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RESEARCH REPORT

Do beliefs about causation influence attitudes to mental illness?

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Studies indicate that stigmatizing attitudes to mental illness are rampant in the community worldwide. It is unclear whether views about the causation of mental disorders identify persons with more negative attitudes. Using data collected as part of a community study of knowledge of and attitudes to mental illness in Nigeria, we examined the relationships between views about causation and attitudes. Persons holding exclusively biopsychosocial views of causation were not different from those holding exclusively religious-magical views in regard to socio-demographic attributes, and the two groups were not very dissimilar when general knowledge of the nature of mental illness was compared. However, religious-magical views of causation were more associated with negative and stigmatizing attitudes to the mentally ill. Findings demonstrate the challenge of developing and delivering an educational program to change public attitudes to mental illness.

Key words: Mental illness, stigma, beliefs about causation

Several authors suggest that an effective way to change public attitudes to the mentally ill and reduce the stigmatization of mental illness is by education. The content of such educational programmes would commonly include the provision of information about the nature and causation of mental illness. However, it is unclear to what extent views about causation are related to attitudes to mental illness or indeed to knowledge about the nature of mental illness.

Few studies have related beliefs about causation to the general knowledge of mental illness and to its stigmatization by the public. It is of course plausible to expect that beliefs about causation reflect general knowledge, and that both influence attitudes. Erroneous beliefs about causation and lack of adequate knowledge have been found to sustain deep-seated negative attitudes about mental illness (1). Conversely, better knowledge is often reported to result in improved attitudes towards people with mental illness (2) and a belief that mental illnesses are treatable can encourage early treatment seeking and promote better outcomes. Even among those who have known people treated for schizophrenia, Stuart and Arboleda-Flórez (2) showed that knowledge of the illness, and not mere exposure to it, was a central modifiable correlate of negative attitudes. Thus, one can speculate that improved knowledge about causation may lead to improved overall knowledge about mental illness and promote a more tolerant attitude to the mentally ill.

In a survey intended to examine changes in public beliefs about social and environmental variables as risk factors for mental disorders in Australia and Japan over an 8 year period, Nakane et al (3) found that there was an increase in the proportion of the public who believed in the genetic causes of both depression and schizophrenia, and speculated that this might have resulted from publicity concerning the genome projects. Though increased belief in biological causes was noticed, this was not at the expense of belief in social causes (4).

There is evidence for significant national (or perhaps, cultural) differences in the beliefs about the causation of mental illness. For example, in the study conducted by Nakane et al (3), while infection, allergies and genetics were the predominant causes of mental illness reported in Australia, nervousness and perceived constitutional weakness were more often reported in Japan (3). Another comparative study of young adults in Hong Kong and England found that, while the Hong Kong youths believed that social factors were the likely causes of schizophrenia, the English youths were more likely to report genetic factors as a cause (5). In Turkey, about 60% of a rural population held the view that personal weakness might be a cause of schizophrenia (6). In a recent survey (7), we reported that as many as one third of a large sample of community respondents in Nigeria suggested that possession by evil spirits could be a cause of mental illness.

In this paper, we explore the relationships between beliefs about causation of mental illness on the one hand and knowledge of the nature of such illness and attitudes to the mentally ill on the other. We do this by comparing those of our respondents who held beliefs of social, psychological or biological causation (termed "biopsychosocial" causation) with those who held beliefs of supernatural or religious causation (termed "religious-magical" causation) in regard to their views of and attitudes to the mentally ill. We hypothesized that persons with biopsychosocial views of the causation of mental illness would have better knowledge of the nature of mental illness and be less stigmatizing of those afflicted.

METHODS

The survey was conducted in three Yoruba-speaking states in south-western Nigeria (Ogun, Osun and Oyo) between March and August 2002. A stratified multistage clustered probability sampling of household residents aged 18 years or older in the selected states was implemented. First, stratification was based on states (three categories) and size of the pri-

mary stage units, which were the local government areas (two categories). The second stage was to select two primary stage units per stratum, with probability of selection proportional to size. The third stage was the random selection of four enumeration areas from each of the local government areas. Selection was made from enumerated households in the selected areas. Finally, one resident aged 18 years or over was approached for participation in each selected household. We used the Kish method to identify the potential respondent (8). Survey questionnaires were administered by trained lay interviewers from the Department of Psychiatry, University of Ibadan. The study was approved by the University of Ibadan and University College Hospital joint ethics committee. A total of 2040 persons participated in the survey, representing a response rate of 74.2%.

A modified version of the questionnaire developed for the World Psychiatric Association Programme to Reduce Stigma and Discrimination Because of Schizophrenia was used (2,9). The questionnaire is focused mainly on knowledge of and attitudes to schizophrenia. Among other things, it enquired from respondents their views about the causes of mental illness. They could pick up to three possible causes from a list consisting of: disease of the brain, intrauterine infection, genetic inheritance, poor upbringing, physical abuse, drug or alcohol misuse, stress, traumatic event or shock, poverty, biological factors (other than brain disease or genetic inheritance), possession by evil spirits, and God's punishment. The questionnaire was modified largely to take account of the focus of this survey, which was mental illness rather than schizophrenia. Thus, in addition to substituting the term "mental illness" for "schizophrenia", specific items relating to the symptoms of schizophrenia were deleted. The questionnaire was translated to Yoruba by a panel of bilingual mental health research workers using the iterative back-translation method.

We compared two groups of respondents: those with exclusively biopsychosocial views of the causation of mental illness and those with exclusively religious-magical views. The former group consisted of those whose identified causes of mental illness from the list did not include "possession by evil spirits" or "God's punishment". The latter group consisted of persons who identified only "possession by evil spirits" or "God's punishment" but no other cause from the list. In grouping the respondents in this way, we did not take into account the item "drug or alcohol misuse", because we found that this view of causation, selected by over 80% of our sample, was not discriminatory between the two groups.

The results presented here have been weighed to reflect the within-household probability of selection and to incorporate a post-stratification adjustment, such that the sample is representative of the age by gender distribution of the projected population of Nigeria in 2000. Income was categorized into four groups: "low" (defined as less than or equal to median of the pre-tax income per household), "low average" (greater than "low" up to two times the median value), "high average" (greater than "low average" up to three times the median value) and "high" (greater than "high average"). Residence was classified as rural (fewer than 12,000 households), semi-urban (12,000-20,000 households per local government area) and urban (more than 20,000 households).

Simple cross-tabulations were used to calculate proportions and their distributions in different groups. To take account of the sampling procedure, with clustering and weighing of cases, standard errors of proportions were estimated with jack-knife methods implemented in the STATA software. Statistical significance was evaluated at the 0.05 level and based on two-sided design-based tests.

RESULTS

We classified 1163 persons to either of the two exclusive groups: 84.6% of them in the biopsychosocial group and 15.4% in the religious-magical group.

Table 1 shows the socio-demographic characteristics of the respondents. There were no differences between the two groups in regard to any of the factors. Consistent with

Table 1 Socio-demographic attributes of the subjects

	Biopsychosocial views of causation (N = 984)	Religious-magical views of causation (N = 179)	p
Sex (%)			
Female	50.7	45.3	0.244
Years of education (%)			
0	15.8	15.7	
1-6	23.7	22.5	0.949
7-12	42.5	44.1	
13+	18.0	17.7	
Age group (years, %)			
18-25	32.9	33.0	
26-40	40.1	33.6	0.319
41-64	20.9	27.6	
65+	6.1	5.8	
Income group (%)			
High	47.6	47.9	
High average	16.3	23.1	0.184
Low average	27.3	21.7	
Low	8.8	7.3	
Currently married (%)			
Yes	62.2	61.3	0.832
Residence (%)			
Urban	43.6	39.3	
Semi-urban	26.0	30.7	0.372
Rural	30.4	30.0	
Ever worked in a facility providing treatment for mental illness (%)			
Yes	2.0	2.6	0.720
Have you or anyone known to you ever been treated for mental illness (%)			
Yes	4.8	5.0	0.874

the population profile in Nigeria, most respondents were below the age of 40 years. Only a minority had had up to or more than 13 years of education. Only very few in either group had worked in any facility providing treatment for mental illness or responded positively to the question about whether they or someone known to them had suffered from mental illness.

Knowledge of mental illness was generally poor. Table 2 shows that only a minority held such views as the possibility of successful treatment of mental illness outside hospital or that persons with mental illness could work in regular jobs. There were two significant differences between the groups in regard to knowledge of mental illness: persons with a biopsychosocial view of causation were more likely to believe in the possibility of successful treatment of mental illness outside hospital, but they were also more likely to hold the view that persons with mental illness hear strange voices telling them what to do (even though the latter difference between the two groups was of much less strength than the former).

Consistent with the generally poor knowledge, attitudes to the mentally ill were predominantly negative. However, there was a more consistent pattern in the differences between the two groups in regard to attitudes. Other than in the willingness to consider marrying a person with mental illness, where the biopsychosocial group was slightly less tolerant than the religious-magical, the former group was more likely to have a more accepting disposition to the mentally ill in all other areas assessed. The differences were significant in two areas: the biopsychosocial group was less likely to be upset or disturbed about working with someone with mental illness and more likely to consider maintaining friendship with such a person (Table 3).

DISCUSSION

In this report, we have shown that views about what causes mental illness are associated with attitudes to the mentally ill. Even though general knowledge about the nature of mental illness is uniformly poor for those holding biopsychosocial views as well as those holding religious-magical views, with no consistent difference between the two, their attitudes to the mentally ill are significantly different. A biopsychosocial view of the causation of mental illness is associated with a more tolerant and less stigmatizing attitude than is a view that is informed by supernatural beliefs.

Our findings complement those of others who have observed that views about causation are strongly associated with stigmatizing attitudes to mental illness (10-12) and that educational programs on mental illness often lead to improved attitudes (13,14). However, and as noted by Haghighat (15), the link between knowledge and attitudes is not a simple one, and social judgement is often determined by the "feeling" rather than by the "cognitive" component of attitudes. The contradictory findings we report in this paper, suggesting that persons with biopsychosocial views of causation who also tended to have a more positive attitude to the mentally ill had nevertheless a poor general knowledge of the illness, further indicate the complexity of the relationships.

Public education remains the only strategy for changing attitudes to mental illness. Despite contradictory findings about their efficacy (13,16,17), such programs nevertheless hold the promise of challenging stigmatizers to reflect on

Table 2 Association of views on causation with knowledge of mental illness

Items	Biopsychosocial views of causation (N = 984)	Religious-magical views of causation (N = 179)	X^2	p
Can be successfully treated outside hospital	47.8	33.8	9.85	0.004
Tend to be mentally retarded	92.4	90.0	1.65	0.211
Hear strange voices telling them what to do	92.7	87.6	4.53	0.044
Need prescribed drugs from doctor	92.3	93.9	0.55	0.464
Are a public nuisance	95.8	97.8	2.17	0.154
Can work in regular jobs	28.4	22.8	3.09	0.091
Are dangerous because of violent behaviour	96.7	96.2	0.08	0.777

Table 3 Association of views on causation with attitudes towards mentally ill persons

Items	Biopsychosocial views of causation (N = 984)	Religious-magical views of causation (N = 179)	X^2	p
Afraid to have a conversation with someone who has mental illness	80.5	86.4	1.99	0.171
Upset or disturbed about working with someone with mental illness	77.2	84.8	10.01	0.004
Could maintain a friendship	20.5	11.4	4.56	0.043
Unwilling to share a room	82.8	84.5	0.276	0.604
Ashamed if people knew someone in one's family has been diagnosed with mental illness	82.7	86.1	1.599	0.218
Could marry a person with mental illness	3.5	3.7	0.029	0.866
Establishment of group at home for the mentally ill in one's neighbourhood:				
- agree	42.4	40.8		
- disagree	49.5	50.2	0.111	0.814
- indifferent	8.1	9.0		

their feelings and lead to some form of circumspection (15,18). In our survey, persons holding the religious-magical views of mental illness causation were less than those holding biopsychosocial views, but, rather disappointingly, they were not identifiable on the basis of social or demographic attributes that might help in delivering targeted educational or enlightenment programs. The challenge in our setting is therefore to devise strategies that will increase the general knowledge of the community in regard to mental illness while also sending focussed information to those with supernatural views about the causes of mental illness, with the hope that their attitudes to the mentally ill can be improved.

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