

An Assessment of Attitudes Towards People with Mental Illness Among Medical Students and Physicians in Ibadan, Nigeria

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Abstract

Objective The authors surveyed attitudes towards mental illness among Nigerian medical personnel at three different levels of training and experience: medical students who had not completed their psychiatry rotation, medical students who had completed their psychiatry rotation, and graduate physicians.

Methods Six questions addressed beliefs about the effectiveness of treatments for four specific mental illnesses (schizophrenia, bipolar disorder, depression, and anxiety) and two medical illnesses (diabetes and hypertension) among the three groups. A self-report questionnaire including 56 dichotomous items was used to compare beliefs about and attitudes towards people with mental illness. Factor analysis was used to identify key attitudes and analysis of covariance (ANCOVA) was used to compare the groups adjusting for age and personal experience with people with mental illness.

Results There were no significant trends in attitudes towards the effectiveness of medication. Exploratory factor analysis of the beliefs and attitudes items identified four factors: (1) comfort socializing with people with mental, illness; (2) non-superstitious beliefs about the causes of mental illness; (3) neighborly feelings towards people with mental illness; and (4) belief that stress and abuse are part of the etiology of mental illness. ANCOVA comparing attitudes among the three groups showed that on three (1, 2, and 4) of the four factors medical students who had completed a rotation in psychiatry had significantly higher scores than the medical

students who had not completed a rotation in psychiatry. Graduate physicians showed a similar pattern scoring higher than the medical students who had not completed a rotation in psychiatry in two factors (1 and 4) but showed no differences from students who had completed their psychiatry rotation.

Conclusion While beliefs about medication effectiveness do not differ between medical trainees and graduate professionals, stigmatizing attitudes towards people with mental illness seem to be most strongly affected by clinical training. Psychiatric education and especially clinical experience result in more progressive attitudes towards people with mental illness.

Keywords Education · Mental illness · Schools

Stigma is a damaging feature of social interaction that can be understood as a combination of negative attitudes towards a group (prejudice), lack of knowledge (ignorance), and functional exclusion (discrimination) [1–3]. Studies have shown that people with mental health problems living in many low- and middle-income countries such as Nigeria experience frequent stigma, abuse, and harassment [4, 5]. Improving care for such people may require a better understanding of both stigma and interventions that can change negative attitudes and behavior.

In 2001, the Nigerian Minister of State for Health lamented that “the country [was] still operating one of the world’s most outmoded and irrelevant mental health laws” [6]. At this time, a new mental health law had been proposed for Nigeria. If passed, this law would have redefined the term “mental disorder,” provided better treatment, and improved asylum conditions [7]. Unfortunately, the law failed to pass and to this day, no revisions have been made to Nigeria’s Mental Health Policy since its inception in 1991 [8].

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One study surveying over 2,000 Nigerians of the Yoruba ethnicity found that 96.5 % labeled people with mental illness as dangerous and violent. Additionally, 39.5 % of the sample endorsed the idea that possession by evil spirits or God's punishment is a cause of mental illness [9]. In general, stigmatizing views about mental illness are not limited to the general public as many health professionals endorse to negative stereotypes about mental illness as well [10–12]. It is possible, however, that attitudes can change, perhaps most importantly among medical specialists and students and can be influenced by formal training in psychiatry and clinical experience.

One study surveying community health professionals from various developing countries found significant improvement in attitudes concerning people with mental health problems after training in the WHO Collaborative Study on Strategies for Extending Mental Health Care [13]. A 1-week training workshop was found to improve attitudes among mental health educators [14]. These outcomes are in keeping with other reports, which examine changes in the knowledge and attitudes of primary health-care workers and primary care physicians after short-term training [15–19].

Professionals early in their training may be especially amendable to educational experiences [20], [21], and one study of medical students in a school that temporarily had no functioning psychiatry department was able to produce, after only 1 week of training, some improvement in attitudes towards people with mental illness [22].

While previous studies have thus demonstrated that didactic mental health education can improve attitudes towards people with mental illness among health professionals, another approach to understanding the potential of a diverse range of educational interventions is to naturalistically compare the attitudes of professionals with different levels of formal training and clinical experience.

This study used a structured survey of diverse aspects of attitudes towards people with mental illness to compare the beliefs of (1) medical students from the University of Ibadan, Oyo State, which has the largest and most respected Psychiatry Department in Nigeria, who had not yet completed their first psychiatric rotation and thus had only had didactic training in psychiatry, (2) medical students at the same school who had completed their psychiatric clinical rotation and thus had some direct experience treating mental illness in addition to their didactic training, and (3) medical graduates, mostly from the same medical school, who had completed formal training and had been working in primary care and specialty care clinics but not specializing in psychiatry. The study was designed to address both stigmatizing and progressive attitudes towards people with mental health problems, among Nigerian medical professionals at different stages of their career, in a country in which stigma has been empirically demonstrated to be strong and in which legal reform has been limited.

Methods

Data Collection

After approval of the study by the Ethics and Research Committee of the University College Hospital, Ibadan, Nigeria, a structured, self-administered, self-report questionnaire was distributed by hand to the health professional. After explaining the nature and purpose of the project, participants were assured of complete anonymity and confidentiality to promote candid responses. Surveys were collected in person within 48 h of distributing the survey.

Sample

The survey was administered to convenience samples of three groups of professionals including two groups of medical students: medical students who had not yet completed their basic clinical rotation in psychiatry ($N=150$) and a second sample of medical students who had recently completed their basic psychiatry rotation at Aro Psychiatric Hospital, Abeokuta, Nigeria ($N=103$). These students were recruited from UCH with the assistance of a faculty member in the Department of Psychiatry (VM). The third group was a convenience sample of graduate primary care physicians working in the Ibadan community who has graduated from various medical schools. They were recruited from the membership list of the Continuing Medical Education Program of the Nigerian Medical Association (NMA) of Oyo State ($N=91$).

Measures

The WPA questionnaire was constructed by the modification and addition of questions found in previously developed questionnaires designed to measure attitudes towards people with mental illness and beliefs about the causes of mental illness. The measures addressed (1) conceptions of the cause of mental illness based on questions developed for the World Psychiatric Association Programme to Reduce Stigma and Discrimination because of Schizophrenia [23], (2) possible treatment options based on Community Attitudes to Mental Illness (CAMI) developed by Taylor and Dear [24], (3) social distance, with questions derived from the Fear and Behavioral Intentions (FABI) towards the mentally ill questionnaire [25], and finally, (4) social acceptance and social stigma as assessed by a series of questions based on the Community Attitudes to Mental Illness (CAMI) questionnaire developed by Taylor and Dear [24].

Additional questions were developed to address witchcraft and curses as these are issues of importance in the Nigerian cultural context [26]. Since the questionnaire addresses "mental illness" in a general way, without specifying any specific disorders, an additional set of questions was developed to assess

attitudes about the effectiveness of treatments for four specific mental illnesses (schizophrenia, bipolar disorder, depression, and anxiety) and two medical illnesses (diabetes and hypertension) rated on a common scale from 0–4 (0 representing no effect, 2 representing partial benefit, and 4 representing complete cure). The attitudes questionnaire consists of 56 dichotomous questions about beliefs and attitudes towards mental illness (available from the first author on request). The questionnaire also documents self-reported sociodemographic characteristics (age, gender), level of professional experience, and personal experience with mental illness.

Analysis

First, chi-square tests and analysis of variance (ANOVA) were used to compare the three groups on sociodemographic characteristics. Adjustment was made in subsequent analyses for variables (other than age, which was quite different by definition) on which significant differences were found between the groups. Next, analysis of co-variance (ANCOVA) was used to compare responses to the six questions concerning effectiveness of medications.

Exploratory factor analysis (EFA) was then used to identify orthogonal (i.e., uncorrelated) subscales representing distinctive domains of attitudes towards mental illness. Items that were weighted more than 0.4 on an individual factor were included in the subscales. To calculate subscales, average dichotomous item scores were calculated which thus represent the percentage of positive responses since the items had values of 0–1 and negatively phrased items (e.g., I would not want to marry someone who had been treated for mental illness) were reverse coded so that all scores represent more progressive beliefs about mental illness. ANCOVA was then used to compare the significance of differences between the three groups on the subscales identified through the EFA. Analyses were performed using SAS 9.1 statistical software (SAS institute Inc, Cary, NC, USA). Effect sizes were evaluated by dividing difference in means between groups by the pooled standard deviation. Statistical significance was evaluated at the 0.05 level.

Results

The analytic sample consists of 345 participants (150 pre-psychiatric rotation medical students, 103 post-rotation students, and 92 graduate physicians). Age, gender, and personal experience with mental illness (i.e., through themselves, family members, or close friends) were compared between the three groups. Significant differences between the groups were observed in age and personal experience with mental illness, but not gender (Table 1).

ANCOVA controlling for age and experience with mental illness was used to compare attitudes about the effectiveness of disease specific treatments. Applying Bonferroni adjusted alpha for six comparisons of $p < 0.009$, ratings of effectiveness of medications differed little between the groups. For only one of the mental disorders, bipolar disorder, there was one significant difference between the student groups. Pre-psychiatry rotation students showed less confidence in treatment for bipolar disorder ($p = < 0.004$), when compared to post-psychiatry rotation students, but their ratings were not significantly different from graduate physicians. There were no differences in scores between the post-psychiatry rotation students and graduate clinicians on ratings of treatment effectiveness for any of the illnesses (Table 2).

EFA suggested a four-factor solution. The four factors are presented with their constituent items and factor loadings in Table 3. The four factors represent the following: (1) comfort socializing with people with mental illness; (2) non-superstitious beliefs about the relationship between witchcraft, curses, etc. and mental illness; (3) neighborly feelings towards people with mental illness; and (4) beliefs that stress and abuse are part of the etiology of mental illness (Table 3).

The factor with the most frequently endorsed items across groups was the factor reflecting neighborliness (94 % across all groups) followed by stress and abuse as a cause of mental illness (79 %) with similarly lower rates of endorsement of items reflecting socializing with people with mental illness (67 %) positive response to non-belief in superstitious causes of mental illness (62 %). The latter figure means that in this sample of trainees and professionals, considered together, 38 % of responses supported the belief that witchcraft or curses can cause mental illness.

ANCOVA controlling for age and personal experience with mental illness was used to compare attitudes about mental illness between the groups with Bonferroni adjusted alpha for four comparisons ($p < 0.01$).

There were significant differences between the groups on three factors, socializing, non-superstitious beliefs about witchcraft and mental illness, and the etiological role of trauma and abuse (Table 4). In each case, the group of medical students who had not completed their clinical rotation in psychiatry had significantly lower scores than students who had completed their clinical rotation. There were no significant differences between students who had completed their clinical rotation and graduate physicians on any measure of beliefs or attitudes. In two of the three cases, socializing and etiological role of trauma and abuse, the pre-psychiatry rotation students also had significantly lower scores than the practicing medical school graduates. In the third case, non-superstitious beliefs about witchcraft and mental illness, the scores of the first group (52 %) were considerably lower than those of the practicing graduates (68 %) although this difference did not reach statistical significance ($p = 0.054$) (Table 4).

Table 1 Demographics

	Pre-psychiatry rotation students, <i>N</i> =150	Post-psychiatry rotation students, <i>N</i> =103	Graduate clinicians, <i>N</i> =92
Age, years ($F=295$, $df=2,335$, $p<0.001$)			
Mean±SD	22.4±2.15	24.3±1.81	39.3±9.89
Min–max	19–31	20–30	22–65
Gender, <i>N</i> (%) ($\chi=4.54$, $df=2$, $p=0.103$)			
Male	97 (65.1)	60 (58.3)	67 (72.8)
Female	52 (34.9)	43 (41.7)	25 (27.2)
Unanswered	1 (0.01)	0	0
Personal experience, <i>N</i> (%) ($\chi=57.4$, $df=2$, $p<0.0001$)			
No	115 (76.7)	36 (34.9)	37 (40.2)
Yes	28 (18.7)	66 (64.1)	47 (51.1)
Unanswered	7 (4.6)	1 (1.0)	8 (8.7)

Discussion

This study compared beliefs about medication effectiveness and attitudes towards people with mental illness between medical students at different levels of training and graduate physicians. The pre-clinical curriculum at UCH involves classroom lectures on diagnosis and treatment of psychiatry illnesses and involves no direct contact with patients. In contrast, the clerkships include some lectures but primarily involve exposure to patients with mental illness in clinical settings. Most of the medical schools in Nigeria follow this curriculum [27].

There were virtually no differences between the groups on beliefs about medication effectiveness between four psychiatric and two non-psychiatric conditions. The one difference noted is for bipolar disorder. That is, medical students after the clerkship had more confidence in the effectiveness of treatment for bipolar disorder than the pre-clinical students. This may be due to greater exposure to newer medications or changes in the curriculum; however, these are only hypotheses and would have to be explored more in detail. A limitation of

the survey is that it addresses attitudes towards mental illness very generally instead of addressing attitudes towards specific mental illnesses. To partially address this limitation, these questions about the effectiveness of treatment for specific psychiatric and medical illnesses were added so that there would be some opportunity to identify differences in attitudes towards specific medical and mental illnesses across the groups. The fact that there was only one significant difference between the groups on these measures provides some evidence that there are not dramatic differences between the groups in their attitudes towards specific mental illness.

On beliefs and attitudes about people with mental illness generally, there are no differences in attitudes between medical students who had completed their clinical psychiatry rotation and graduate physicians. However, there were significant differences between the medical students without any psychiatric training and the two groups with clinical training in psychiatry in three of four domains. After adjusting for differences in age and previous experience with mental illness between the three groups, medical students with some training

Table 2 Attitudes towards effectiveness of treatment (0=no effect, 2=substantial improvement, 4=cure)

	Pre-psychiatry rotation, <i>N</i> =150	Post-psychiatry rotation, <i>N</i> =103	Graduate clinicians, <i>N</i> =92	<i>F</i>	<i>P</i> alpha= $p<0.009$	Paired comparisons, $p<0.009$
Mental illness (mean±SD)						
Schizophrenia	2.11±0.10	2.34±0.10	1.99±0.16	1.49	0.21	
Major depression	2.34±0.11	2.62±0.10	2.46±0.16	1.22	0.30	
Bipolar disorder*	2.15±0.10	2.52±0.094	2.04±0.16	3.92	0.004	1<2
Anxiety disorder	2.47±0.10	2.74±0.097	2.72±0.15	2.30	0.059	
Non-mental illness (mean±SD)						
Diabetes	2.21±0.089	2.42±0.086	2.26±0.14	1.37	0.25	
Hypertension	2.34±0.094	2.48±0.092	2.21±0.15	1.18	0.32	

* Indicates statistical significance

Table 3 Factor analysis item loads

Items (paraphrased)	F1	F2	F3	F4
Factor 1: socializing				
Not upset or disturbed about working on the same job	0.7			
Willing to work with somebody with a mental illness	0.59			
People with mental illness can work in regular jobs	0.59			
People with mental illness are not a public nuisance	0.59			
Do not object to having mentally ill people in my neighborhood	0.59			
Not unwilling to share a room	0.59			
Not afraid to have a conversation	0.58			
Would invite somebody with mental illness into my home	0.57			
Not afraid of people with mental problems living in residential neighborhoods	0.56			
I am not afraid of people with mental illness	0.54			
Are not dangerous because of violent behavior	0.51			
Should have the same rights to a job as anyone else	0.51			
Do not end to mentally retarded	0.49			
Do not mind living next door to someone who has been mentally ill	0.46			
Not ashamed if someone in your family had been diagnosed with a mental illness	0.43			
Factor 2: non-superstitious about witchcraft				
Disagree that witchcraft can cause mental illness		0.84		
Disagree that possession by evil spirits can cause mental illness		0.81		
Disagree that a curse can cause mental illness		0.77		
Disagree that God's punishment can cause mental illness		0.63		
Factor 3: neighborly feelings				
Would have casual conversations with neighbors with mental illness			0.58	
Would have a former psychiatric patient as a friend			0.44	
Would occasionally greet a former patient came to live next door to you			0.43	
Factor 4: stress and abuse etiology				
Stress can cause mental illness				0.58
Physical abuse can cause mental illness				0.58
Poverty can cause mental illness				0.46

Table 4 Attitudes towards mental illness

Factors responses in agreement with items, %±SD	Pre-psychiatry rotation, N=150	Post-psychiatry rotation, N=103	Graduate clinicians, N=92	P alpha= p<0.01	Paired comparisons (p<0.01)
Socializing*	0.50±0.024	0.74±0.025	0.67±0.039	<0.0001	1<2,3
Non-superstitious*	0.52±0.036	0.72±0.037	0.68±0.058	<0.0001	1<2
Neighborly feelings	0.94±0.017	0.97±0.018	0.89±0.028	0.27	
Stress and abuse etiology*	0.72±0.024	0.82±0.024	0.87±0.038	0.007	1<2,3

* Indicates statistical significance

in psychiatry have higher scores than medical students with no clinical psychiatric training on factors representing socializing, non-superstitious beliefs about witchcraft and mental illness, and the etiological role of trauma and abuse. Physicians who had completed their training also had significantly higher scores than medical students with no psychiatric training on two factors representing socializing and on the etiologic role of trauma and abuse and showed a similar, albeit not quite statistically significant trend on the measure of non-superstitious beliefs about witchcraft and mental illness. In this sample of trainees and professionals, considered together, 38 % of responses supported the belief that witchcraft or curses can cause mental illness. Altogether 48 % of responses of the medical students prior to their clinical clerkship similarly endorsed this belief. This is somewhat higher than the 39.5 % found in the general community [9]. It is notable that among student who had completed the clerkship this number was somewhat lower, at 28 %, suggesting that direct experience of people with mental illness tends to reduce stigma.

From these, it is reasonable to conclude that clinical experience more than mere didactic training may result in more progressive attitudes towards people with mental illness. Such conclusion is in line with a similar study evaluating attitudes among medical students and physicians of all levels of training [28].

According to one scholar, a major reason cited for the rejection of the proposed health-care law was the failure to consult major stakeholders and garner support from the general population [7]. While we cannot conclude that changed attitudes would necessarily lead to changes in policy and law, it is possible that more tolerant and accepting attitudes could eventually lead to more progressive laws concerning mental illness. Data presented in this study suggests that clinical training may play an important role in changing such attitudes, at least among physicians and perhaps, by inference, among other health professionals but that didactic training of the type received by students before their clinical rotations has less impact.

One limitation of this study is that the population is limited to UCH students and physicians in the surrounding metropolitan area. This limitation reflects the fact that traveling by road throughout Oyo State is extremely difficult. The results of this

study are thus limited to Yoruba-speaking areas, in which 21 % of the Nigerian population lives [29]. Another limitation is that it is unclear whether the answers obtained by self-report surveys are biased by social desirability (i.e., a wish to appear non-judgmental rather than expressing the participants' true convictions). To address this problem, it was reiterated to informants that all feedback was kept confidential, and no identifying information was requested.

Regardless, these data suggest that clinical experience more than mere didactic training may have a positive impact on their beliefs and attitudes towards people with mental illness and their treatment options and that clinical psychiatric training with direct experience of people with mental illness is a critical aspect of medical education in Nigeria, and perhaps other developing countries in which stigma against people with mental illness is prominent. It may also suggest that public education involving exposure to people living with mental illness, whether in person or through the media, with guidance from experienced professionals, is an approach worth exploring for applicability to the general population.

Implications for Educators

- Experience treating patients under supervision affects attitudes.
- Strongly held beliefs may not be changed by education.
- Attitudes can be affected despite strong cultural beliefs.

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