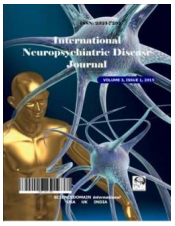

International Neuropsychiatric Disease Journal
6(1): 1-11, 2016; Article no.INDJ.21958
ISSN: 2321-7235, NLM ID: 101632319

SCIENCEDOMAIN *international*
www.sciencedomain.org

A Facility-based Assessment of Internalized Stigma among Patients with Severe Mental Illnesses in Maiduguri, North-Eastern Nigeria

Abdu W. Ibrahim[1*], Yerima M. Mukhtar[1], Pindar K. Sadique[1], Bolori M. Tahir[2], Amodu M. Olabisi[2], Rabbebe I. Bukar[3], Wakil M. Abba[1] and Omotara B. Abayomi[2]

[1]Department of Mental Health, College of Medical Sciences, University of Maiduguri, Borno State, Nigeria.
[2]Department of Community Medicine, College of Medical Sciences, University of Maiduguri, Borno State, Nigeria.
[3]Department of Clinical Services, Federal Neuropsychiatric Hospital, Maiduguri, Borno State, Nigeria.

Authors' contributions

This work was carried in collaboration between all authors. Author AWI designed the study, managed the literature search and wrote the protocol. Authors YMM, PKS, BMT and AMO coordinated the recruitment of participants and data collection, while authors AWI, RIB, WMA and OBA performed the statistical analysis. All authors read and approved the final manuscript.

Article Information

DOI: 10.9734/INDJ/2016/21958
Editor(s):
(1) Vincenzo La Bella, Department of Clinical Neurosciences, ALS Clinical Research Center, University of Palermo, Italy.
Reviewers:
(1) Lauraine Vivian, University of Cape Town, South Africa.
(2) Gabriela Correia Lubambo Ferreira, Federal University of Juiz de For a, Brazil.
(3) Erica de Toledo Piza Peluso, Anhanguera University of Sao Paulo, Brazil.
Complete Peer review History: http://sciencedomain.org/review-history/12143

Original Research Article

Received 10th September 2015
Accepted 29th October 2015
Published 7th November 2015

ABSTRACT

Introduction: Public stigmatization of mental illnesses might lead to the internalization of the stigma by persons with mental illness (PWMIs) which might also lead to erosion of self-esteem and negative consequences on treatment outcome. This study assessed the prevalence of internalized stigma and analyzed its socio-demographic and clinical predictors among PWMIs in a sub-Saharan African mental health facility.
Methods: Patients with schizophrenia, bipolar disorder and severe depression (n = 370) were randomly interviewed at the out-patient department of the Federal Neuropsychiatric Hospital,

**Corresponding author: E-mail: ibrahimabdu55@gmail.com;*

Maiduguri. They completed the sociodemographic and clinical proformata, Oslo social support scale, and an adapted version of the internalized stigma of mental illness scale (ISMI).
Results: A total of 83 subjects (22.5%) met the study's criterion score for high internalized stigma. The independent predictors of high internalized stigma were; poor social support (Odds ratio, OR = 4.501, 95% CI = 2.423 - 8.363, p ≤ 0.001), supernatural aetiological beliefs (OR = 3.916, 95% CI = 2.322 - 6.606, p ≤ 0.001), seeking for unorthodox treatment (OR = 3.637, 95% CI = 2.073 - 6.308, p ≤ 0.001), full insight (OR = 3.595, 95% CI = 2.141 - 6.036, p ≤ 0.001), and presence of extrapyramidal side effects (OR = 12.201, 95% CI = 6.827 - 21.805, p ≤ 0.001).
Conclusion: Extrapyramidal side effects, poor social support and misconceptions about the aetiology of mental illnesses were the strongest predictors of internalized stigma among the subjects. The use of second generation antipsychotic medications, the engagement of members of the patients' social support base and the incorporation of psycho-educational programmes to dispel 'myths' about the aetiology of mental illnesses in sub-Saharan Africa are hereby recommended.

Keywords: Facility-based; internalized stigma; severe mental illnesses; Nigeria.

1. INTRODUCTION

Though, stigmatization against persons with mental illnesses (PWMI) is a global public health problem, the African sub-continent probably has the highest rate and bears the greatest brunt of this phenomenon [1-6]. This could be attributed to the African views and beliefs about the nature and aetiology of mental illnesses [7-9]. The manifold consequences of this 'spoilt identity' on mental illnesses include; impediment to health seeking, non-adherence to prescribed therapeutic regimen, impairments in self esteem and quality of life and negative outcomes in relation to recovery [10-19].

Stigma has been defined as an identifying mark of shame or discredit [20]. It also refers to negatively perceived defining characteristics used to set individuals and groups apart from the normalized social order [21]. In mental health context, that stigmatizing perception endorsed by the general population against persons with mental illnesses (PWMIs) is referred to as the public stigma [22,23]. The existence of public stigma might initiate a process which may begin with the awareness of its presence by the person with mental illness, then agreeing with the stigma and finally, applying or internalizing the negative beliefs to oneself [22,24-26]. This ultimate internalization of negative stereotypes and the application of negative public attitude to self is referred to as self or internalized stigma [27]. Internalized or self stigma which might be a consequence of public stigma according to the Modified Labelling Theory (MLT) [28], is the subject of this research.

Although a relatively new concept from the African perspective, the prevalence rate of internalized stigma in sub-Saharan Africa ranged between 21.6% in Nigeria to 46.7% in Ethiopia [29-33]. In other non-western cultures, the rates were 34.1% in India and 40% in Iran [34-35]. The predictors of internalized stigma include: Low educational status, poor social support, duration of illness, beliefs about the causation of mental illness, insight into the illness, as well as low self-esteem and efficacy [29,31-33]. Understanding of the occurrence and correlates of internalized stigma among patients with severe mental illnesses in Maiduguri, a prototype sub-Saharan African setting, will help in treatment planning and social integration.

This study sought to; (1) Estimate the levels and prevalence of high internalized stigma among persons with severe mental illnesses in Maiduguri, North-eastern Nigeria, and (2) Determine the correlates of high internalized stigma among the subjects.

2. METHODOLOGY

2.1 Study Design and Setting

This was a hospital-based cross-sectional study conducted at the outpatient department of the Federal Neuropsychiatric Hospital, Maiduguri, Borno State, Nigeria. This is the referral centre for Neuropsychiatry for the Northeast geopolitical zone of Nigeria. As a matter of policy, all diagnoses made in the institution were according to the tenth edition of the International Classification of Diseases and health-related disorders (ICD - 10) criteria. Clinically generated data for each subject enrolled were matched to the ICD -10 criteria by Consultant Psychiatrists for quality assurance purposes.

2.2 Participants

The sample size was calculated using a prevalence rate of 21.6% for high internalized stigma among patients with mental illnesses in Lagos, Nigeria reported by Adewuya et al. [29], which was set at 95% confidence interval and 0.05 degree of precision. This yielded a minimum sample size of 264 but a total of 390 respondents were interviewed in order to enhance the power of the study and to compensate for the non-response rate which was fixed at 20%. Hence, one hundred and thirty (130) subjects each, with the diagnoses of; schizophrenia, bipolar disorder and severe unipolar depression were enrolled for the study. Patients were randomly selected using the Table of random numbers during their respective clinic visitations.

The eligibility criteria were: A diagnosis of Schizophrenia, bipolar disorder or severe unipolar depression, adults above the age of 18 years, who have been receiving treatment in the facility for at least six (6) months and who granted consent. The exclusion criteria were: Current florid psychopathology capable of impairing response, and comorbid psychoactive substance use or physical disorders. For the purpose of screening out those with significant psychopathology, mental state examination was conducted on all the participants at the index contact. In this study, florid psychopathology is defined as the presence of any positive or negative symptom(s) that make(s) engagement in an interview impossible on clinical evaluation. Based on the outcome of this clinical evaluation alone, those that could not be engaged were excluded. While the exclusion of those with a comorbid physical disorder was based on previous clinical documentation, symptoms at presentation, general physical and relevant systemic examinations. All of the above clinical processes were independently conducted by two of the investigators. Those with comorbid psychoactive substance use disorders and physical disorders were excluded because the coexistence of these conditions with severe mental illnesses might also affect the levels of internalized stigma.

2.3 Measures

Data collection spanned between February and August, 2014, and the following standardized quantitative assessment tools were used:

i) Socio-demographic questionnaire designed by the authors that solicited for age, sex, years of education, occupational classification by Boroffka and Olatawura, [36], and the respondents' beliefs about the aetiology of mental illness. Aetiological beliefs were assessed using a single item question as follows; what do you think is the cause of your illness? Based on the responses, the answers were dichotomized into; demonic possession/retribution and psychological/biological as separate groups.

ii) Clinical proforma also designed by the authors that sought for clinical information like diagnosis and duration of treatment as well as other forms of treatment sought and the degree of insight based on current assessment. For the assessment of insight the following dichotomous questions were asked and a score of 1 is assigned for yes and a score of zero for no for any item answered: Do you accept that you have an illness? Do you think that you require treatment? And, do you think you require your medications to stay well? The total score range between 0 and 3. A total score of zero is regarded as "no insight", total score of 1-2 is "partial insight", and a total score of 3 is interpreted as "full insight".

iii) Subjects' clinical record to extract information regarding documented extrapyramidal symptoms such as rigidity, tremors, bradykinesia, upward rolling of the eyes, etc or the prescription of an anticholinergic agent (example, Trihexiphenidyl) for the subjects. The definition of extrapyramidal side effects (EPSE) adapted for this study include: clinically documented EPSE symptoms, verbally reported EPSE symptoms at any stage of treatment and/or prescription of anticholinergics.

iv) Oslo social support scale which is a 3-item scale that assesses the level of an individual's social support. The scale asks about the ease of getting help from neighbours, the number of people the subjects can count on when there are serious problems, and the level of concern people show in what the subject is doing. The instrument has been validated for use in Nigeria [37]. A sum index is obtained by adding the raw scores of the three items. The range is 3 – 14. The scores are interpreted as follows; 3 – 8 (poor social support), 9 – 11 (moderate social support), and 12 – 14 (strong social support) [38].

v) The modified version of the internalized stigma of mental illness (ISMI) scale was used for collecting information on internalized stigma [39]. The ISMI was selected because it has been used in different cultural settings and found to be valid and reliable [29,31-32,40-41]. This 29-item instrument assesses the five dimensions of internalized stigma; alienation (six items); stereotype endorsements (seven items); discrimination experience (five items); social withdrawal (six items); and stigma resistance (five items). Answers were rated from strongly disagree (1) to strongly agreed (4). In the computation of the final scores, the stigma resistance subscale was omitted because of low internal consistency, as obtained in other studies [29,32].

Based on the changes made to the ISMI scale in a previous study among Nigerian subjects by Adewuya et al., [29], the following modifications were made accordingly. First, the item 'stereotypes about the mentally ill apply to me' was removed from the 'stereotype endorsement subscale'. Second, an item 'people are verbally or physically abusive towards me because I have mental illness' was added to the discrimination subscale. Third, the item 'negative stereotypes about mental illness keep me isolated from the "normal world" was removed from the 'social withdrawal' subscale and replaced with 'I find it difficult to attend my clinic because people will know I have mental illness'. This yielded four subscales, namely; alienation, stereotype endorsement, discrimination experience, and social withdrawal of six items each, making a total of 24 items. Therefore, each subscale has a minimum score of 6 and a maximum of 24 while the total score for the modified ISMI scale ranged from 24 to 96.

For the purpose of categorizing the subjects, the total scores obtained were divided by 24 to obtain the mean scores, which ranged from 1.00 to 4.00. In the classification of the levels of internalized stigma, the means were subdivided into the followings; ≤ 2.0, >2.0 to 2.5, >2.5 to 3.0, and >3.0 to 4.0 to denote minimal, mild, moderate and severe internalized stigma respectively [42-43]. Furthermore, the mean scores of the subjects were dichotomized into: Between 1.00 to 2.50 classified as low internalized stigma, and between 2.51 and 4.00 classified as having high internalized stigma as adapted in previous studies [40-41,44].

The internalized stigma of mental illness (ISMI) scale was translated into Hausa (the commonest language spoken in the region). The translation was done using the iterative back-translation method; in the first stage of the translation, the English version of the modified ISMI scale was independently translated into Hausa by two native speakers consisting of a psychiatrist and a linguist. In the second stage, the two translated versions were synchronized maintaining precise semantic and idiomatic equivalents as far as possible to have a final version. This final version was then back translated to English by another set of native Hausa speakers and was compared to the modified ISMI scale. The inter-item correlation of final Hausa version was 0.809 and the internal consistency as measured by the Cronbach's alpha was 0.712 which was considered satisfactory.

2.4 Ethical Consideration

Ethical clearance was obtained from the institutional review board of Federal Neuropsychiatric Hospital, Maiduguri. Written informed consents were also obtained from all the participants. In order to ensure confidentiality, interviews were individually conducted for all patients in separate rooms and codes were used for data entry and analysis.

2.5 Data Analyses

The data were analyzed using statistical package for social sciences (SPSS) version 20. Descriptive statistics were used to represent the characteristics of the participants. Bivariate analyses using Pearson's χ^2 were used to explore the associations between the psychosocial variables and high internalized stigma among the participants. Binary logistic regression was used to calculate the variables independently associated with high internalized stigma. Odds ratio and 95% C.I. were then calculated. High internalized stigma was used as independent variable while the factors found to be significant on bivariate analysis were used as covariates. Significance was computed at $p < 0.05$, two-tailed.

3. RESULTS

The data of 370 respondents were finally analyzed which yielded an overall response rate of 94.9%. This consisted of 129, 125, and 116 subjects with the diagnoses of schizophrenia, bipolar disorder and severe depression

respectively. The data of 20 subjects were not analyzed due to: Refusal to grant informed consent (n = 3), presence of florid psychopathology (n = 4), comorbid psychoactive substance use (n = 3), presence of physical disorders (n = 2), and those whose questionnaires could not be analyzed due to missing data (n = 8).

3.1 Sociodemographic and Clinical Profiles of the Respondents

Males constituted 56.5% of the subjects and over 70% of the subjects were below 40 years of age. Approximately 66% of the subjects had less than 12 years of education and 56.2% were either unskilled workers or unemployed. Over 59% had poor social support and 43.2% of the subjects believed in possession by demons ('Jinn') or retribution as the cause of mental illness.

Over 60% of the subjects lived with their respective disorders for less than 5 years and 54.6% of them had sought for either traditional or spiritual interventions apart from the conventional hospital-based care. Over 56% of the subjects had partial or no insight and about 21% had experienced EPSE.

3.2 Levels of Internalized Stigma

The mean total score on the modified ISMI was 35.503±18.678 SD with a range of 24.00 to 96.00. The scores were; 10.495±5.798 SD, 9.851±4.922 SD, 8.932±4.833 SD, and 9.222±5.389 SD for the alienation, stereotype endorsements, discrimination, and the social withdrawal subscales respectively. In terms of the levels of internalized stigma using the various cut-off scores, the following were the outcomes: minimal stigma [n = 201, 54.3%], mild stigma [n = 86, 23.2%], moderate stigma [n = 35, 9.5%], and severe stigma [n = 48, 13.0%]. The findings are presented in Table 1.

3.3 Sociodemographic and Clinical Correlates of High Internalized Stigma

The sociodemographic and clinical variables that were significantly associated with high internalized stigma ($p < 0.05$) were; social support ($\chi^2 = 23.395$, df = 1, $p < 0.001$), beliefs about the aetiology of mental illnesses ($\chi^2 = 28.197$, df = 1, $p < 0.001$), forms of treatment sought ($\chi^2 = 21.880$, df = 1, $p < 0.001$), level of insight ($\chi^2 = 24.985$, df = 1, $p < 0.001$), and extrapyramidal side effects ($\chi^2 = 88.987$, df = 1, $p < 0.001$). The findings are depicted in Tables 2 and 3.

Table 1. Distribution of the levels of internalized stigma of the respondents

Levels	Freq (%)
N = 370	
ISMI total mean [Mean = 38.508±18.678 SD, Range: 24.00 - 96.00]	
Minimal	201 (54.3)
Mild	86 (23.2)
Moderate	35 (9.5)
Severe	48 (13.0)

These variables were further subjected to binary logistic regression with the level of stigma as the independent variable and the variables as covariates. The variables were all found to be independent predictors of high internalized stigma with the following findings; poor social support [β = 1.670, S.E. = 0.413, Wald = 16.332, df = 1, odds ratio (OR) = 4.501, 95% CI (2.423 - 8.363, $p < 0.001$)], aetiological beliefs [β = 1.621, S.E. = 0.358, df = 1, OR = 3.916, 95% CI (2.322 - 6.606), $p < 0.001$], forms of treatment sought [β = 1.504, S.E. = 0.371, df = 1, OR = 3.637, 95% CI = (2.073 - 6.380), $p < 0.001$], level of insight [β = 1.524, S.E. = 0.348, Wald = 19.128, df = 1, OR = 3.595, 95% CI (2.141 - 6.036), $p < 0.001$], and extrapyramidal side effects [β = 2.619, S.E. = 0.379, Wald = 47.727, df = 1, OR = 12.201, 95% CI (6.827 - 21.805) $p < 0.001$]. The findings are shown in Table 4.

4. DISCUSSION

This is the first study to the best of the authors' knowledge that looked at this topic of public health significance in northern Nigeria. Though, previous studies by Adewuya et al. [29] and by Oduguwa et al. [45] addressed same issue among patients with mental illnesses in Nigeria, both studies were conducted in the southern part of the country. The relevance of this study could therefore not be underestimated considering the socio-cultural peculiarities between the two settings in terms of perception to mental illnesses and their aetiology. It is also significant in that most studies in sub-Saharan Africa looked at public stigma instead of the 'internalized stigma' experienced by the patients themselves.

Table 2. Socio-demographic characteristics of the respondents

Variables	Total Freq. (%)	High internalized stigma Freq. (%)	Low internalized stigma Freq. (%)	Statistics
		N = 370		
Gender				
Male	209(56.5)	52(62.7)	157(54.7)	χ^2=1.654, df=1,
Female	161(43.5)	31(37.3)	130(43.5)	p = 0.198
Age in years [Mean = 35.06 years + 9.628 SD, Range: 18- 63 years]				
≤ 40 years	271(73.2)	65(78.3)	206(71.8)	χ^2=1.404, df=1,
> 40 years	99(26.8)	18(21.7)	81(28.2)	p = 0.236
Years of education				
≤ 12 years	245(66.2)	56(67.5)	189(65.9)	χ^2=0.075, df=1,
> 12 years	125(33.8)	27(32.5)	98(34.1)	p = 0.784
Occupation				
Skilled	72(19.5)	12(14.5)	60(20.9)	χ^2= 6.682, df=4,
Intermediate	61(16.5)	15(18.1)	46(16.0)	p = 0.153
Semi-skilled	29(7.8)	10(12.0)	19(6.6)	
Unskilled	61(16.5)	18(21.7)	43(15.0)	
Unemployed	147(39.7)	28(33.7)	119(41.5)	
Social support				
Poor	219(59.2)	69(83.1)	150(52.3)	χ^2= 23.395, df=1,
Strong	151(40.8)	14(16.9)	137(47.7)	p = <0.001**
Aetiological beliefs				
Demon/retributn	160(43.2)	57(68.7)	103(35.9)	χ^2= 28.197, df=1,
Psychological	210(56.8)	26(31.3)	184(64.1)	p=<0.001**

**Statistically significant findings*

Table 3. Clinical profiles of the respondents

Variables	Total Freq. (%)	High internalized stigma Freq. (%)	Low internalized stigma Freq. (%)	Statistics
		N = 370		
Diagnosis				
Schizophrenia	129(34.9)	34(41.0)	95(33.1)	χ^2= 2.391, df=2,
Bipolar Disord.	125(33.7)	28(33.7)	97(33.8)	p=<0.303
Sev. Depression	116(31.4)	21(25.3)	95(33.1)	
Duration of illness [Mean = 3.45 years + 1.477 SD, Range = 1 - 16 years]				
≤ 2 years	124(33.5)	22(26.5)	102(35.5)	χ^2= 2.408, df=1,
3 - 4 years	110(29.7)	28(33.7)	82(29.7)	p= 0.304
≥ 5 years	136(36.8)	33(39.8)	103(35.9)	
Forms of treatment sought				
Unorthodox	202(54.6)	64(77.1)	138(48.1)	χ^2=21.880, df=1,
Conventional	168(45.4)	19(22.9)	149(51.9)	p= <0.001**
Levels of insight				
Full insight	161(43.5)	56(67.5)	105(36.6)	χ^2=24.985, df=1,
No/partial insight	209(56.5)	27(32.5)	182(63.4)	p=<0.001**
Extrapyramidal side effects				
EPSE present	77(20.8)	48(57.8)	29(10.1)	χ^2= 88.987,
EPSE absent	293(79.2)	35(42.2)	258(89.9)	df=1, p=<0.001**

**Statistically significant finding*

Using a cut-off score $\geq$ 2.51 as adopted in the methodology for the classification of the levels of internalized stigma, 22.5% of the subjects were categorized as having high internalized stigma, while the remaining subjects had low self stigma. This prevalence rate is almost similar to 21.6% reported by Adewuya et al. and 18.8% by Mosanya et al. both in southern Nigeria [18,29], despite the differences in the scoring systems adopted for the studies. The possible explanation

Table 4. Logistic regression of significant variables on bivariate analyses

Variables	B	Std. error	Wald	df	Odds ratio	95% C.I	P- value
Social support	1.670	0.413	16.332	1	4.501	(2.423 - 8.363)	<0.001**
Aetiological beliefs	1.621	0.358	20.502	1	3.916	(2.322 - 6.606)	<0.001**
Forms of treatment	1.504	0.371	16.442	1	3.637	(2.073 - 6.380)	<0.001**
Level of insight	1.524	0.348	19.128	1	3.595	(2.141 - 6.036)	<0.001**
Extrapyramidal SEs	2.619	0.379	47.727	1	12.201	(6.827 - 21.805)	<0.001**

**Statistically significant findings*

for this relatively uniform rate in Nigeria despite the cultural heterogeneity is that; though there may be variations in our beliefs and perceptions about mental illnesses, the degree to which persons with mental illnesses (PWMI) internalize their feelings of stigma may be similar due to cross-cultural influences. More so, since internalized stigma is an indirect endorsement of the public stigma, stigmatization of the PWMI might be relatively uniform across the different African sub-cultures. To buttress this point, Evans-Lacko et al. [46], has established an association between public views of mental illness and self-stigma among individuals with mental illness in Europe.

The prevalence rate of 22.5% obtained in this study is comparable with earlier findings in western culture, South Africa, and Taiwan [47-49]. This suggests that though there may be local variations in its experience, stigma is a universal phenomenon as posited by Murthy [50]. This rate, is however, lower than 70% reported in Egypt, 46.7% in Ethiopia, 34.1% in India, 40% in Iran, and 36% in USA [13,30,32-35,51]. The differences could be partly attributed to cultural influences such as the closely knit family ties in northern Nigeria that might mitigate the internalization of stigma by PWMIs.

The independent predictors of high internalized stigma recorded in this study were; social support base, aetiological beliefs about the illness, forms of treatment sought, levels of insight, and extrapyramidal side effects. In terms of the level of social support, the poorer the social support, the higher the level of internalized stigma. Regression analysis revealed that subjects with poor social support were 4.5 times more likely to have high internalized stigma than those with good social support. Over four-fifth of the total subjects with poor level of social support had high internalized stigma scores as against less than one-fifth of those with good social support base. This could be explained by the fact since good social support increases an individual's sense of belonging and integration into a group, it conversely decreases the feelings of alienation, discrimination and social withdrawal which are critical parameters of internalized stigma. Hence, those with poor social support might score higher on those subscales that might confer the experience of high internalized stigma on them. Social support in the context of mental illness is a key determinant of self esteem and efficacy. This finding is in tandem with that of Verhaeghe et al. [52].

The subjects' perception and beliefs about the aetiology of mental illness was also an independent predictor of high internalized stigma. In this study, subjects who believed in demonic possession or retribution as the cause of their illnesses were about 4 times more likely to have high internalized stigma than those who believed in psychological basis of causation. This is because the traditional belief in the setting in which the study was conducted portrays 'demonic possession' as a sign of 'weakness in faith' or 'spiritual failure' while retribution is viewed as punishment for sins committed by one's fore bears which might be transmitted through one's genealogy. These beliefs further entrench the stereotype endorsements and heightens the feelings of discrimination in the mentally ill. Thus, PWMIs who subscribed to such beliefs might have increased internalized stigma. Girma et al. [31] found a similar outcome among mentally ill subjects in Ethiopia.

In terms of the type of treatment sought as an independent predictor of high internalized stigma, subjects who sought for unorthodox care whether in traditional African or spiritual settings before presenting to the hospital were 3.6 times more likely to have high internalized stigma than their counterparts who sought for only conventional care. This is because the pathway to care for mental illnesses in Africa is closely linked to the subjects' perception of the aetiology. Hence, subjects who believed in supernatural factors as being responsible for the causation of the illness had higher tendency to seek for unorthodox care. Thus, based on the relationship between

aetiological perception and internalized stigma, subjects who sought for unorthodox care were at greater risk of developing high internalized stigma. This is consistent with the findings of Girma et al. in Ethiopia [31].

Full insight was also paradoxically found to be an independent predictor of high internalized stigma in this study. Subjects who were insightful were about four times more likely to have higher internalized stigma than those with no or partial insight. This could be attributed to the fact that subjects who were insightful were more likely to be aware of the prognosis and psychosocial adaptation. In the context of the social adaptation, it heightens their awareness of their stigmatized status and perceived discrimination which leads to the internalization of stigma as posited by Adewuya et al. and Mak and Wu [29,53].

The final and strongest independent predictor of internalized stigma among the subjects was the presence of extrapyramidal side effects. Subjects with EPSEs were over twelve times more likely to have high internalized stigma than those without. This is because the presence of visible EPSE symptoms such as rigidity, tremors and bradykinesia increase the subjects' feelings of being different from 'normal people' which in turn exaggerates their sense of alienation and ultimately the internalization of stigma. Secondly, EPSEs may be associated with significant functional impairment which negatively affects the subjects' self esteem and efficacy. In support of this finding, Girma et al. [31] reported a positive correlation between the number of drug-related side-effects and internalized stigma among Ethiopian subjects.

Finally, it is noteworthy to comment on important negative results, particularly, the diagnoses of the respondents and the duration of illness which did not influence the internalized stigma. In terms of the diagnoses, there was no difference in the experience of internalized stigma by the subjects across the different diagnostic groups. This is because the conception of mental illness from the indigenous Nigerian perspective has a narrower focus than the western view, in that, mere manifestation of a mental disorder is categorized as 'madness' unlike the western nosology that accommodates minor stages of mental problems [54,55]. This assertion is further supported by the explanatory models of mental illness in sub-Saharan Africa, where all psychotic illnesses were categorized as 'madness' [56]. Hence, irrespective of the subtype of illness, the subjects were all regarded as 'mentally deranged'. Therefore, with this perception in mind, the subjects were unlikely to have differential experiences with respect to internalized stigma.

Similarly, the duration of illness was not found to be an independent predictor of internalized stigma in the subjects. This is inconsistent with earlier findings by Adewuya et al. [29] in south-western Nigeria, and Biffu et al. in Ethiopia. [32] that all reported long duration of illness to be correlates of internalized stigma. In a systematic review of the prevalence rates and correlates of personal stigma in schizophrenia spectrum disorders, Gerlinger et al. [33] reported an ambiguous association between duration of the illness and personal stigma. In the context of this study, and based on the predominant socio-cultural beliefs of most of the subjects, mental illnesses irrespective of their durations are regarded as lifelong disorders. Hence, irrespective of the duration of the illness, living with a mental illness might confer the same degree and response to stigmatization.

5. STRENGTHS AND LIMITATIONS OF THE STUDY

The strengths of this study include; the use of a fairly large sample size and adapting the internalized stigma of mental illness scale for use in a sub-culture where it has not been used before. The limitations include; standardized rating instruments should have been used to measure the degree of insight and extrapyramidal side effects, the cross sectional nature of the study cannot allow for making causal inference, and the modifications made to the ISMI might have compromised its validity, hence the results obtained might not be comparable to that of the original version of the instrument.

6. CONCLUSION

This study demonstrated that self stigma is prevalent in this environment and that both sociodemographic and clinical variables such as poor social support, beliefs in supernatural factors for causation, defective pathway to care, and presence of EPSEs were significantly correlated with it. In order to mitigate its effects, it is imperative to:

1. Engage family members and significant others in the subjects' lives in

psychoeducational programmes regarding the aetiology and management of severe psychiatric disorders.
2. Consider the use of such antipsychotics with lesser propensity to cause EPSEs such as the second generation antipsychotics.
3. Since public and internalized stigmata are inter-related, there is the need to explore the associations between the two in future studies.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

REFERENCES

1. Fink PJ. Stigma. Stigma Research and Action. 2011;1(1):73-75.
2. Livingston JD, Rossiter KR. Stigma as perceived and experienced by people with mental illnesses who received compulsory community treatment. Stigma Research and Action. 2011;2(1):1-8.
3. Scheyett AM. The mark of madness: Stigma, serious mental illnesses and social work in mental health. The Journal of Behavioural and Psychiatric Social Work. 2005;3(4):79-97.
4. Gureje O, Lasebikan VO, Ephraim-Oluwanuga O, Olley BO, Kola L. Community study of knowledge of and attitude to mental illness in Nigeria. British Journal of Psychiatry. 2005;186:436-441.
5. Adewuya AO, Makanjuola RO. Social distance towards people with mental illness in South-western Nigeria. Aust NZJ Psychiatry. 2008;42(5):389-395.
6. Crabb J, Stewart RC, Kokota D, Masson N, Chabunya S, Krishnadas R. Attitudes towards mental illness in Malawi: A cross-sectional survey. BMC Public Health. 2012;12:541.
7. Gureje O, Olley BO, Ephraim-Oluwanuga O, Kola L. Do beliefs about causation influence attitudes to mental illness? World Psychiatry. 2006;5(2):104-107.
8. Omoaregba JO, James BO, Igbinowanhia NG, Akhiwu WO. The attitudes of the police towards persons with mental illness: A cross-sectional study from Benin city, Nigeria. American Journal of Applied Psychology. 2015;3(3):57-61.
9. Egbe CO, Brooke-Summer C, Kathree T, Selohilwe O, Thornicroft G, Petersen I. Psychiatric stigma and discrimination in South Africa: Perspectives from key stakeholders. BMC Psychiatry. 2014;14: 191.
10. Clement S, Schauman O, Graham T, Maggioni F, Evans-Lacko S, Bezborodovs N, Morgan C, Rusch N, Brown JSL, Thornicroft G. What is the impact of mental health-related stigma on health seeking? A systematic review of quantitative and qualitative studies. Psychological Medicine. 2015;45(1):11-27.
11. Shrivastava A, Johnston ME, Thakar M, Shrivastava S, Sarkhel G, Sunita I, Shah N, Parkar S. Origin and impact of stigma and discrimination in schizophrenia - Patients' perception: Mumbai study. Stigma Research and Action. 2011;1(1): 67-72.
12. Yilmaz E, Okanli A. The effect of internalized stigma on the adherence to treatment in patients with schizophrenia. Archives of Psychiatric Nursing. Article in Press. Published online; 2015.
13. Shalaby MH, Sabra AI, Mohamed SAE. The role of internalized stigma on self esteem and attitude toward seeking professional psychological help among psychiatric patients. International Journal of Current Research. 2014;6(11):10162-10169.
14. Drapalski A, Lucksted A, Perrin PB, Aakre JM, Brown CH, Deforge BR, Boyd JE. A model of internalized stigma and its effects on people with mental illness. Psychiatric Services. 2013;64(3):264-269.
15. Mosanya TJ, Adelufosi AO, Adebowale OT, Ogunwale A, Adebayo OK. Self-stigma, quality of life and schizophrenia: An outpatient clinic survey in Nigeria. Int J Soc Psychiatry. 2014;60(4):377-86.
16. Huang WY, Lin CY. The relationship between self stigma and quality of life among people with mental illness who participated in a community program. Journal of Nature and Science. 2015;1(7): e135.
17. Park SG, Bennett ME, Couture SM, Blanchard JJ. Internalized stigma in schizophrenia: Relations with dysfunctional attitudes, symptoms and quality of life. Psychiatry Research. 2013;205:43-47.
18. Batinic B, Lemonis E, Opacic G. Effects of internalized stigma of mental disorders on quality of life and self esteem in panic disorder patients. J Clin Res Bioeth. 2014; 5(5):196.

19. Yanos PT, Roe D, Markus K, Lysaker PH. Pathways between internalized stigma and outcomes related to recovery in schizophrenia spectrum disorders. Psychiatric Services. 2008;59(12):1437-1442.
20. Goffman E. Stigma: Notes on the management of spoiled identity. Prentice Hall; 1963.
21. Khakha DC. Discrimination in health care to patients living with HIV/AIDS. Nursing Journal of India. 2003;94(12):273-275.
22. Corrigan PW, Watson AC. The paradox of self-stigma and mental illness. Clinical Psychology. Science and Practice. 2002; 9(1):35-53.
23. Corrigan PW, River LP, Lundin RK, Wasowski KU, Campion J, Mathiseu J, Goldstein H, Bergman M, Gagnon C, Kubiak MA. Stigmatizing attributes to mental illness. Journal of Community Psychology. 2000;28:91-103.
24. Corrigan P. How stigma interferes with mental health care. American Psychologist. 2004;59:614-625.
25. Corrigan PW, Watson AC. Understanding the impact of stigma on people with mental illness. World Psychiatry. Feb. 2002;1(1): 16-20.
26. Link BG, Phelan JC. Stigma and its public health implications. Lancet. 2006;367:528-529.
27. Corrigan PW, Rao D. On the self-stigma of mental illness: Stages, disclosure and strategies for change. Canadian Journal of Psychiatry. 2012;57(8):464-469.
28. Link B, Cullen F, Struening E, Shrout P, Dohrenwend B. A modified labelling theory approach to mental disorders: An empirical assessment. American Sociological Review. 1989;54:400-423.
29. Adewuya AO, Owoeye AO, Erinfolami AO, Ola BO. Correlates of self-stigma among out-patients with mental illness in Lagos, Nigeria. International Journal of Social Psychiatry. 2010;57(4):418-427.
30. Assefa D, Shibre T, Asher L, Fekadu A. Internalized stigma among patients with schizophrenia in Ethiopia: A cross-sectional facility-based study. BMC Psychiatry. 2012;12:239.
31. Girma E, Tesfaye M, Froeschl G, Moller-Leimkuhler AM, Dehning S, Muller N. Facility-based cross-sectional study of self-stigma among people with mental illness: Towards patient empowerment approach. International Journal of Mental Health System. 2013;7:21.
32. Bifftu BB, Dachew BA. Perceived stigma and associated factors among people with schizophrenia at Amanuel Mental Specialists Hospital Addis Ababa, Ethiopia: A cross-sectional institution-based study. BMC Psychiatry. 2014;Article ID 694565.
33. Gerlinger G, Hauser M, De Hert M, Lacluyse K, Wampers M, Correll CU. Personal stigma in schizophrenia: A systematic review of prevalence rates, correlates, impact and interventions. World Psychiatry. 2013;12:155-164.
34. James TT, Kutty VR. Assessment of internalized stigma among patients with mental disorders in Thiruvananthapuram district, Kerala, India. Asia-Pacific Journal of Public Health. 2015;27(4):439-449.
35. Ghanean H, Nojomi M, Jacobson L. Internalized stigma of mental illness in Tehran, Iran. Stigma Research and Action. 2011;1(1):11-17.
36. Boroffka A, Olatawura MO. Community psychiatry in Nigeria: The current status. International Journal of Social Psychiatry. 1977;23(4):275-281.
37. Abiola T, Udofia O, Zakari M. Psychometric properties of the 3-item Oslo Social Support Scale among clinical students of Bayero University, Kano, Nigeria. MJP Online. 2013;22(2):23-27.
38. Dalgard OS, Dowrick C, Lehtinen V, Vazquez-Barquero JL, Casey P, Wilkinson G, Ayuso-Mateo JL, Page H, Dunn G. Negative life event, social support and gender difference in depression: A multi-dimensional community survey with data from the ODIN study. Soc Psychiatry and Psychiatr Epidemiol. 2006;41:444-451.
39. Ritsher JB, Otilingam PG, Grajales M. Internalized stigma of mental illness: Psychometric properties of a new measure. Psychological Research. 2003; 121:31-49.
40. Gibson RC, Abel WW, White S, Hickling FW. Internalizing stigma associated with mental illness: Findings from a general population survey in Jamaica. Rev Panam Salud Publica. 2008;23(1):26-33.
41. Latalova K, Kamaradova D, Prasko J. Perceived on perceived stigma and self-stigma in adult male patients with depression. Neuropsychiatric Disease and Treatment. 2014;10:1399-1405.
42. Lysaker PH, Roe D, Yanos PT. Towards understanding the insight paradox:

Internalized stigma moderates the association between insight and social functioning, hope and self esteem among people with schizophrenia spectrum disorders. Schizophr. Bulletin. 2007;33: 192-199.
43. Lysaker PH, Buck KD, Taylor AC, Roe D. Associations of meta-cognition and internalized stigma with quantitative assessments of self-experience in narratives of schizophrenia. Psychiatr. Research. 2008;157(1-3):31-38.
44. Ritsher JB, Phelan JC. Internalized stigma predicts erosion of morale among psychiatric outpatients. Psychiatr. Research. 2004;129(3):257-265.
45. Oduguwa TO, Akinwotu OO, Adeoye AA. A comparative study of self stigma between HIV/AIDS and schizophrenia patients. J. Psychiatry. 2014;17:525-531.
46. Evans-Lacko S, Brohan E, Mojtabai R, Thornicroft G. Association between public views of mental illness and self-stigma among individuals with mental illness in 14 European countries. Psychological Medicine. 2012;42:1741-1752.
47. Werner P, Aviv A, Barak Y. Self-stigma, self-esteem and age in persons with schizophrenia. International Psycho-geriatrics. 2008;20:174–187.
48. Botha UA, Koen L, Niehaus DJH. Perceptions of a South African schizophrenia population with regards to community attitudes towards their illness. Social Psychiatry and Psychiatric Epidemiology. 2006;41:619–623.
49. Yen CF, Chen CC, Lee Y, Tang TC, Yen JY, Ko CH. Self-stigma and its correlates among outpatients with depressive disorders. Psychiatric Services. 2005;56: 599–601.
50. Murthy RS. Stigma is universal but experiences are local. World Psychiatry. 2002;1(1):28.
51. West ML, Yanos PT, Smith SM, Roe D, Lysaker PH. Prevalence of internalized stigma among persons with severe mental illness. Stigma Res Action. 2011;1(1): 3-10.
52. Verhaeghe M, Bracke P, Bruynooghe K. Stigmatization and self-esteem of persons in recovery from mental illness: The role of peer support. International Journal of Social Psychiatry. 2008;54:206–218.
53. Mak WWS and Wu CFM. Cognitive insight and causal attribution in the development of self-stigma among individuals with schizophrenia. Psychiatric Services. 2006; 57:1800–1802.
54. Jegede AS. The notion of 'Were' in Yoruba conception of mental illness. Nordic Journal of African Studies. 2005;14(1): 117-126.
55. Ventevogel P, Jordans M, Reis R, De Jong J. Madness or Sadness? Local concepts of mental illness in four conflict-affected African communities. Conflict and Health. 2013;7:3.
56. Patel V. Explanatory models of mental illness in sub-Saharan Africa. Soc Sci Med. 1995;40(9):1291-1298.

Peer-review history:
The peer review history for this paper can be accessed here:
http://sciencedomain.org/review-history/12143