i.e., stigma was not associated with gender in either the four subscales or the overall stigma analysis. This implies that there is no need to provide gender-specific anti-stigma interventions in a

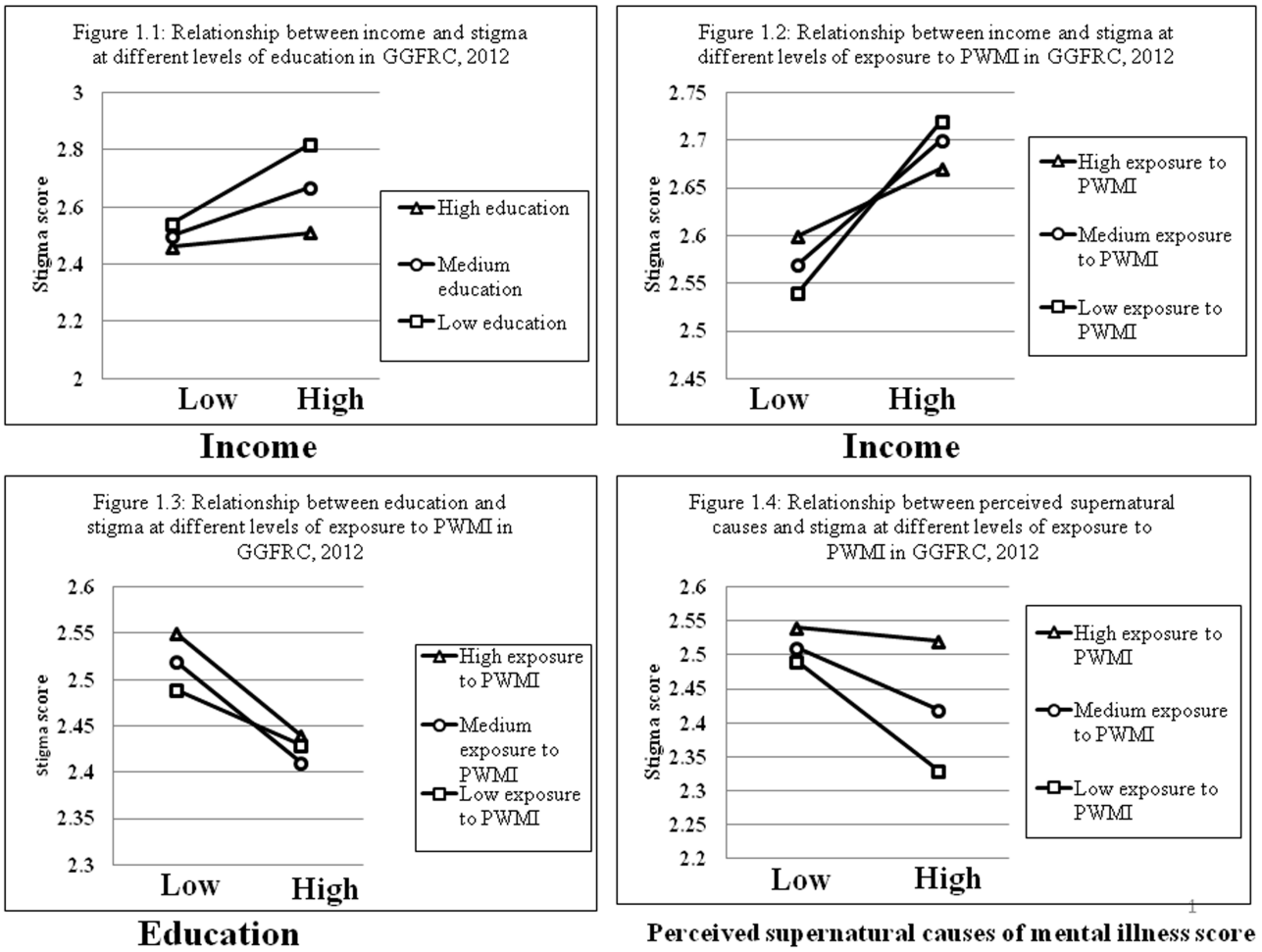

Figure 1. Stigma score at different levels of education and exposure to mental illness with respect to income, education and perceived supernatural causes of mental illness scores in the Gilgel Gibe Field Research Center, Southwest Ethiopia, 2012.
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community. Other studies in Africa and Europe also reported that gender was not a significant factor with regard to stigma against PWMI [24,33,34]. A weak negative correlation was found between age and stigma against PWMI; this may be related to the larger sample size in this study.

Education has been found to have negative [26,27] and positive [14,24,25] effects on stigma. In this study, a higher education level was significantly associated with a lower level of stigma. Higher average family monthly income was weakly associated with higher stigma levels. The interaction analysis showed a more synergetic effect of lower education and higher income on stigma level, i.e. respondents with a higher income but lower education level showed higher levels of stigma against PWMI. A potential bias in this finding may be a lower health literacy level in participants with a higher income but lower education, leading to an overestimation of their information level and resulting in inadequate delivery of information by the public or health professionals.

Other studies reported that exposure to PWMI and mental health information reduces stigma against mental illness [35,36]. In this study, though, there was no significant difference in the overall stigma level between the high exposure and low exposure respondents, the highly exposed subgroup had a significantly lower authoritarianism score against PWMI. A limitation of this measure was its indifference to whether the exposure and experience had been negative or positive.

Besides the authoritarianism subscale, the level of exposure to mental illness information mediated effects on overall stigma among different groups in income, education, and perceived supernatural causes of mental illness. The interaction analysis found that stigma levels increased the most when higher income was accompanied by a lower exposure to mental illness. On the other hand, stigma against PWMI was significantly reduced in respondents with higher exposure to mental illness information and higher education. An explanation for the synergetic effect of these two variables on stigma may be that respondents with higher education are more able to process even complex information and accept new information than others. The level of stigma was also significantly lower among groups with low exposure to mental illness information when the perceived supernatural causes of mental illness score was lower. An explanation could be that respondents with lower exposure were those who received the information from religious places and thus received more sympathetic preaching about PWMI. To understand this effect, studies should be performed to investigate the kind of preaching about mental illness that people hear in religious and traditional healing places.

A significant proportion of respondents believed that mental illness can be cured and this belief was associated with higher scores for authoritarianism but at the same time lower scores for mental health ideology. Believing that mental illness can be cured was positively correlated with a higher overall stigma score against PWMI. This may be due to low levels of understanding of the chronic nature of mental illness and may result in unrealistic expectations that there are fast cures for mental illnesses. Among those respondents who believed that mental illness can be cured, a majority reported that it can be cured with both traditional and western healing systems. This may be helpful for efforts to integrate modern and traditional healing systems in the community. Although it did not have an effect on the overall stigma levels, a higher level of perceived signs of mental illness significantly positively correlated with authoritarianism and negatively correlated with social restrictiveness and community mental health ideology. Other studies also suggested an inverse relationship between the level of understanding about mental illness and stigma [36].

This study has possible limitations. First, some of the stigma items are vulnerable to social desirability bias. Second, the attitudinal object 'PWMI' can vary from one person to the other, and the term 'mental illness' lacks specificity and is susceptible to different interpretations. Third, the assessment of exposure to mental illness did not specify whether the experience had been positive or negative. Last, average family monthly income was an estimate and not precise.

Conclusions

More undermining but less avoidant attitudes towards PWMI were found. Stigma against PWMI did not differ between men and women. A higher education level was associated with less stigma against PWMI. Interventions for fighting stigma against PWMI should be targeted more on rural communities. Exposure to mental illness information and a higher education level led to a greater reduction in stigma. Any form of explanation for the cause of mental illness, whether supernatural or psychosocial and biological, reduces stigma against PWMI. The effect of higher expectations that mental illness is a 'curable illness' needs further investigation. Interventions also should target people with higher income but a lower level of education. Community mental health information, education, and communication interventions generally are helpful to reduce stigma against PWMI.

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Author Contributions

Conceived and designed the experiments: EG MT SD GF AML NM. Performed the experiments: EG MT SD. Analyzed the data: EG MT SD GF AML NM. Contributed reagents/materials/analysis tools: EG MT SD GF AML NM. Wrote the paper: EG MT SD GF.

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RESEARCH Open Access

Facility based cross-sectional study of self stigma among people with mental illness: towards patient empowerment approach

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Abstract

Background: Self stigma among people with mental illness results from multiple cognitive and environmental factors and processes. It can negatively affect adherence to psychiatric services, self esteem, hope, social integration and quality of life of people with mental illness. The purpose of this study was to measure the level of self stigma and its correlates among people with mental illness at Jimma University Specialized Hospital, Psychiatry clinic in southwest Ethiopia.

Methods: Facility based cross-sectional study was conducted on 422 consecutive samples of people with mental illness using interviewer administered and pretested internalized stigma of mental illness (ISMI) scale. Data was entered using EPI-DATA and analysis was done using STATA software. Bivariate and multivariate linear regressions were done to identify correlates of self stigma.

Results: On a scale ranging from 1 to 4, the mean self stigma score was 2.32 (SD = 0.30). Females had higher self stigma (std. $\beta = 0.11$, $P < 0.05$) than males. Patients with a history of traditional treatment had higher self stigma (std. $\beta = 0.11$, $P < 0.05$). There was an inverse relationship between level of education and self-stigma (std. $\beta = -0.17$, $P < 0.01$). Perceived signs (std. $\beta = 0.13$, $P < 0.05$) and supernatural causes of mental illness (std. $\beta = 0.16$, $P < 0.01$) were positively correlated with self stigma. Higher number of drug side effects were positively correlated (std. $\beta = 0.15$, $P < 0.05$) while higher self esteem was negatively correlated (std. $\beta = -0.14$, $P < 0.01$) with self stigma.

Conclusions: High feeling of inferiority (alienation) but less agreement with common stereotypes (stereotype endorsement) was found. Female showed higher self stigma than male. History of traditional treatment and higher perceived supernatural explanation of mental illness were associated with higher self stigma. Drug side effects and perceived signs of mental illness were correlated with increased self stigma while education and self esteem decreased self stigma among people with mental illness. Patient empowerment psychosocial interventions and strategies to reduce drug side effects can be helpful in reducing self stigma among people with mental illnesses.

Keywords: Self stigma, Internalized stigma, Stigma, Mental illness, People with mental illness

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Background

Stigma against people with mental illness is a complex public health problem which exists in different forms and many actors like the public, family members, media, patients themselves and even sometimes the health providers are involved [1-3]. Studies indicated that public stigma against people with mental illness is highly associated with self stigma among the patients [4,5]. Since self stigma can also exist without actual stigma from the public, more hidden and inside, it seems to be the worst form of stigma against people with mental illness and can directly affect the patients over all well being [6]. For example, researchers have shown that self stigma among people with mental illness affects adherence to psychiatric services, self esteem, hope and quality of life negatively [7-10]. Moreover, it is also a great barrier for social integration [6]. On the other hand, social integration is usually reported to be one of the most effective strategies for reducing both self and public stigma against people with mental illness [11]. Generally, it is a result of multiple cognitive and environmental processes and factors.

When people with mental illness bear high level of self stigma, they may have less resistance capability to public stigma, and thus submissive to discriminatory behaviors so that it negatively affects the rehabilitation and treatment processes of the patients. For instance, more than two thirds of people with mental illness in England reported that they have stopped doing things they wanted to do because of self stigma. Two thirds of people with mental health problems live alone about four times more than the general population [12].

Systematic reviews of stigma identified that combating wrongly held beliefs about mental illness, improving self-esteem, empowerment (education), help seeking behavior, protesting stigma and advocacy for mental health as the most important self stigma reduction strategies concerning the patients. In these reviews, targeting high risk groups was suggested to combat self stigma among people with mental illness [13,14]. High delay in treatment seeking for mental illness was reported among Jimma University specialized hospital (where the current study was conducted) mental illness attendants [15] which might be attributed to self stigma.

Studies conducted using the internalized stigma of mental illness (ISMI) scale in Europe and Iran reported high prevalence of self stigma among people with schizophrenia [16,17]. A study in the capital city of Ethiopia on outpatients with schizophrenia using the same scale also reported high prevalence of self stigma [18]. In the above study, patients who were living in rural areas were more likely to exhibit higher self stigma than urban residents. Being single as marital status also predicted higher self stigma. Patients with psychotic symptoms scored significantly higher self stigma [18].

Those patients who receive modern psychiatric treatment are expected to have lower self stigma if they pass through a systematic psychosocial approach beside the biomedical treatment model process. But the level and correlates of self stigma among new and follow-up psychiatric patients in southwest Ethiopia particularly in Jimma University Specialized Hospital (JUSH) Psychiatry clinic attendants has not been investigated. The main purpose of this study was hence, to measure the level of self stigma and its correlates among JUSH, Psychiatry clinic attendants of people with mental illness in southwest Ethiopia.

Methods

Study design and setting

Hospital based cross-sectional study was conducted from June to August 2012 in Jimma University specialized hospital (JUSH) among psychiatric service attendants. JUSH is a teaching and referral hospital located in Jimma city 352 km southwest of Addis Ababa, Ethiopia. Each year, the hospital serves for approximately 9, 000 inpatients and 80,000 outpatients with a catchment population of about 15 million [19]. Psychiatry is among the 15 clinical services in the hospital serving psychiatric patients coming from Jimma area as well as patients referred from other health institutions in the southwestern region of the country. Over one thousand outpatients receive psychiatric care monthly. It also provides inpatient and outreach services [20].

Sampling procedure

Representative sample of 422 consecutive new and follow-up psychiatric services attendants were included in this study. The sample size was determined using single population proportion formula by assuming 50% level of self stigma to get the maximum sample size, at 95% confidence level and considering and a 5% margin of error and non-response contingency. Respondents were screened using the Clinical Global Impression (CGI) scale to assess their eligibility to participate in the interview for the study [21]. The scale assesses the degree of the severity of the patients' mental illness, improvement of their illness and efficacy index of therapeutic and drug side effects. New patients were screened only for the severity of their illness. Using this scale and their clinical experience, the psychiatric nurses identified the eligible respondents. Patients who were severely psychotic, incoherent and too disorganized to engage in the interviews of the study were excluded. Therefore, patients included in the study were only those who were above 18 years old and rated with at least a less severe state of mental illness, on improvement and good efficacy index by the psychiatry nurses.

Data collection procedure

Data was collected by trained psychiatric nurses at JUSH, Psychiatry clinic through interviewer-administered

questionnaires and a patient chart review to identify their diagnosis and other medical information. The data collection was supervised by specialist mental health workers. Data collectors and the supervisors were trained on the contents and procedures of the data collection.

Measurement

To measure self stigma among the patients, the Internalized Stigma of Mental Illness (ISMI) Scale [22] was used. The scale has been used in several studies [16-18,22] . The ISMI scale have a total of 29 items on a 4-point Likert (1 = strongly agree to 4 = strongly disagree) measure containing five subscales; Alienation (6 items), Stereotype Endorsement (7 items), Discrimination Experience (5 items), Social Withdrawal (6 items), and Stigma Resistance (5 items). **Alienation** is "the subjective experience of being less than a full member of society". The **Stereotype Endorsement** is "the degree to which patients agreed with common stereotypes about people with a mental illness". The **Discrimination Experience** measures "respondents' perceptions of the way they tend to be treated by others". The **Social Withdrawal** measures the self exclusion from social events/situation due to mental illness". The **Stigma Resistance** subscale is "a person's ability to resist stigma" [17]. Unlike the above four subscales, higher score in this subscale indicated lower stigma resistance. Overall **self stigma** score was obtained by summing the scores of the five subscales. Higher score showed higher self stigma.

A study in Iran showed that the ISMI subscales had reliability values (Cronbach's alpha) of (alienation = 0.84, stereotype endorsement = 0.71, discrimination experience = 0.87, social withdrawal = 0.85 and stigma resistance = 0.63). In the current study, the following reliability values (Cronbach's alpha) were found: alienation = 0.84, stereotype endorsement = 0.73, discrimination experience = 0.79, social withdrawal = 0.77, stigma resistance = 0.65, over all self stigma = 0.89.

In addition to the ISMI scale, **self esteem** was measured using the Rosenberg self-esteem scale [23]. The scale has 10 Likert scale items with possible scores of 1 = strongly agree to 4 = strongly disagree. Higher score indicated higher self esteem. In addition, checklist was used to extract relevant data on the diagnosis and other medical information or data (example: co-morbidity and drug side effects) from the patients' charts in the clinic. The questionnaire also included socio-demographic and psychographic characteristics related to mental illness (example: perceived causes and signs of mental illness and exposure to mental illness information).

The whole questionnaire was translated and administered in local languages (Affan Oromo and Amharic) and it was back translated to English to ensure semantic equivalence. The questionnaire was also pre-tested in the psychiatric clinic before the main study. Based on the pre-test, some items were modified and more clarifications were given to the data collectors on items which were not understood well.

Statistical analysis

After checking for the completeness of each questionnaire, data entered was done using EPI-DATA version 3.1 and then exported to STATA version 10.0 for analysis. A frequency table was computed for socio-demographic and other variables. Stigma scores were checked for normal distribution. Tests of significant mean differences (t test and ANOVA) of stigma scores and other variables were done for each of the five subscales of ISMI separately and for the overall self stigma scores. Six separate multivariate linear regression models were developed using variables which had significant statistical associations with the respective subscales and the overall self stigma scores during bivariate analysis. Unadjusted and adjusted standardized regression coefficients were presented for each variable in each model. A P-value <0.05 was used to declare significant statistical association. Multicollinearity between variables was checked using tolerance analysis (variance inflation factor).

Ethical approval

Ethical approval was secured from Jimma University Research Ethics Review Board. Written permission was obtained from JUSH clinical director and the Psychiatry clinic. Written informed consent was also obtained from each study participant.

Results

Background characteristics

Of the total 422 respondents, 227 (53.79%) were urban residents. Two hundred and ninety six (70.14%) of the respondents were male. The mean age was 33.11 (SD = 11.37) years. Two hundred and nine (49.53%) of them were single in marital status. Majority were Muslim religion followers (59.24%) and Oromo ethnic groups (60.43%). One hundred and eighty six (44.08%) of them were in secondary educational status and majority were farmers (28.44%) and private enterprise workers (25.12%). Average family size was 5.37 (SD = 2.72). The average family monthly income was about 74.70 (SD = 120.15) USD (Table 1).

Diagnosis, perception and experiences

The majority of the patients were diagnosed with mood (49.05%) and psychotic (36.02%) disorders. The remaining 9.00% and 5.92% were diagnosed with anxiety and other disorders (substance related and personality disorders) respectively. Beside their psychiatric diagnosis, 19 (4.50%) had co-morbidities and 194 (45.97%) reported some kind of side effects of their medication. In addition, the health

Table 1 Background characteristics of people with mental illness in Jimma University specialized hospital, Southwest Ethiopia, 2012

Characteristics	Frequency	Percent
Sex		
Male	296	70.14
Female	126	29.86
Marital status		
Single	209	49.53
Married	183	43.36
Divorced and widowed	30	7.11
Religion		
Muslim	250	59.24
Orthodox	116	27.49
Others (Protestant, Catholic, Waqefeta)	56	13.27
Ethnicity		
Oromo	255	60.43
Amhara	64	15.17
Others (Keffa, Dawro, Gurage)	103	24.41
Educational status		
Could not read and write	45	10.66
Read and write only	37	8.77
Elementary	83	19.67
Secondary	186	44.08
Higher education	71	16.82
Occupation		
Farmer	120	28.44
Private enterprise	106	25.12
Government employee	80	18.96
Student	57	13.51
Others (housewife and unemployed)	59	13.98
Setting		
Rural	195	46.21
Urban	227	53.79

providers identified a mean of 2.53 (SD = 0.97) number of side effects attributed to the patients' medications. The mean time since the onset of the patients mental illness was 5.87 (SD = 4.80) years while the mean time since the start of medical follow up was 4.55 (4.25) years. Mean number of visits to the psychiatric hospital was 21.51 (SD = 22.56). Two hundred and sixteen (51.18%) ever had experience of traditional treatment before seeking help at the psychiatric clinic.

Seventy six (18.01%) had family/relative with a history of mental illness episodes. Regardless of the contents of the messages, 16.59%, 15.17% and 3.08% watched and heard about mental illness on television, radio and in religious places respectively in the period of one year before the time of data collection. Stress, rumination and drug addiction were the leading perceived causes of mental illness and sleep disturbance, talking to oneself and showing strange behaviours were the top three perceived signs of mental illnesses (Figure 1). Majority of the respondents, 407 (96.45%) believed that mental illness can be cured. The mean self esteem score was 2.68 (SD = 0.27).

Stigma scores and their correlates

For each of the five subscales of ISMI and the overall self stigma scores a separate linear regression multivariate models were developed by entering variables which had significant statistical associations with the respective subscales and the overall self stigma scores during bivariate analysis.

Alienation

Out of a four point scale, the mean alienation (feeling of being inferior) score was 2.46(SD = 0.50). Females had significantly higher alienation (std. $\beta = 0.11$, $P < 0.05$) than males. Those patients who ever had traditional treatment had also higher alienation (std. $\beta = 0.15$, $P < 0.01$). Higher education level was significantly correlated with lower alienation (std. $\beta = -0.18$, $P < 0.001$) while higher scores of perceived supernatural causes of mental illness was significantly correlated with increased alienation (std. $\beta = 0.11$, $P < 0.05$). As the duration treatment increased, alienation score decreased significantly (std. $\beta = -0.12$, $P < 0.05$). This model explained 15% of the variance of alienation.

Stereotype endorsement

The mean score for agreeing on the common stereotypes about people with a mental illness was 2.20 (SD = 0.34). Compared with farmers, private enterprise workers (std. $\beta = -0.23$, $P < 0.01$), government employees (std. $\beta = -0.14$, $P < 0.05$) and students (std. $\beta = -0.18$, $P < 0.01$) had significantly lower stereotype endorsement scores. Patients with higher education (std. $\beta = -0.16$, $P < 0.01$) and higher self esteem (std. $\beta = -0.11$, $P < 0.05$) had lower stereotype endorsement. Higher perceivement of supernatural causes of mental illness was correlated with higher stereotype endorsement (std. $\beta = 0.16$, $P < 0.01$). The model explained 13% of the variance in stereotype endorsement.

Discrimination experience

Mean perceived discrimination score was 2.28 (SD = 0.42). As education level increases, discrimination experience score decreases significantly (std. $\beta = -0.13$, $P < 0.05$). Respondents with higher score in perceived supernatural causes (std. $\beta = 0.13$, $P < 0.01$) and higher number of drug side effects (std. $\beta = 0.16$, $P < 0.01$) had higher discrimination experience scores. The explained variance of this model was 10%.

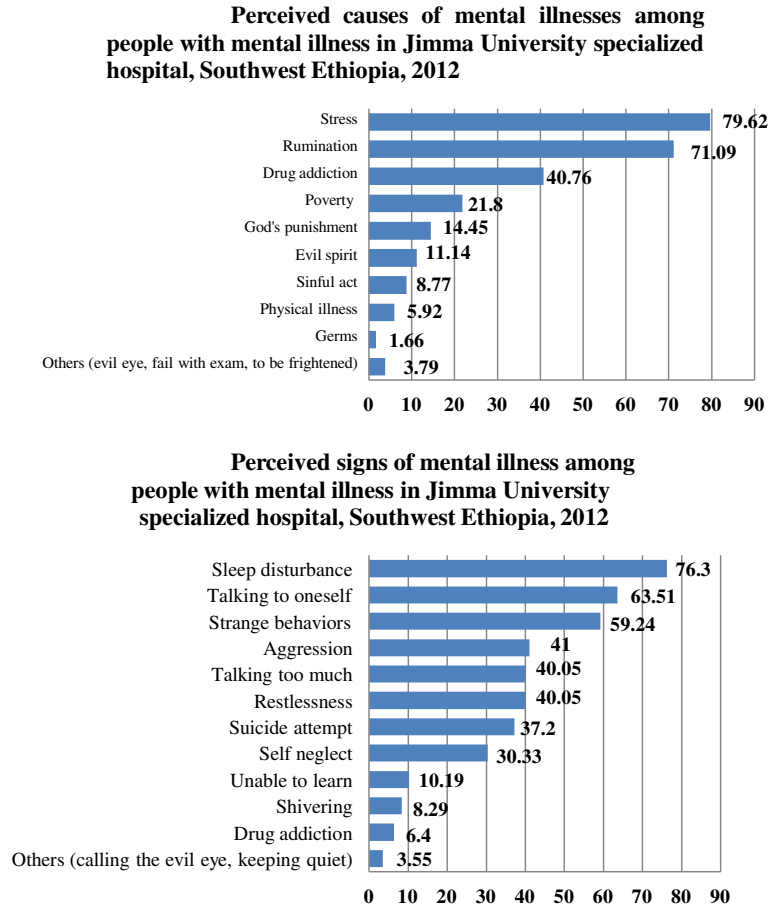

Figure 1 Percentage distribution of perceived causes and perceived signs of mental illnesses among people with mental illness in Jimma University specialized hospital, Southwest Ethiopia, 2012.

Social withdrawal

Mean score for self exclusion from social events was 2.27 (SD = 0.38). Experiences with traditional treatment were significantly associated with an increase in social withdrawal score (std. $\beta = 0.14$, $P < 0.01$). Significant decrease in social withdrawal was observed as the educational status of individuals increased (std. $\beta = -0.11$, $P < 0.05$) while there was a significant increase in social withdrawal when the score in perceived supernatural causes of mental illness increased (std. $\beta = 0.13$, $P < 0.01$). The model explained only 7% of the variance in social withdrawal.

Stigma resistance

The mean score for stigma resistance subscale was 2.41 (SD = 0.40). Patients with substance related disorders and personality disorders (std. $\beta = -0.13$, $P < 0.01$) had significantly better stigma resistance than patients with diagnosis of mood disorder. Patients with higher education (std. $\beta = -0.10$, $P < 0.05$) and higher self esteem (std. $\beta = -0.40$, $P < 0.001$) had better stigma resistance compared with their counterparts. This model explained 20% of the variance in stigma resistance (Table 2).

Overall self stigma

The overall self stigma mean score was 2.32 (SD = 0.30). Among the total respondents, 25.12% of them showed 2.5 and above self stigma score. Compared with males, females had higher self stigma (std. $\beta = 0.11$, $P < 0.05$). Private enterprise workers had significantly lower self stigma (std. $\beta = -0.15$, $P < 0.05$) than farmers. Patients who ever had traditional treatment had higher self stigma (std. $\beta = 0.11$, $P < 0.05$) than patients without a history of traditional treatment. Higher education was significantly correlated with lower self stigma (std. $\beta = -0.17$, $P < 0.01$). Increase in perceived signs (std. $\beta = 0.13$, $P < 0.05$) and perceived supernatural causes of mental illness (std. $\beta = 0.16$, $P < 0.01$) was significantly correlated with an increase in self stigma among patients with mental illness. Higher number of drug side effects positively correlated (std. $\beta = 0.15$, $P < 0.05$) while higher self esteem negatively correlated (std. $\beta = -0.14$, $P < 0.01$) with self stigma. The multivariate

Table 2 Determinants of self stigma subscales among people with mental illness in Jimma University Specialized hospital, Southwest Ethiopia, 2012

Subscale	Unadjusted β (standardized)	Adjusted β (standardized)
Alienation		
Female	0.15**	0.11*
Ever had traditional treatment	0.20***	0.15**
Any drug side effect	0.20***	0.03
Education	−0.16**	−0.18***
Perceived signs of mental illness	0.21***	0.14*
Perceived supernatural causes	0.16**	0.10*
Perceived psychosocial and biological causes	0.14**	0.04
Duration of start of treatment	−0.11*	−0.12*
Number of drug side effects	0.24***	0.11
Stereotype endorsement		
Private enterprise *(reference = farmers)*	−0.01	−0.23**
Government employee *(reference = farmers)*	−0.11	−0.14*
Student *(reference = farmers)*	−0.32***	−0.18**
Others *(reference = farmers)*	−0.28***	−0.11
Urban	−0.15**	0.08
Education	−0.26***	−0.16**
Perceived supernatural causes	0.19***	0.16**
Exposure to mental illness information	−0.14**	−0.07
Duration of start of treatment	−0.11*	−0.06
Self esteem	−0.15**	−0.11*
Discrimination experience		
Any side effect	0.20***	0.07
Education	−0.10*	−0.13*
Perceived signs	0.21***	0.13*
Perceived supernatural causes	0.18***	0.13**
Perceived psychosocial and biological causes	0.12*	−0.01
Number of drug side effects	0.24***	0.16**
Social withdrawal		
Ever had traditional treatment	0.18***	0.14**
Any side effects	0.14**	0.07
Education	−0.12*	−0.11*
Perceived supernatural causes	0.16**	0.13**
Number of drug side effects	0.14**	0.06
Stigma resistance		
Anxiety disorders *(reference = Mood disorders)*	−0.04	−0.07
Psychotic disorders *(reference = Mood disorders)*	−0.06	−0.04
Others (substance use and personality disorders) *(reference = mood disorders)*	−0.14**	−0.13**
Education	−0.13**	−0.10*
Perceived supernatural causes	0.15**	0.12**
Self esteem	−0.42***	−0.40***

*P < 0.05, **P < 0.01, ***P < 0.001.

model explained 18% of the variance in self stigma among people with mental illness (Table 3).

Discussion

Compared with other studies using ISMI scale in Iran, Europe, USA and Ethiopia [16-18,24], a lower score of self stigma was found in this study. This could be attributed to the difference in the severity of mental illness since all the above mentioned studies were conducted only among patients with schizophrenia while the current study was conducted among patients from mild to severe mental health problems. In addition, based on the CGI screening test, patients with more severe state of illness and not able to take part in the interviews as a result, were excluded from the study which might have resulted in an obvious selection bias to the study. The fact that self stigma did not significantly differ among patients with different diagnosis in the current study might be also due to the selection bias.

Similar to a study in Europe [16], the present results indicated high feelings of inferiority (alienation) but less agreement with common stereotypes (stereotype endorsement) about people with mental illness scores. Especially, females, those who ever used traditional treatment and had higher perceived supernatural causes scored significantly higher on feelings of inferiority (alienation). This could be caused by the fact that anti-stigma interventions might be targeted at only tackling the common stereotypes from the community without much emphasis on positive self feelings and image development or empowerment processes. Furthermore, these groups might have been exposed to more blaming explanation of mental illness and social disadvantages. To this point, for example, there was no statistically significant difference in self stigma with regard to frequency of hospital visit as well as duration of treatment in the hospital. These segments of the participants had not only scored higher in alienation subscale but also they have shown significantly higher results in the overall self stigma score. A possible explanation might be that less stereotype endorsement could be due to less awareness of people with mental illness about the common stereotypes held within their community [25].

Table 3 Determinants of self stigma among people with mental illness in Jimma University Specialized hospital, Southwest Ethiopia, 2012

Variable	Unadjusted β (standardized)	Adjusted β (standardized)
Female	0.10*	0.11*
Private enterprise *(reference = farmers)*	−0.19**	−0.15*
Government employee *(reference = farmers)*	−0.12*	−0.05
Student *(reference = farmers)*	−0.11*	−0.08
Others *(reference = farmers)*	−0.08	−0.10
Ever had traditional treatment	0.17**	0.11*
Any side effects	0.16**	0.02
Education	−0.21***	−0.17**
Perceived signs	0.18***	0.13*
Perceived supernatural causes	0.23***	0.16**
Perceived psychosocial and biological causes	0.10*	−0.01
Duration of start of treatment	−0.11*	−0.08
Number of drug side effects	0.22***	0.15*
Self esteem	−0.15**	−0.14**

*P < 0.05, **P < 0.01, ***P < 0.001.

No statistical difference was observed with regard to religion, ethnicity, setting (urban/rural), marital status, age and income status. These factors were usually identified as important predictors of stigma in other studies [17,18,24,26]. One possible explanation for why such cultural and social domains did not explain self stigma may be that most respondents were more educated and had psychosocial explanation of mental illness. Similar to a study conducted in 13 European countries [27], data of the present study indicate that a higher educational level of the patients is significantly associated with lower scores in overall self stigma as well as in all five subscales of the ISMI. Education turned out to be the most powerful predictor of self stigma.

In contrast to the educational status of the patients, those individuals with higher perceived supernatural explanation of mental illness had significantly higher overall self stigma and higher scores in all the five subscales. Such association could have existed since patients with high perceived supernatural causes of mental illness may have had more self blaming explanation or that such patients possibly attended to western treatment in the hospital after trials and exhaustion of unsuccessful traditional and religious healings. Similarly, a higher score of perceived sign of mental illness were associated with higher alienation and discrimination experience subscales and overall self stigma scores. In addition, as the number of drug side effects increased, there was a significant increase in discrimination experience subscale and overall self stigma. These positive associations of higher perceived signs and number of drug side effects with self stigma can be related to the visible nature of the perceived signs and drug side effects (such as, weight gain, shaky hands, etc.) to other people.

The inverse relationship between self esteem and self stigma was reported in previous studies [7-9,28] and when we talk of self stigma, it is more or less directly or indirectly related with self esteem. In line with the above mentioned literature, a significant inverse relationship was found between self esteem on the one hand, and stereotype endorsement, stigma resistance and the overall self stigma scores on the other hand. Generally, compared with a study in a community hospital in Chicago, USA [25], the self esteem score obtained in this study was lower. As discussed above, this could be related to the general approach of fighting stigma by focusing on challenging the common public misconceptions and biomedical treatment without much emphasis on patient empowerment psychosocial approaches. Previous intervention suggested that patient empowerment approach is effective in reducing self stigma on Schizophrenia patients [29]. Because our study was conducted in a psychiatric facility and the data collectors were psychiatric nurses, there may be social desirability bias in the response of the patients. The patients who presented to the psychiatric facility might be those with lower self stigma and higher treatment seeking behavior, a fact representing a potential selection bias and limiting the potential to extrapolate this finding to patients who remained in the community.

Conclusions

High feeling of inferiority (alienation) but less agreement with common stereotypes (stereotype endorsement) about people with mental illness was found. Females showed higher self stigma than males. History of traditional treatment and higher perceived supernatural explanation of mental illness were associated with higher self stigma. An increased educational status was one of the important factors which was inversely related to self stigma among people with mental illnesses. Higher number of drug side effects and perceived signs of mental illness were significant predictors of higher self stigma while high self esteem was correlated with lower self stigma. Psychosocial patient empowerment interventions with stronger emphasis on females, who ever had traditional treatment and who keep supernatural explanations of mental illness and who have les education, is recommended. Strategies which can reduce drug side effects can be helpful in reducing self stigma among people with mental illnesses. Further studies needs to be done whether self stigma is attached to gender roles.

Competing interests
The authors declare that they have no competing interests.

Authors' contributions
EG, MT and SD designed the study, involved in the data collection, analysis and drafting of the manuscript. GF, AML, NM were involved in the design of the study, analysis of the data and critically reviewed the manuscript. All authors read and approved the final manuscript.

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ORIGINAL RESEARCH

Self-stigma among caregivers of people with mental illness: toward caregivers' empowerment

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Background: In addition to economic and material burdens, caregivers of people with mental illness are exposed to psychosocial challenges. Self-stigma is among the psychological challenges that can be exacerbated by intrinsic and/or extrinsic factors. Caregivers' self-stigma can negatively influence the patients' treatment and rehabilitation process. The objective of this study was to measure the level and correlates of self-stigma among caregivers of people with mental illness.

Methods: An interviewer-administered cross-sectional study was conducted in the Jimma University Specialized Hospital Psychiatry Clinic in Ethiopia on a sample of 422 caregivers. Data were collected by trained nurses working in the clinic using a pretested questionnaire. Multivariate linear regression was performed to identify the correlates of self-stigma among caregivers of people with mental illness.

Results: The majority (70.38%) of the caregivers were male. On a scale of 0 to 15, with 0 being low and 15 being high, the average self-stigmatizing attitude score was 4.68 (±4.11). A statistically significant difference in mean self-stigma score was found between urban and rural respondents (t=3.95, $P<0.05$). Self-stigma of caregivers showed significant positive correlation with perceived signs of mental illness (r=0.18, $P<0.001$), perceived supernatural explanations of mental illness (r=0.26, $P<0.001$), and perceived psychosocial and biological explanations of mental illness (r=0.12, $P<0.01$). The only independent predictor of caregivers' self-stigma was perceived supernatural explanation of mental illness (standardized β=0.22, $P<0.001$).

Conclusion: The tendency of caregivers to avoid being identified with the patients was observed. Low exposure to mental health information was also reported. Caregivers' self-stigma in this study was significantly correlated with perceived supernatural explanation of mental illness. Since caregivers' self-stigma may negatively influence patients' treatment-seeking, adherence, and rehabilitation processes, programs that enhance coping strategies by strengthening self-esteem and empowerment by health care providers and establish family support groups may be helpful to tackle self-stigma among caregivers of people with mental illness.

Keywords: self-stigma, internalized stigma, caregivers, mental illness

Introduction

Care and support from caregivers during periods of illness are critical for people with mental illness. Care from family members or friends is especially important in resource-poor settings like Ethiopia, where family and friends are considered to be "frontline caregivers".[1] In addition, families perceive that they have a significant role in coping with the mental illness of the patient.[2] Recommendations were released in the 1980s on the importance of considering caregivers as part of the health care system, especially for chronic health problems like mental illness that need long-term care and support.[3,4]

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In the process of seeking help and treatment for patients with mental illness, family members or caregivers often bear economic and material burdens.[5–8] They are also exposed to psychosocial burdens.[5–8] Stigma is one of the most challenging psychosocial burdens faced by family members or caregivers of people with mental illness.[2,3,6,8]

Evidence from around the world shows that the psychosocial burden on family members of people with mental illness negatively affects both family members and the patients that they are caring for.[2,9–15] One study in the United States found that 43% of caregivers of people with mental illness believed that most people stigmatize family members of people with mental illness.[16] Another study on family members of patients suffering from schizophrenia in Morocco reported high levels of perceived stigma and burden on their family members.[17] The consequences of caregivers' stigma can be more severe if the family or caregivers endorse or accept it (ie, self-stigma). Self-stigma occurs "when individuals belonging to a stigmatized group internalize public prejudice and direct it towards themselves".[18] Self-stigma is usually aggravated by social stigma and discrimination.[19]

There has been less emphasis on the role of family members or caregivers of the mentally ill in the fight against mental illness stigma.[2] In particular, evidence on family member/caregiver self-stigma is limited to specific mental illnesses. In the current study, caregivers other than family members were included since previous studies suggest that people have stigmatizing attitudes toward anyone who has contact with the stigmatized person.[9,20,21]

In Ethiopia, where people have diverse explanations of mental illness, complex pathways may cause significant delays to treatment-seeking for mental illness[22–24] and family members or caregivers may have higher self-stigma. For example, Shibre et al[25] revealed that in Ethiopia 75% of family members of people with mental illness reported some sort of perceived stigma from others due to their mentally ill family member. No other previous studies were found on caregivers' self-stigma in the southwestern part of Ethiopia. Therefore, the current study is the first of its kind in southwestern Ethiopia to exclusively focus on caregivers' self-stigma and its correlates.

Methods

This institution-based cross-sectional study was conducted among caregivers of people with mental illness at Jimma University Specialized Hospital (JUSH) from June to August 2012. The university hospital is located about 352 km southwest of the capital city of Addis Ababa. The hospital provides a wide range of clinical services to a population of 15 million. Patients usually come with their caregivers for inpatient services. Most of the caregivers of patients attending for psychiatric services are family members, relatives, or other non-relatives. The study was therefore conducted among attendants who are caregivers of people with mental illness in the JUSH psychiatry facility.

A total of 422 caregivers of people with mental illness were included in the sample. The sample size was estimated using the single population proportion formula. The parameters used to estimate the sample size included a proportion of caregivers with self-stigma of 0.5 to get the maximum representative sample size, since there were no previous studies in the area, and a 95% confidence level at a 5% margin of error and 10% nonresponse rate. Caregivers of both outpatient and inpatient service users were included in the study. Whenever a patient had more than one caregiver, only the primary or main caregiver was included in the study. Only caregivers whose ages were above 18 years were included in the study.

Trained nurses working in the psychiatry clinic collected the data using an interviewer-administered pretested questionnaire adopted from the World Health Organization Family Interview Schedule stigma items (with Cronbach's alpha =0.85) and other literature.[3,26,27] Prior to data collection, training was given to data collectors and supervisors in the clinic. A total of 15 items was used to measure self-stigma in caregivers of people with mental illness. The scale included items related to the need to hide the patients' mental illness status (keep secret), feeling of shame (embarrassment), and avoidance of social gatherings and friendships. The items were administered on a "yes =1" or "no =0" basis. A total score of caregivers' self-stigma was computed by summing up the individual items. A higher score therefore indicated higher self-stigma. In addition to the caregiver self-stigma score, sociodemographic and psychographic characteristics related to mental illness such as perceived explanations (supernatural, psychosocial, and biological) and signs of mental illness were measured. Perceived supernatural explanations (three items), psychosocial and biological explanations (six items), and perceived signs of mental illness (12 items) were measured by "yes =1" or "no =0" responses. The sum of items for each variable was then computed so that a higher score indicated higher values for the respective variables.

The tool was translated to Affan Oromo and Amharic languages and back-translated to English to ensure semantic equivalence. After the pretest, some items were modified and additional instruction was given to the data collectors on

items that were difficult to understand or risked ambiguity. The questionnaire was administered in Affan Oromo or Amharic languages.

Completeness of each questionnaire was checked before data entry. Data was entered into EPI-DATA version 3.1 (The EpiData Association, Odense, Denmark) and exported to STATA version 10.0 (StataCorp LP, College Station, TX, USA) for analysis. Sociodemographic and psychographic variables were analyzed using frequency tables. Correlation, analysis of variance, and *t*-tests were performed to determine the mean difference in caregivers' self-stigma between groups using different sociodemographic and psychographic variables. Multivariate linear regression analysis was performed using variables that had a significant statistical association ($P<0.05$) in the bivariate analysis. The results of the multivariate analysis were presented using unadjusted and adjusted standardized regression coefficients. The presence of multicollinearity was also checked. Ethical approval was obtained from the Jimma University Research Ethics Review Board. Written permission was obtained from the JUSH clinical director and the psychiatry clinic. Written informed consent was also obtained from each study participant.

Results

Sociodemographic characteristics

A total of 422 caregivers of people with mental illness were interviewed for the study with a response rate of 100%. Among them, 70.38% were male and 67.77% were married. The mean age of the caregivers was 37.8 (±13.9) years. Two hundred sixty-six (63.03%) were Muslims and 61.37% were members of the Oromo ethnic group. Only 15.40% of the caregivers were illiterate. Farming and government employment were the leading occupations among the respondents. The proportion of caregivers residing in urban versus rural settings was similar. The majority of the caregivers were either parents (25.12%) or other relatives (25.59%) of the patients and most of them (81.04%) were living together with the patients in the same household. The total mean number of years lived with the patients was 18.4 (±9.3) years and the mean family monthly income was approximately 89.0 (±139.0) USD (Table 1).

Table 1 Background characteristics of caregivers of people with mental illness in Jimma University Specialized Hospital, southwest Ethiopia, 2012

Characteristic	Frequency	Percent
Sex		
Male	297	70.38
Female	125	29.62
Marital status		
Single	105	24.88
Married	286	67.77
Divorced	14	3.32
Widowed	17	4.03
Religion		
Muslim	266	63.03
Orthodox	104	24.64
Other (Protestant, Catholic)	52	12.33
Ethnicity		
Oromo	259	61.37
Amhara	66	15.64
Other (Keffa, Dawro, Gurage)	97	22.99
Educational status		
Could not read and write	65	15.40
Read and write only	55	13.03
Elementary	112	26.54
Secondary	127	30.09
Higher education	63	14.93
Occupation		
Farmer	153	36.26
Government employee	86	20.38
Private enterprise	79	18.72
Housewife	57	13.51
Student	34	8.06
Other (house maid and unemployed)	13	3.08
Setting		
Rural	213	50.47
Urban	209	49.53
Relationship with the patients		
Parent	106	25.12
Son/daughter	78	18.48
Brother	55	13.03
Spouse	51	12.09
Sister	18	4.27
Other relative	108	25.59
Non-relative	6	1.42
Living together with the patient in the same household		
Yes	342	81.04
No	80	18.96

Awareness and perception about mental illness

As shown in Table 2, only a small proportion of caregivers were exposed to mental illness information on television, the radio, or in religious places. In addition to the patients who they were taking care of during the time of the interview, 16.82% of the caregivers had had another family member with mental illness. Stress (80.09%), rumination (68.01%), and drug addiction (42.18%) were the most common reported perceived causes of mental illness, while talking to oneself (68.25%), sleep disturbance (69.19%), and strange behaviors (63.27%) were the most common perceived signs of mental illness. The majority of the caregivers (97.63%) perceived that mental illness can be cured medically.

Table 2 Awareness and beliefs about mental illness among caregivers of people with mental illness in Jimma University Specialized Hospital, southwest Ethiopia, 2012

Variable	Number	Percent
Exposure to mental illness information		
Watched on TV	94	22.27
Heard on radio	99	23.46
Religious places	14	3.32
Other family member mentally ill	71	16.82
Perceived cause of mental illness		
Stress	338	80.09
Rumination	287	68.01
Drug addiction	178	42.18
Poverty	95	22.51
God's punishment	68	16.11
Evil spirit	66	15.64
Sinful act	26	6.16
Physical illness	24	5.69
Germs	5	1.18
Other	16	3.79
Perceived signs of mental illness		
Sleep disturbance	292	69.19
Talking to oneself	288	68.25
Strange behavior	267	63.27
Aggression	186	44.08
Talking too much	185	43.84
Restlessness	179	42.42
Self-neglect	140	33.18
Suicidal attempt	139	32.94
Unable to learn	35	8.29
Shivering	33	7.82
Drug addiction	29	6.87
Other	18	4.27
Mental illness can be cured (yes)	412	97.63

Caregivers' self-stigma

As depicted in Table 3, 163 (38.63%) caregivers were worried that other people would discover the patients' mental illness and 36.26% felt the need to hide the patients' illness and also kept the patients' illness secret. In addition, 36.26% avoided going to social events with the patients. Similarly, 36.97% felt shame or embarrassment about the patients' illness. One hundred and eleven respondents (26.30%) felt that most people blame parents for the mental illness of their children, though only 65 (15.40%) felt that parents of people with mental illness are less responsible and caring than family/relatives without mental illness. Over one in ten caregivers avoided being a member of social events because they had family/relatives with mental illness.

On average, caregivers had a self-stigmatizing attitude on 4.68 (±4.11) out of the 15 total items. Statistically significant self-stigma differences were obtained between urban and rural respondents (t=3.95, P<0.05). Self-stigma of caregivers also showed significant positive correlation with perceived signs of mental illness (r=0.18, P<0.001), perceived supernatural explanations of mental illness (r=0.26, P<0.001), and perceived psychosocial and biological explanations of mental illness (r=0.12, P<0.01).

Table 3 Frequency distribution of items of self-stigma among caregivers of people with mental illness in Jimma University Specialized Hospital, southwest Ethiopia, 2012

Item	Yes N (%)	No N (%)
You worried whether people would find out about (NAME)'s condition?	163 (38.63)	259 (61.37)
You worried that your neighbors would treat you differently?	148 (35.07)	274 (64.93)
You sometimes felt the need to hide (NAME)'s illness?	153 (36.26)	269 (63.74)
You kept (his/her) illness a secret?	153 (36.26)	269 (63.74)
You worried that friends and neighbors would avoid you after they found out about it?	125 (29.62)	297 (70.38)
You didn't see some of your friends as often as you did before?	99 (23.46)	323 (76.54)
You avoided going to large social events with (NAME)?	153 (36.26)	269 (63.74)
You worried that even your best friends would treat you differently?	112 (26.54)	310 (73.46)
You felt ashamed or embarrassed about (NAME)'s illness?	156 (36.97)	266 (63.03)
Have you avoided making friends because you have a relative who is mentally ill living with you?	65 (15.40)	357 (84.60)
Do you feel that you are less responsible and caring than family/relatives without mental illness?	70 (16.59)	352 (83.41)
Do you feel that most people look down on you since you have a family member who is mentally ill?	113 (26.78)	309 (73.22)
Do you feel that most people treat families with a member who is mentally ill in the same way they treat other families?	113 (26.78)	309 (73.22)
You worried that most people blame parents for the mental illness of their children?	111 (26.30)	311 (73.70)
Have you ever avoided being a member of a social gathering because you have a family member with mental illness?	46 (10.90)	376 (89.10)

Predictors of caregivers' self-stigma

Variables that were found to have significant statistical associations in the bivariate analysis with self-stigma were entered into a multivariate linear regression analysis. Based on the analysis, place of residence, perceived signs of mental illness score, and perceived psychosocial and biological explanations of mental illness scores did not show significant statistical association with self-stigma. As shown in Table 4, the only variable which showed significant association in the

Table 4 Multivariate linear regression on the predictors of self-stigma among caregivers of people with mental illness in Jimma University Specialized Hospital, southwest Ethiopia, 2012

Variable	Unadjusted β (standardized)	Adjusted β (standardized)
Urban	–0.10*	–0.07
Perceived signs of mental illness	0.18***	0.11
Perceived supernatural explanation of mental illness	0.26***	0.22***
Perceived psychosocial and biological explanation of mental illness	0.12*	0.06

Notes: *$P<0.05$; **$P<0.01$; ***$P<0.001$.

final model was the perceived supernatural explanation of mental illness score; ie, caregivers with higher supernatural explanations of mental illness had significantly higher self-stigma (standardized β =0.22, $P<0.001$) (Table 4). Significant interaction was not found between any of the variables to influence self-stigma. This model explained 9.20% of the variance of self-stigma among caregivers of people with mental illness.

Discussion

Considering the time gap between the current study and a study conducted 10 years earlier in Southern Ethiopia,[25] caregiver stigma in the current study was higher. Despite the differences between the two studies, the level of caregiver self-stigma was lower. For example, the mean caregiver self-stigma score was lower than the scale's mean score. Lower levels of self-stigma may be due to lower levels of social stigma of caregivers in the community as the latter usually influences self-stigma.[19] It may also be the case that caregiving is more equally distributed among several family members, so that the burden of care and self-stigma is not as high in the study community.

Similar to a study conducted in Southern Ethiopia,[25] the caregivers' self-stigma score was not significantly associated with sociodemographic background of the respondents (sex, religion, relationship to the patients, income, etc). Unlike the current study, age of the caregivers was positively correlated with self-stigma in another study.[26] In a study in the People's Republic of China,[26] the duration of stay of the patients was not correlated with self-stigma, which can be related to interventions that empower caregivers to cope with self-stigma and other psychological burdens associated with mental illness. On the other hand, more contact and exposure to people with mental illness reduces stigma of the patients[28,29] which can also reduce self-stigma among caregivers.

The only variable in the multivariate analysis which was significantly and independently correlated with self-stigma was perceived supernatural explanation of mental illness. Higher perceived supernatural explanation of mental illness was correlated with a higher self-stigma score among caregivers of people with mental illness. The nature of the supernatural explanations, how such explanations were presented, and who should be responsible for the relatives' mental illness can contribute to self-stigma development among caregivers who had supernatural explanations. Future investigations may be helpful to identify the mechanisms of this explanation and how they can influence self-stigma among caregivers. Studies have reported that psychosocial, supernatural, or biological explanations of mental illness can determine the stigma associated with mental illness.[28,29]

Caregivers were concerned about not disclosing the patients' mental illness and being ashamed or embarrassed by it. The caregivers who reported to have avoided social gatherings mostly avoided being seen with the patient at social events. This may be because being seen with the patient might put the caregivers at risk of discrimination by other people. For example, in the current study, a higher proportion of caregivers worried that "most people blame parents for the mental illness of their children" than in a previous report on perceived family stigma.[25] Similar figures were also obtained for the other items of caregivers' self-stigma, but a decade time gap between the two studies indicates that self-stigma in caregivers is not decreasing.

The sex composition showed that the majority of the caregivers in this study were males. Since the psychiatric facility is situated in an urban area, this could be a result of distance and transport barriers to the facility as there were 20.54% more males of rural origin than urban origin and this was a statistically significant difference. Females may also be engaged in other household activities and therefore unable to leave the house. In addition, to handle aggressive cases of mental illness, males may be preferable to accompany patients to the hospital. As a result, there may be a high selection bias since male respondents may not be key caregivers of the patients (ie, for each patient, the person who was most responsible among his/her company present in the hospital were included in the sample). On the other hand, whether caregiving for mental illness is associated with sex roles can be a possible area for further community-based exploratory studies since a review report indicated that women are more often primary caregivers than men.[30] A study in the People's Republic of China also showed a higher proportion of female caregivers than male.[26]

The majority of the respondents had low exposure to mental health information. For example, 63.74% of the caregivers were not exposed to such information on any of the three media (radio, television, or in religious places) during the last year. Lower message reach could be related to 1) different media habits of the audiences, 2) recall bias, 3) shortage of mental health communication interventions, or 4) the quality of the mental health communication interventions that do exist.

Though media exposure to mental illness information was low, psychosocial explanations of mental illness prevailed in this study. This may be associated with mental health information at health institutions, since about 17% of respondents had had family members other than the current patient who were perceived to have mental illness. In addition, the majority of the caregivers (63.03%) were Muslim, and could have more psychosocial and biological explanations of mental illness. A report suggested that Muslim religion followers had less stigma and more non-supernatural explanations[25] of mental illness in general, although no statistically significant difference in supernatural explanation score between Muslims and other religions was found in this study. On the contrary, a recent finding reported that Muslim religion followers have more supernatural explanations of mental illness.[18] However, no other previous studies have reported an association between religion and caregivers' self-stigma.

Visible perceived signs of mental illness such as sleep disturbance, talking to oneself and strange behavior were reported among the caregivers. This could be related to the personal experiences (more than 80% live together with the patients) and general mental health literacy of the caregivers. In addition, almost all respondents (about 98%) believed that mental illness is curable by biomedicine. This could be attributed to experiences and beliefs about ethnomedicine, unrealistic expectations caused by biomedicine, and/or social desirability bias since the study was conducted by nurses working in the hospital.

Possible limitations of the present study include study design with limited causal reference, and selection and social desirability biases. In addition, since the sample was taken from hospital attendants, the findings may not represent the primary caregivers, who may have stayed at home or in the community or other traditional treatment places. The variance explaining caregivers' self-stigma may be increased by using more valid constructs and dimensions of caregiver self-stigma measures by conducting qualitative studies with the target groups.

Conclusion

The overall self-stigma score among caregivers of people with mental illness in this study was low. However, many caregivers avoided being identified with the patients that they care for, which could be associated with fear of stigma from the public. There was low exposure to mental health information through the most popular mass media communication channels, which raises questions about habits of media consumption of caregivers or mental health program availability. Caregivers with high supernatural explanations of mental illness had high self-stigma, which evidences the need to challenge supernatural explanations of mental illness. Since caregivers' self-stigma can negatively affect patients' treatment-seeking, adherence, and rehabilitation process, programs giving caregivers counseling by health care providers and establishing family support groups may be helpful to tackle self-stigma among caregivers of people with mental illness.

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Author contributions

Eshetu Girma, Markos Tesfaye, and Sandra Dehning designed the study, and were involved in the data collection, analysis, and drafting of the manuscript. Guenter Froeschl, Anne Maria Möller-Leimkühler, and Norbert Mueller were involved in the design of the study, analysis of the data, and critically reviewed the manuscript. All authors read and approved the final manuscript.

Disclosure

The authors declare no conflicts of interest in this work.

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Public stigma against family members of people with mental illness: findings from the Gilgel Gibe Field Research Center (GGFRC), Southwest Ethiopia

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Abstract

Background: Public stigma against family members of people with mental illness is a negative attitude by the public which blame family members for the mental illness of their relatives. Family stigma can result in self social restrictions, delay in treatment seeking and poor quality of life. This study aimed at investigating the degree and correlates of family stigma.

Methods: A quantitative cross-sectional house to house survey was conducted among 845 randomly selected urban and rural community members in the Gilgel Gibe Field Research Center, Southwest Ethiopia. An interviewer administered and pre-tested questionnaire adapted from other studies was used to measure the degree of family stigma and to determine its correlates. Data entry was done by using EPI-DATA and the analysis was performed using STATA software. Unadjusted and adjusted linear regression analysis was done to identify the correlates of family stigma.

Results: Among the total 845 respondents, 81.18% were female. On a range of 1 to 5 score, the mean family stigma score was 2.16 (±0.49). In a multivariate analysis, rural residents had significantly higher stigma scores (std. $\beta = 0.43$, $P < 0.001$) than urban residents. As the number of perceived signs (std. $\beta = -0.07$, $P < 0.05$), perceived supernatural (std. $\beta = -0.12$, $P < 0.01$) and psychosocial and biological (std. $\beta = -0.11$, $P < 0.01$) explanations of mental illness increased, the stigma scores decreased significantly. High supernatural explanation of mental illness was significantly correlated with lower stigma among individuals with lower level of exposure to people with mental illness (PWMI). On the other hand, high exposure to PWMI was significantly associated with lower stigma among respondents who had high education. Stigma scores increased with increasing income among respondents who had lower educational status.

Conclusions: Our findings revealed moderate level of family stigma. Place of residence, perceived signs and explanations of mental illness were independent correlates of public stigma against family members of people with mental illness. Therefore, mental health communication programs to inform explanations and signs of mental illness need to be implemented.

Keywords: Stigma, Mental illness, Family stigma, Psublic stigma

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Background

In the work of Goffman, the stigma against family members of people with mental illness (PWMI) is described as "courtesy or associative stigma, which is the process by which a person is stigmatized by virtue of association with another stigmatized individual" [1]. Larson et al. described it as; "family stigma contains the stereotypes of blame, shame, and contamination; public attitudes which blame family members for incompetence may conjure the onset or relapse of a family member's mental illness" [2]. Although stigmatization of family members' may not be necessarily due to the stigmatizing of the patients, studies have found that family members reported feelings of stigma, i.e. the report of family members' experience of stigma, could be attributed to either actual or perceived stigma from the public [2-7].

A frequently observed reason for stigma against family members of PWMI was related to the explanations for mental illnesses [2]. As evidenced by previous studies, whether people have biogenetic, psychosocial ('poor' parenting/care) and/or supernatural explanations of mental illness can be associated with stigma against PWMI [8,9]. The other common reason for public stigma against family members of people with mental illness was the incrimination that families failed to help their relatives with mental illness to adhere to a recommended treatment [2,10].

Both supernatural and non-supernatural explanations of mental illness may lead to family stigma. As a result, the public may develop less contact to the patients. Less contact of the public with the patients and not disclosing about the mental illness situation of the patient were found to be associated with stigmatization of the patients [11-13]. The latter may also finally lead to stigmatization of family members.

Quantitative and qualitative findings suggested that when the public holds negative attitude towards the family members of PWMI, the family may resort to social self restrictions. The family may also hide their sick relative, which in turns may lead to delay in treatment seeking, and discrimination from getting services. All of these may result in poor quality of life, depression and increased emotional burden on families [2,3,14-18].

To combat such consequences and challenges, there are effective interventions such as educating the public, contact to the patients (not hiding the patients from the community and integrating them to the community system) and empowering the patients and families in order to reduce stigma associated with patients and family members [19-26].

Although the key role of family members in care provision in mental health is well appreciated and an accepted concept, family stigma is under researched and this study is the first of its kind in Ethiopia. Therefore, this study has attempted to generate baseline data on the situation of stigma for further studies and interventions in the Gilgel Gibe Field Research Center (GGFRC), Southwest Ethiopia. The study aimed at investigating the extent and correlates of public stigma against family members of PWMI in the study area. It was hypothesized that the study population mean stigma would be more than the mean stigma (2.5) score and the psychographic (such as perceived explanations, signs, etc.) and socio-demographic (example: age, sex, residency, etc.) were expected correlates of family stigma.

Methods

The cross-sectional house to house survey was conducted among randomly selected 845 urban and rural community members in the GGFRC, Southwest Ethiopia. The GGFRC is Demographic Surveillance Site (DSS) and has been recording and storing data on vital events and socioeconomic parameters since its establishment in May 2005. Studies ranging from molecular level to population surveys have been conducted in GGFRC by Jimma University in collaboration with other partners. In 2011, 54, 538 persons were living in the center [27]. It is a field research center for the Health Sciences Research Institute of Jimma University. The study participants were selected using a simple random sampling technique from the household list in the Health Sciences Research Institute of Jimma University. The data was collected through face-to-face interviews using structured questionnaires by trained interviewers. Trained and experienced personnel who were working in the GGFRC supervised the data collection. The details of the sampling procedures can be obtained freely from a previous publication of the same project about stigma against people with mental illness [28]. The previous study can be also accessed freely by anyone using the PubMed Central Identification (PMCID) of PMC3853185.

Family stigma was measured using 10 items with Likert scale (1 = strongly disagree to 5 = strongly agree) responses adapted from Devaluation of Consumer Families Scale and other two previous studies [10,29,30]. The tool included items related to avoiding social interaction with family members of people with mental illness, blaming the family members for the mental illness of their relatives, undermining the family members of people with mental illness, the need for controlling their family member who is mentally ill behind closed doors and not to disclose about their family member's mental illness to others. Example of the items include: "I believe that parents of children with a mental illness are not as responsible and caring as other parents". Reversely oriented items were reverse coded before data analysis. The overall family stigma was computed by summing-up the scores on all of the ten items. Accordingly, a higher score indicated a higher public stigma against family members of PWMI.

In addition to the scale of stigma against family members of PWMI, measures on socio-demographic and psychographic characteristics were included in the questionnaire. The psychographic characteristics included (a) 3 items measuring perceived supernatural (example: evil spirit), (b) 6 items measuring non-supernatural (biological and psychosocial) explanations of mental illness (example: stress and drug addiction), (c) 8 items measuring exposure to people with mental illness (PWMI) (example: message from TV/radio, ever worked or lived with people with mental illness) and (d) 12 items measuring perceived signs (example: suicide attempt, self neglect and sleep disturbance) of mental illness, and were measured as yes = 1 and no = 0 scores. After summing up scores on the respective psychographic characteristic, higher values indicated higher perceived supernatural, psychosocial and biological explanations, perceived signs, and exposure to PWMI. The questionnaire was translated into Amharic and Afaan Oromo languages and then back translated into English. Translation and back-translation was done to ensure semantic equivalence. After pre-testing, the final questionnaire was administered either in Amharic or Afaan Oromo languages based on the respondents language ability.

Before data entry, each questionnaire was checked for completeness and consistency. Data entry was done by using EPI-DATA version 3.1. The data was then exported to STATA version 10.0 for analysis. Normality of the stigma against family members of people with mental illness score was checked using histograms and kernel density. Since the stigma score was not normally distributed, logarithmic transformation was done. After the transformation, the distribution of stigma score was normal. Then, for categorical independent variables, the mean stigma scores were compared using ANOVA and *t* tests. For continuous independent variables, correlation tests were done to check for their association with stigma score. Finally, unadjusted and adjusted linear regression models were developed to identify the correlates of stigma against family members of PWMI. Standardized regression coefficients were presented for variables which were found significant in the bivariate analysis. A p-value less than 0.05 was used to declare statistical significance in the bivariate and multivariate analysis. Tolerance analysis (variance inflation factor) was done for checking multicollinearity between variables. Subsequently, interaction analysis was performed to explore the effects of the interactions between variables with multicollinearity.

Ethical approval was obtained from Research Ethics Review Board of Jimma University. Written permission was granted by Health Sciences Research Institute, Jimma University. Finally, written informed consent was obtained from the individual participants before the interviews.

Results

Socio-demographic characteristics

A response rate of 100% was achieved in this study. Among the total 845 respondents, 517 (81.18%) were female and 638 (75.50%) of them ever been married. The mean age (standard deviation) was 37.4 (±14.8) years. The majority of respondents were Muslims (88.99%) and members of Oromo ethnic group (91.12%). Nearly two-thirds of the respondents (62.72%) were illiterate. Most of the respondents (80.00%) were farmers. The households' average monthly income (standard deviation) was 377.3 (±392.5) ETHB (1USD ≈ 18.5ETHB) and the average family size (standard deviation) was 5.2 (±2.2) (Table 1).

Belief and perception about mental illness

Six hundred thirty-six (75.27%) believed that mental illnesses can be cured. A very small proportion (1.66%) of the respondents ever had a history of mental illness, and 9.70% ever had a relative with a history of mental illness. On a range of 0–8 scores, the mean exposure to PWMI was 1.9 (±1.2). The mean number of reported signs of mental illness was 2.8 (±1.2) on a 0–12 range. The average number of perceived supernatural explanations of mental illness score was 0.6 (±0.7) on a 0–3 range while the average number of perceived psychosocial and biological

Table 1 Socio-demographic characteristics of respondents in GGFRC, south west Ethiopia, 2012 (N = 845)

Variable	Frequency	Percent
Sex		
Female	517	61.18
Male	328	38.82
Marital status		
Ever been married*	638	75.50
Never been married	207	24.50
Religion		
Muslim	752	88.99
Others (Orthodox, Protestant)	93	11.01
Ethnicity		
Oromo	770	91.12
Others***	75	8.88
Educational status		
Could not read and write	530	62.72
Read and write only	96	11.36
Elementary and above	219	25.92
Occupation		
Farmer and house wife	676	80.00
Others**	169	20.00

*Single, divorced and widowed, **private work, Student, government employee, House worker (maid), ***Yem, Guraghe, Amhara, Keffa and Dawro.

explanations of mental illness score was 1.7 (±0.9) on a 0–6 range.

Stigma against family members of people with mental illness scores

As depicted in Table 2, among the ten items measuring family stigma, the highest mean stigma score (2.81 ± 1.23) was found for the item which stated that 'families who have a member with mental illness ought to be treated differently than other families'. The second highest mean stigma score (2.43 ± 1.07) was found for the item which stated 'parents of children with mental illness are not just as responsible and caring as other parents'. The third highest mean score (2.24 ± 1.05) was on the item 'people should keep their family member with mental illness behind locked doors'.

The overall mean family stigma score was 2.16 (±0.49) on a range of 1 to 5 score (Table 2). Statistically significant differences in family stigma score were observed between rural and urban, between religions, among ethnic groups and different types of occupation. Family stigma was found to have significant negative correlations with educational level, family income, perceived signs, and perceived psychosocial and biological explanation of mental illness ($P < 0.05$). On the other hand, significant positive correlation was observed between family stigma and perceived supernatural explanation of mental illness ($P < 0.05$) (Table 3).

Predictors of public stigma against family members of people with mental illness

All the variables that showed statistically significant association in the bivariate analyses (*t* test, ANOVA or correlation) were entered into a multivariate linear regression analysis for controlling possible confounders. Based on the analysis, residency (rural, urban), the number of perceived signs of mental illness, perceived supernatural, as well as perceived psychosocial and biological explanations of mental illness were found to be independent predictors of family stigma. Except residency, other socio-demographic characteristics were not significantly correlated with stigma in a multivariate analysis.

Rural residents exhibited significantly higher stigma scores (std. $\beta = 0.43$, $P < 0.001$) than urban residents.

Table 2 Mean score of items measuring family stigma in GGFRC, south west Ethiopia, 2012

Item	Possible scores*	Mean	SD
Families with a member who is mentally ill should be treated in the same way they treat other families (reverse coded)	1-5	2.81	1.23
I believe that parents of children with a mental illness are not just as responsible and caring as other parents	1-5	2.43	1.07
People should keep their family member with mental illness behind locked doors	1-5	2.24	1.05
Families with a member of serious mental illness should not be visited as often as families without mental illness	1-5	2.21	0.98
Parents of children with mental illness should be blamed for the mental illness of their children	1-5	2.18	1.13
It would be foolish to marry a family member of a man/woman who has suffered from mental illness	1-5	2.13	1.05
I do not feel good to be friends with families that have a relative who is mentally ill living with them	1-5	2.09	1.00
Families with a member of serious mental illness should be ashamed of them selves	1-5	1.99	1.04
People should never tell to anyone that they have a family member with mental illness	1-5	1.94	0.85
Families with a member of mental illness should not be allowed to be a member of social gatherings and institutions	1-5	1.63	0.85
Overall score	1-5	2.16	0.49

*(1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, 5 = strongly agree).

Table 3 Mean score of family stigma based on socio-demographic backgrounds in GGFRC, south west Ethiopia, 2012

Variables	Mean	SD	*t*-test (ANOVA)	P-value
Sex				
Female	2.16	0.49	0.00	0.95
Male	2.17	0.49		
Living with partner				
Ever been married	2.18	0.49	1.47	0.23
Never been married	2.13	0.51		
Setting				
Rural	2.30	0.50	177.63	<0.001
Urban	1.87	0.29		
Religion				
Muslim	2.19	0.49	15.19	<0.001
Others	1.98	0.44		
Ethnicity				
Oromo	2.19	0.49	27.93	<0.001
Others	1.88	0.38		
Educational status				
Could not read and write	2.24	0.50	25.20	<0.001
Read and write only	2.22	0.51		
Elementary and above	1.97	0.42		
Occupation				
Farmer and house wife	2.22	0.49	44.00	<0.001
Others	1.95	0.41		

Table 4 Predictors of family stigma in GGFRC, south west Ethiopia, 2012

Variables	Unadjusted β (standardized)	Adjusted β (standardized)
Rural	0.42***	0.43***
Muslim	0.14***	−0.05
Oromo	0.19***	0.07
Educational level	−0.23***	−0.03
Farmer and housewife	0.23***	−0.01
Family average income	−0.10**	0.04
Perceived signs of mental illness	−0.15***	−0.07*
Perceived supernatural explanations	0.08*	−0.12**
Perceived psychosocial and biological explanations	−0.19***	−0.11**

*P < 0.05, **P < 0.01, ***P < 0.001.

Residency was also the strongest predictor of public stigma against family members of PWMI. As the number of reported perceived signs of mental illness increased, family stigma decreased significantly (std. β = −0.07, P < 0.05). Both higher perceived supernatural (std. β = −0.12, P < 0.01), and psychosocial and biological (std. β = −0.11, P < 0.01) explanations of mental illness were significantly associated with lower family stigma (Table 4). Over all, the model explained 21.07% of the variance of public stigma against family members of PWMI. The scale used to measure family stigma had a reliability coefficient (Cronbach's alpha) of 0.70.

Interaction effects

After checking the presence of multicollinearity among predictor variables, interaction analysis was performed. Accordingly, significant interaction was found between education and income, education and exposure to PWMI, and exposure to PWMI and perceived supernatural explanations of mental illness. Then, a separate analysis was done after controlling the effects of other variables. As the income of a respondent increased, the perceived family stigma increased significantly at both medium (std. β = 0.15, P < 0.01) and low education (std. β = 0.29, P < 0.001) levels. As education increased, significant lower family stigma (std. β = −0.16, P < 0.01) was found at high exposure to PWMI. At both medium (std. β = −0.13, P < 0.01) and lower (std. β = −0.23, P < 0.001) levels of exposure to PWMI, significant lower public stigma was scored as the supernatural explanation of mental illness increased (Figure 1).

Discussion

We found the overall family stigma in the community to be of moderate level. Furthermore, living in rural place, explanations regarding the cause of mental illness, perceived signs of mental illness were associated with family stigma. However, living in rural place was the strongest predictor of high family stigma.

The moderate level of family stigma in the current study can be directly or indirectly associated with the public stigma against PWMI or due to low mental illness information as found in the current study. A previous study in the same study area reported that there was

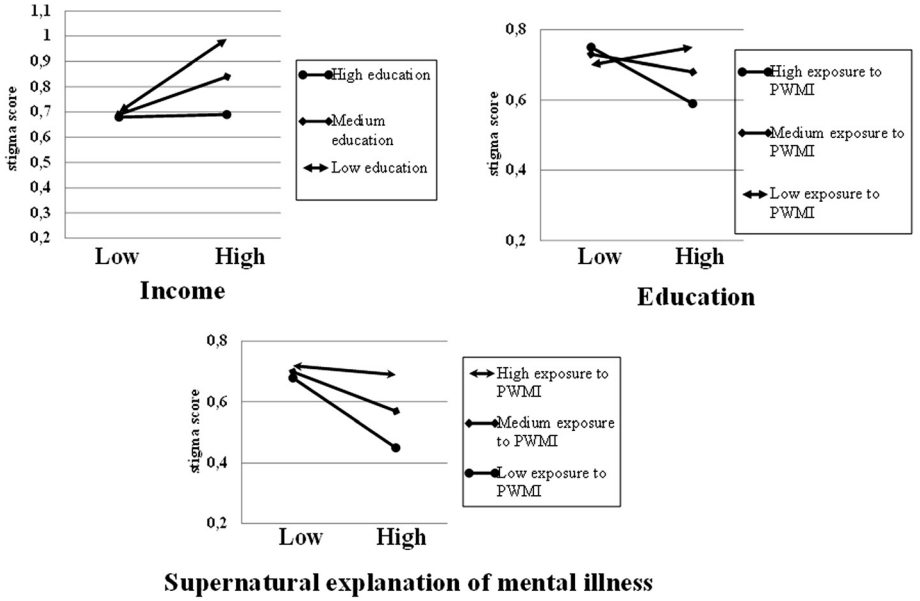

Figure 1 Family stigma score at different levels of education and exposure to mental illness with respect to income, education and perceived supernatural explanation of mental illness scores in the Gilgel Gibe Field Research Center, Southwest Ethiopia, 2012.

high public sigma against PWMI [28]. Nonetheless, the current score was lower compared to the stigma against PWMI score reported in the previous study [28].

Rural residents have shown significantly high stigma than urban residents which may be due to low mental health literacy and rural respondents may be disadvantaged of other underlying causes such as high illiteracy, low media and mental health service access which implies that reducing the gap on such determinants may enhance reducing of stigma against family members of PWMI.

One of the reasons of stigma development is lack of explanation and fear about a given illness [1,31]. Similarly, in the current study both high perceived supernatural and psychosocial and biological explanations of mental illness were significantly correlated with lower stigma against family members of PWMI. This indicates that there is high need for programs targeted at increasing the public awareness about the causes and nature of mental illness to reduce stigma against family members of PWMI.

High supernatural explanation of mental illness was associated with lower stigma at lower level of exposure to PWMI. This can be related to the type of explanation and sympathy that people with high supernatural but lower exposure to PWMI might have i.e. they may be less likely to blame the family for the relatives' mental illness. Similarly, significantly lower stigma was obtained when individuals scored high on exposure to people with mental illness at high education level. This may be due to the combination of high education level which can facilitate exposure to diverse media on mental illness and enhance the ability to understand messages related to PWMI.

High number of reported signs of mental illness by the public was significantly correlated with lower stigma against family members of PWMI. Similarly, stigma against PWMI was lower among people who were familiar to the illness, and those who had previous contact to persons with mental illness [19-21,25,32-34]. People who are aware of many signs of mental illness may have better general information about mental illness through formal and informal means. Thus, they may have also less stereotyped beliefs and prejudices.

Respondents who had high income but low education showed significantly high family stigma. Such type of respondents may be in a disadvantage to get more information about mental illness from other sources like print and visual media. In addition, they may also have limited opportunity to get awareness and knowledge about mental illness from the school environment.

Generally, in the current study there was a high tendency of blaming family members for the illness of the patients. The belief among the public for the need to restrict the patients by the family members to avoid contact to the community may be associated with the type of explanation of mental illness and perceived dangerousness of people with mental illness. On the other hand, a low score was observed on restricting family members from being a member of social gatherings. In the multivariate analysis, no significant correlation was scored between many socio-demographic characteristics (i.e., age, sex, marital status, religion, ethnicity and occupation) and stigma against PWMI. Exposure to PWMI was very low in the current study which calls for mental health awareness interventions in the study community.

This study is the first of its kind exploring family stigma in Ethiopia. The relatively large randomly selected community sample representing diverse social and economic background adds to the robustness of our data. Although we have achieved semantic equivalence of the measurement, the lack of other aspects of validation could be potential limitation. In addition, the face-to-face interviews, which were most appropriate in the context of high level of illiteracy, may have resulted in social desirability bias while responding stigma items. Nevertheless, our findings contribute to the existing body of knowledge regarding the correlates of family stigma in low-income setting.

Conclusion

There is a moderate level of family stigma in the southwest Ethiopia (GGFRC). Explanations of mental illness held by the public whether supernatural or non-supernatural predict lower level of public stigma against family members of PWMI. Supernatural explanations can reduce stigma significantly at lower level of exposure to PWMI and persons with mental illness. Previous exposure to PWMI reduces stigma significantly among people with high level of education. Similarly, being familiar to the signs and symptoms of mental illness also may reduce public stigma against family members of PWMI. Since public stigma may affect the family members and the patients negatively, mental health communication programs aimed at raising awareness about the causes and signs of mental illness need to be implemented with special focus on rural communities. Increasing contact to PWMI as well as their family members also may be helpful in reducing public stigma against family members of PWMI.

Competing interests

The authors declare that they have no competing interests.

Authors' contributions

EG, SD and MT designed the study, involved in the data collection, analysis and drafting of the manuscript. NM, GF, AML were involved in the design of the study, analysis of the data and critically reviewed the manuscript. All authors read and approved the final manuscript.

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Curriculum Vitae

Background

Name: Eshetu Girma Kidane

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Education

Jimma University, Jimma, Ethiopia**:** Master of Public Health (MPH) in Health Education and Behavioral Sciences, July 2009

Jimma University, Jimma, Ethiopia**:** Bachelor of sciences in Health Education and Health Promotion, July 2007.

Professional Experience

- Since March 2012 to date, serving as **Assistant Professor** in the Department of Health Education and Behavioral Sciences, Jimma University, Ethiopia.
- June 2009 to March 2012, **Lecturer.**
- July 2007 to June 2009, **Graduate Assistant**.
- October 2009 to October 2011, served as consultant trainer for Jimma University AIDS Resource Center Peer Education training for University and high school students in Jimma, Ethiopia
- September 2008 to September 2009, served as a chairman of Jimma University, college of Public health and medical sciences research ethics committee

Awards

- Received gold medal and certificate for "Young Public Health Researcher" award on the occasion of the 25th silver Jubilee of the Ethiopian Public Health Association (EPHA) in the African Union conference hall in Addis Ababa Ethiopia on February 20, 2014.
- Received the German Association for Psychiatry and Psychotherapy (DGPPN) and the German Alliance for mental Health, in association with the foundation for mental health and the anti-stigma association open the doors e.V., award for De-stigmatizing mental disorders on the occasion of the 2012 DGPPN congress in Berlin, Germany
- Received best researcher of the year award during undergraduate research in 2007 in the Department of Health Education and Behavioral sciences, Faculty of Public Health; Jimma University, Ethiopia.

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