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Beliefs and Attitudes about Mental Illness among Lay Church-Based Health Workers and Medical Trainees in Nigeria

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Abstract

Increasingly, mental health services in resource-limited settings are being delivered by lay health workers with limited professional training. This study compared beliefs and attitudes about mental illness among church-based lay health workers in Enugu, Nigeria with no psychiatric training (n=59) and medical trainees with different levels of exposure to psychiatric care from two teaching hospitals in Nigeria; University of Ibadan (n=150) and Imo State University (n=83). A 43-item self-report questionnaire was used to assess their beliefs and attitudes. Exploratory factor analysis using varimax rotation identified four distinct constructs. Analysis of Co-Variance (ANCOVA) was used to compare these constructs across the three groups. Factor analysis identified four domains representing F1) social acceptance F2) normalization of social roles F3) non-superstitious causation of mental illness and F4) stress and trauma as causes of mental disorders. Students at the hospital with a more active, psychiatry training program had significantly higher scores than other groups on three of the four factors (F4=0.91 vs 0.72, 0.32; F1=0.60 vs 0.50, 0.53; F3=0.55 vs 0.40, 0.30), while the church-based lay health workers did not differ from students at the medical school providing minimal psychiatric training on two of the four factors (F1=0.53 vs 0.50; F3=0.30 vs 0.40). Availability of psychiatric education and emphasis on mental health services may have a positive impact on the progressiveness of beliefs and attitudes about mental illness.

Keywords: Lay health workers; Mental illness; Stigma; Nigeria; Attitudes; Beliefs

Introduction

Stigma and negative attitudes towards people with mental illness are common in low and middle income countries (LMIC) such as Nigeria, both in the general population and among medical professionals and trainees [1-3]. These attitudes are often informed and reinforced by traditional, cultural and religious beliefs about causes of mental illness which are stigmatizing for people with such illnesses in society [4]. Myths and beliefs about mental disorders have been shown to inhibit help seeking behavior among people in need of psychiatric intervention [5]. In addition, beliefs and attitudes about mental illness among healthcare professionals can influence clinical outcomes for patients [6]. Medical trainees at an early stage of their professional lives may be at an especially impressionable phase of attitude formation and their beliefs and attitudes about mental illness while likely to reflect those of the larger society [2] may also be influenced by educational experiences in psychiatry [7] and attitudes towards psychiatry at the training institutions. However, there is a shortage of psychiatrists in low and middle income countries (LMICs). In response to this shortage, many countries have, over the past decade, focused on training non-psychiatric health workers and lay people to deliver mental health interventions [8]. These innovative approaches utilize lay health workers in task-sharing and stepped-care approaches and depend on individuals whose knowledge and beliefs about mental illness may be more consistent with popular understanding of the causes and treatment options available for mental disorders than with professional medical views.

In 2013, through a program called Healthy Beginning Initiative (HBI) [9,10], we integrated screening for perinatal depression into a congregation-based intervention designed to use prayer sessions to identify pregnant women early, utilize church-organized baby showers to provide education and community-based screening for common conditions such as HIV, hepatitis B and sickle cell and baby reception for post-delivery follow up [11]. Church-based lay health workers (CHWs) led HBI. The CHWs were based in community churches in rural and semi-rural areas of Enugu State, south eastern Nigeria and had no prior education or training on psychiatric disorders or mental illness. They were selected for HBI based on their influential status in their communities and their ability to modulate behavior and perceptions.

In Nigeria, as in other LMICs, psychiatric resources are limited and unevenly distributed [12]. Previous studies have shown that the greater availability of psychiatric services and related educational resources at a given institution may be associated with more progressive attitudes and beliefs about mental illness among medical professionals in training there [13]. The medical trainees are students at two medical schools that had very different levels of psychiatric teaching present. The Imo State University at Owerri in southeastern Nigeria operated a full medical curriculum but had no full time psychiatric faculty, no functional psychiatry department or clinical activity, at the time of the survey, and no psychiatric academic activities were available for their medical and nursing students. The University of Ibadan, in southwestern Nigeria, in contrast has been a leader in psychiatric research and education in West Africa since the 1950s. It has a fully functioning psychiatry department with over ten faculty members with a psychiatry residency training program and a full range of inpatient and outpatient clinical services.

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The aim of this study is to compare the attitudes and beliefs about mental illness among the lay church-based health workers (CHWs) and medical trainees in Nigeria and identify any differences that may be related to education and/or experiences.

Materials and Methods

Setting

In 2011, Iheanacho et al. surveyed medical and nursing students at the Imo State University in Nigeria during a brief psychiatric educational training to determine their beliefs about mental disorders and attitudes towards people with mental illness [14]. In 2013 Ighodaro et al., conducted a similar survey among medical students at the University of Ibadan [15]. A similar survey was conducted among lay CHWs participating in the Healthy Beginning Initiative (HBI) in 2013 [9,11,16]. For this study, data from these three surveys were compared and analyzed.

Data Collection

The data collection procedures for all three studies have been previously described [14-16]. In summary, the administration of the self-report assessment instrument took place after the introduction of the teachers at Owerri, but prior to any specific psychiatric training although the students had had several years of general medical training ranging. In Ibadan, the survey was administered to medical students before their formal psychiatric clerkship rotation. In Enugu, the questionnaires were administered to the CHWs after a year of clinical experience, but prior to any mental health training. No individual identifying data were included to preserve confidentiality and promote candid responses.

Sample

This was a convenience sample of church-based lay health workers (CHW) participating in HBI in Enugu, medical students and nursing students in their final year of training from Imo State University and medical students from University of Ibadan prior to their first formal psychiatric clinical rotation. The CHWs in Enugu (n=59) had no exposure to psychiatric service delivery and had received no specific mental health training. The University of Ibadan (n=150) represents a teaching center with robust psychiatric educational resources. Imo State University (n=83) represents an academic center with extremely limited psychiatric educational resources. The gender distribution in our sample from the two medical schools was representative of the gender proportions for both schools.

Measures

The questionnaire was constructed from three widely used questionnaires; the Fear and Behavioral Intentions toward the mentally ill (FABI) [1], the Community Attitudes to Mental Illness (CAMI) scale [17], and the questionnaire of the World Psychiatric Association Program to Reduce Stigma and Discrimination [18]. The final version was adapted for local use by adding witchcraft and curses as options in causation of mental illness. It consisted of 43 dichotomous questions with subparts. The questionnaire also documented self-reported socio-demographic characteristics and professional experience**.** The measures addressed 1) conceptions of the cause of mental illness, 2) possible treatment options, 3) social distance and 4) social acceptance and social stigma.

Analysis

First, chi square tests and analysis of variance (ANOVA) were used to compare the three groups on socio-demographic characteristics: age and gender. Adjustments were made in subsequent analyses for variables on which significant differences were found between the groups.

Second, Exploratory Factor Analysis (EFA) was used to identify the number of latent constructs and the underlying factor structure. Prior to the extraction of the constructs, we examined the adequacy of the sample and the suitability of our data for EFA. The sampling adequacy was assessed by examining the Kaiser-Meyer-Olkin (KMO) measure [19] and Bartlett's Test of Sphericity. In interpreting the rotated factor pattern, the items with loading of .40 and higher were used to construct the extracted factors. Negatively phrased items were reverse-coded so that higher scores would represent more progressive views.

Analysis of Covariance (ANCOVA) was then used to compare the significance of the differences between the three groups on the subscales identified though the EFA adjusting for significant differences in age and gender. All analyses were performed using SAS 9.1 statistical software (SAS institute Inc, Cary, North Carolina, USA). Statistical significance was evaluated at the 0.05 level.

Since a central goal of this study was to compare lay CHWs and professionally trained students, effect sizes were calculated to reflect the magnitude of the difference in each attitude between the CHWs and the two groups of students with some professional training. Effect size was calculated using Cohen's d [20] as the difference between the CHWs factor scores on each of the four factors and the scores of the professional students divided by the pooled standard deviation of all the groups on each factor.

Results

The entire sample consists of N=292 subjects including; 59 church-based health workers (CHWs) from Enugu, 83 advanced medical and nursing students from Owerri, and 150 medical students from Ibadan. Two observations from the CHW sample were omitted from the final analysis due to missing values for most of the variables and lack of demographic characteristics.

Significant differences between the groups were observed in age (measured in years) and gender. The Ibadan (mean age=22.4 (sd=2.1)) and Owerri (mean age=24.7 (sd=4.3)) samples were significantly younger than CHW sample (mean age=40.5 (sd=10.7)). More than half of Ibadan sample were male n=97 (65.1%), while nearly one quarter of Owerri sample (n=35(24.3%)) was male and only 8.3% (n= 12) of the CHW sample was male.

Exploratory factor analysis with orthogonal matrix rotation identified four factors with no split loadings (Table 1). The KMO correlation was .70 which was considered adequate for analyzing the EFA output. Bartlett's test of Sphericity was significant. Some items were reverse coded for analysis so that all factors represented more progressive attitudes. The first factor (F1) represents comfort socializing with people with mental illness and absence of fear and avoidance of such people (socializing). The second factor (F2) represents favoring normalized relationships for people with mental illness in society (normalizing). The third factor (F3) reflects disbelief in supernatural causes (witchcraft or curses) of mental illness, and the fourth (F4) reflects stress and physical abuse as causes of mental illness. Internal consistency of scale responses was assessed by calculating Cronbach's alpha. Resulting alpha estimates for responses to the socializing (F1), normalizing (F2), and disbelief in witchcraft (F3) factors were 0.80, 0.63 and 0.79 respectively. The alpha estimate for the fourth factor- stress

and physical abuse as causes of mental illness was 0.55 (F4) (Table 1).

Using ANCOVA we assessed the significance of differences between three groups on each of the four factors adjusting for significant differences in socio-demographic characteristics. There were statistically significant differences in all factors with higher scores, as noted above, representing more progressive attitudes. On three of the four factors, socializing (F1), disbelief in witchcraft (F3), and stress and physical abuse as causes of mental illness (F4) the Ibadan sample had significantly higher scores than the Owerri and CHW samples (Table 2).

On the role normalizing (factor F2) the Ibadan students were joined by the CHWs (with no significant difference between them) in having higher scores than the Owerri students.

On two factors there were no statistically significant differences between the CHAs and the Owerri students: socializing (F1) and disbelief in superstitious causes of mental illness (F3). As noted above the Owerri sample had significantly lower scores than the CHW and Ibadan samples on the normalizing of roles factor (F2). All three groups were significantly different on factor 4 (stress and physical abuse as causes of mental illness) with lowest scores among CHWs, followed by higher scores among the Owerri and then the Ibadan students.

Effect sizes (last two columns of Table 2), showed small (0.20) to moderate (0.40) effects on about half the comparisons, and large effects (0.80 or more) on the others with the largest effects on the comparison of the CHWs with the professional students on the belief in stress and trauma as causes of mental illness (F4).

Discussion

Findings from this pilot study show that the pre-psychiatric clerkship students at Ibadan who had studied in a milieu that had a relatively robust emphasis on psychiatric service delivery, had significantly higher scores on three of four factors reflecting higher social acceptance of people with mental illness, less belief in witchcraft as a cause of mental illness and more likelihood of believing that stress and trauma can contribute to onset of mental illness.

Of note, the CHWs did not have significantly different scores from the medical students from Owerri on two of four measures: disbelief in the supernatural (F3) and stress and trauma as sources of mental illness (F4). Although the Owerri students had received general medical training, like the CHWs, they had not completed any formal training in psychiatry which may explain their modest difference.

While we cannot conclude without further studies that the differences observed in the three groups can be accounted for by the difference in the availability of or absence of psychiatric resources and training, it is reasonable to suggest that there was a significant impact from the regular clinical exposure of Ibadan students to people with mental illness and to professionals devoted to treating them along with specific educational activities provided by a fully functional psychiatric department. A combination of education about mental illness and contact with people with mental illness has been shown in other studies to lead to significant increase in less stigmatized attitudes towards people with mental illness [21]. This study suggests that the proximity to professionals engaged in the practice of psychiatry may also be an influential factor.

The smallest difference between the three groups was observed in the level of non-belief in superstitious causes of mental illness with the CHWs showing the lowest scores. Thus, some degree of belief in witchcraft or curses as causes of mental illness is not uncommon among both the medical students and lay health workers in Nigeria, albeit less so in the context of psychiatric educational resources at the medical schools, and especially in the Ibadan sample. This likely reflects, on the one hand, the ongoing influence of cultural, superstitious and religious beliefs and the association of witchcraft with mental illness in much of sub Saharan Africa and some other low and middle income countries

Factor 1	F1	F2	F3	F4
Not upset or disturbed about working on the same job with someone with mental illness	0.57755			
Not afraid to have a conversation with a person with mental illness	0.53936			
Would invite somebody into your home if you knew they suffered from mental illness	0.51992			
Would want to live next door to someone who has been mentally ill	0.51615			
Could maintain a friendship with someone with mental illness	0.51322			
Not afraid of people with mental illness	0.50702			
Would be willing to work with somebody with a mental illness	0.50483			
Not ashamed if people knew that someone in your family has mental illness	0.45105			
It is not frightening if people with mental illness live in residential neighborhoods	0.43996			
I would not want to live next door to someone who has been mentally ill	0.42985			
Residents have nothing to fear from people getting mental services in their neighborhood	0.42562			
Factor 2				
People with mental illness do NOT tend to be mentally retarded		0.52385		
People with mental illness are NOT a public nuisance		0.49198		
People with mental illness are NOT dangerous because of violent behavior		0.43148		
Factor 3				
Possession by evil spirits as cause of mental illness			0.7884	
God's punishment as cause of mental illness			0.7249	
Witchcraft as cause of mental illness			0.6858	
Someone putting a curse on you as a cause of mental illness			0.5760	
Factor 4				
Stress as cause of mental illness				0.5901
Physical abuse as cause of mental illness				0.5644

Table 1: Factor loadings of the Questionnaire items.

Factors Responses in agreement with items % ± SD	1 church-based health workers n =59	2 Medical Students, Owerri, n=83	3 Medical students, Ibadan, n=150	P	Paired comparison	Effect size CHW vs Owerri	Effect size CHW vs Ibadan
Socializing with people with mental illness and absence of fear and avoidance (socializing) F1	0.53 ± 0.05	0.50 ± 0.03	0.60 ± 0.03	<0.001	3>2=1	0.11	-0.26
Disbelief in supernatural causes (witchcraft/curses) of mental illness F3	0.30 ± 0.06	0.40 ± 0.04	0.55 ± 0.03	<0.01	3 >1,2	-0.28	-0.69
Favoring normalized relationships with people with mental illness (normalizing) F2	0.38 ± 0.07	0.12 ± 0.04	0.33 ± 0.03	<0.0001	1,3>2	0.81	0.16
Stress and abuse etiology F4	0.32 ± 0.06	0.72 ± 0.03	0.91 ± 0.03	<0.0001	3>1>2	-1.11	-1.63

Table 2: Factor score comparison among the groups (ANCOVA result).

[3,22]. On the other hand, it suggests that professional education may attenuate superstitious beliefs. These findings demonstrate the importance of culturally relevant and acceptable teaching interventions in general psychiatric curriculum of medical schools and training programs for lay health workers in Nigeria. Traditional psychiatric clerkship curriculums for medical trainees and training programs for lay health workers based on current Western psychiatry models may address these beliefs and attitudes about mental illness to some degree, but not entirely.

It is thus important; to address negative, stigmatizing beliefs and attitudes as represented by low scores in our sample on factors 1 and 2. A qualitative approach to evaluating the attitudes of the three groups could possibly be informative in better understanding these results. The authors are currently supplementing the data presented here with a qualitative study of beliefs and attitudes of lay health workers leading the Healthy Beginning Initiative, the church-based prevention program in Enugu, Nigeria. They are also currently designing pilot studies to test the effects of targeted anti-stigma interventions that can be included in formal psychiatric clerkships for the students and training programs for the lay health workers.

Limitations

This study should be interpreted with these limitations in mind. First, it was based on a small, convenience sample and the observed differences in attitudes may reflect local regional, cultural, religious and educational differences that may be independent of medical school faculty composition, psychiatric educational offerings or connection to psychiatric services. The convenience sampling may have resulted in selection of individuals with specific attitudes that were independent of the educational content and context to which the students and lay workers were exposed.

Conclusion

Our findings suggest that the availability of sophisticated psychiatric educational resources and services may have a positive impact on the progressiveness of beliefs and attitudes towards people with mental illness. Church-based lay health workers with limited general medical experience and training but who play significant roles in mental health care delivery have beliefs that are similar to those of professionals who have had extensive medical training but no specific psychiatric training. Thus sensitivity training, psychoeducation and additional exposure to people with mental illness can help decrease stigma.

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