

BMJ Open Cross-sectional survey of mental health literacy among undergraduate students of the University of Nigeria

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ABSTRACT

Objective This study sought to assess knowledge of schizophrenia and help-seeking behaviour among undergraduate students of a Nigerian university. Sociodemographic predictors of correct recognition were also explored.

Design The study was a cross-sectional descriptive survey.

Setting The study was carried out at the University of Nigeria, a pioneer university located in Southeastern Nigeria.

Participants Undergraduate students of the University of Nigeria.

Methods All consenting male and female students of three purposively selected faculties were recruited for the study. Self-administered vignette-based questionnaires were distributed to students of the selected faculties between September and November 2018. Data were analysed using the IBM Statistical Product and Services Solution for Windows V.21.0.

Results Out of the 400 questionnaires that were distributed, 389 were completed and returned (97.3% response rate). Respondents were mainly female (64.9%, n=252) and were between the ages of 18 and 24 years (75.8%, n=294). One in eight respondents (12.1%, n=47) correctly identified and labelled the schizophrenia vignette. Hallucination was the most identified symptom of distress for schizophrenia (47.9%, n=186). The most common alternative label for schizophrenia was 'mental illness' (24.7%, n=96). Schizophrenia was also mislabelled as depression (11.6%, n=45). More than a 10th of the respondents used stigmatising labels such as 'crazy' and 'mad' (11.1%, n=43). Psychiatrists were the most recommended source of help for the vignette character (36.3%, n=141). There was a strong association between the faculty of study and the ability to correctly identify and label the schizophrenia vignette ($\chi^2=44.557$, $p<0.001$).

Conclusion Mental health literacy among students of the University of Nigeria was poor. Research on culturally sensitive interventions to improve mental health literacy should be embarked on.

BACKGROUND

Mental disorders are the fourth leading cause of disability in people aged 15–44 years.¹ The Global Economic Burden of

Strengths and limitations of this study

- A vignette-based questionnaire that allowed respondents to articulate their thoughts was used.
- This study is the first of its kind to be carried out among undergraduate students in Nigeria.
- The study had a high response rate.
- Students were recruited in just one university, which limits the generalisability of the findings.
- The extent to which responses based on brief written case vignettes can be translated into what is likely to happen in the real world is unclear.

Non-communicable Diseases report showed mental disorders to be the largest cost driver, equating to \$2.5 trillion in global costs in 2010; the costs of mental disorders were found to be higher than the costs of diabetes, respiratory disorders and cancer combined.² Both the general public and the mentally ill have been found to have stigmatising attitudes towards psychiatric illnesses.³ Hayward and Bright have defined stigma associated with mental disorders as 'the negative effects of a label placed on any group, such as a racial or religious minority, or, in this case, those who have been diagnosed as mentally ill'.³ Popular misconceptions about mentally ill people include being dangerous, weak and socially incompetent.³

The increasing burden of mental disorders has been accompanied by worldwide efforts to enlighten the public on mental health. These efforts are valuable in reducing stigmatisation and improving negative attitudes towards mentally ill people, which have both been linked to poor mental health literacy.⁴ Stigma has also been defined as the social devaluation of a person due to an attribute that is deeply discrediting.⁵ Stigmatisation impacts on persons suffering from mental illness, making them less likely to seek help from relevant mental health professionals. There's an enormous treatment gap for treatable psychiatric disorders

partly attributable to stigmatisation.⁶ In spite of the availability of effective treatment for schizophrenia, a huge treatment gap persists especially in low-income and middle-income countries (LMICs) where less than 1 in 10 affected individuals receives treatment.⁷ Despite increased knowledge and improving attitudes in high-income countries, LMICs still lag far behind.^{8,9} Studies across different countries have shown that low-income countries give higher credence to sociological factors rather than biological factors as basis for the aetiology of schizophrenia.^{10,11} Also, it has been found that the likelihood of seeking professional help for mental illness is lower in individuals from low-income countries compared with individuals from high-income countries.¹² Evidence from high-income countries has shown that social contact between people with and without the experience of mental illness¹³ and educational interventions⁶ is the most effective intervention for reducing stigmatisation in adults and young people, respectively. There is a paucity of evidence on which interventions are effective and feasible in LMICs.¹⁴

Jorm *et al* have defined mental health literacy as the knowledge and beliefs about mental disorders that aid their recognition, management or prevention.¹⁵ The concept of mental health literacy suggests that it is important for knowledge about mental health aspects and mental disorders to increase since it is a prerequisite for early recognition and seeking treatment.¹⁶ Mental health literacy and social rejection studies are particularly important as they demonstrate that inaccurate recognition and false beliefs about schizophrenia increase social distance toward people living with schizophrenia.⁴ Mental health literacy is especially important among university students as research has shown that about one-third of university students suffer from a diagnosable mental disorder, and 64% of individuals who dropped out of college did so because of a mental disorder.^{17–19} Although 75% of lifetime disorders have their onset during college years,^{18–20} studies have also shown that college students cannot effectively recognise their mental illness or symptoms.²⁰ Also, attitudes towards disease are usually sealed during this developmental stage.

This study sought to assess the mental health literacy of undergraduate students in terms of their ability to correctly label schizophrenia, to recognise symptoms and to recommend their preferred source of help. Most studies on mental health literacy among young people in Nigeria have been among secondary school students. This study is the first of its kind to be carried out among undergraduate students in Nigeria.

RESEARCH METHODS AND DESIGN

Study design and setting

This study used a cross-sectional descriptive approach and was carried out among undergraduate students

of the University of Nigeria, Nsukka. The University of Nigeria is one of the pioneer universities in Nigeria created in 1970 and boasts of having students with diverse ethnicities.

Study population and sampling strategy

Three out of 15 faculties comprising one medically related and two non-medically related faculties were purposively selected for the study. The faculties were selected because they had the most number of students (11 779 students representing almost half of the total student population) and had a more even gender distribution compared with the other faculties. Given that a total of 28 047 students were enrolled in the university in September 2018, based on the most conservative response distribution of 50%, allowing 0.5% margin of error at 95% CI, the minimum sample size for the entire undergraduate student population was calculated to be 379. A total of 400 students were recruited for the study. The collection of data from the students of the three faculties was done using a convenience sampling method between September and November 2018. The questionnaires were distributed to all consenting students who were present in their faculty lecture theatres during the study period. In a covering letter accompanying the survey instrument, respondents were informed of the purpose of the survey and were assured of confidentiality and anonymity.

Data collection and instrument

The participants were presented with a vignette-based questionnaire. An already established vignette, first developed by Jorm *et al*, was adapted and used to fit this study's aims.¹⁵ The name in the vignette was substituted with an indigenous name in the study setting, and the character was presented as a university student. The vignette detailed a student who satisfied the symptomatology of schizophrenia according to the *Diagnostic and Statistical Manual of Mental Disorders*, Fourth Edition.²¹ The vignette was followed by open-ended questions designed to elicit the participants' recognition of schizophrenia and their recommended source of help. A copy of the questionnaire is included as online supplementary material.

Data analysis

Data were analysed using the IBM Statistical Product and Services Solution for Windows V.21.0. Descriptive statistics such as frequencies and percentages were computed for relevant sociodemographic characteristics, knowledge of schizophrenia and recommended sources of help. χ^2 tests were performed to find associations between independent and dependent variables with significance set at <0.05. The open-ended responses were grouped based on the similarity of thematic content using a deductive approach. The principal researcher developed the interpretation of the themes generated, and final interpretations were accepted by consensus of all the authors. Data were presented as frequencies/percentages.

Table 1 Sociodemographic characteristics of the respondents

Characteristics	Frequency N=388	Percentage (%)	
Gender			
Male	136	35.1	
Female	252	64.9	
Age (years)			
<18	38	9.8	
18–24	294	75.8	
25–30	53	13.7	
>30	3	0.8	
Faculty			
Agricultural sciences (n=3954)	189	48.7	
Arts (n=4650)	81	20.9	
Pharmaceutical sciences (n=3175)	118	30.4	
Study level*			
100	78	20.1	
200	105	27.1	
300	100	25.8	
400	70	18.0	
500	35	9.0	
Study level by faculty			
	Pharmacy n (%)	Agric† n (%)	Arts n (%)
100	1 (0.8)	52 (64.2)	25 (12.7)
200	30 (25.4)	14 (17.3)	65 (33.0)
300	31 (26.3)	8 (9.9)	64 (32.5)
400	24 (20.3)	7 (8.6)	40 (20.3)
500	32 (27.1)	0 (0)	3 (1.5)

*Study level: academic level of study of students.

†Agricultural sciences.

Patient/public involvement

No respondents were involved in defining the research question or the outcome measures, nor were they involved in the design and implementation of the study. There are no plans to involve respondents in the dissemination of the results.

RESULTS

Out of the 400 questionnaires that were distributed, 389 were completed and returned (97.3% response rate). Respondents were mainly female (64.9%, n=252) between the ages of 18 and 24 years (75.8%, n=294). The faculty of agricultural sciences had the most respondents (48.7%, n=187). More than a quarter of the students surveyed were in their second year of study (27.1%, n=105) (table 1). Respondents were asked ‘What do you think is the matter’ with the character in the vignette. Responses were coded as schizophrenia in the presence of the words ‘schizophrenic/schizophrenia’. Other responses were categorised based on the similarity of thematic content. The most common alternative label for schizophrenia was mental illness (24.7%, n=96). Schizophrenia was also mislabelled as depression (11.6%, n=45). More than a 10th of the respondents used stigmatising labels

such as crazy and mad (11.1%, 43). One in eight respondents (12.1%, n=47) correctly identified and labelled the schizophrenia vignette (table 2).

For the schizophrenia vignette, respondents were asked to note what parts of the vignette gave them the strongest

Table 2 Recognition of the case vignette of schizophrenia by the respondents

Variable	Frequency	Percentage (%)
Alternative labels		
Negative emotion*†	48	12.4
Spiritual issues†	16	4.1
Crazy/mad	43	11.1
Depression	45	11.6
On drugs	5	1.3
Mentally ill	96	24.7
Correct label		
Schizophrenia	47	12.1

*‘Emotional problem’, ‘emotional issue’, ‘mood swing’.

†‘Possessed’, ‘spiritual problem’, ‘demon’, ‘evil spirit’, ‘spiritual issue’.

Table 3 Identified symptoms for schizophrenia vignette

Item	Frequency	Percentage (%)
Hallucination	186	47.9
Social withdrawal	155	40.4
Personal neglect	58	14.9
Paranoia	90	23.2

hints of emotional distress for the character. Hallucination was the most identified symptom of distress for schizophrenia (47.9%, n=186) while personal neglect was the least identified symptom (14.9%, n=58). The results of which symptoms were reported in the 'schizophrenia' vignette are listed in table 3. Respondents were asked to recommend a source of help for the character in the vignette. The 'counsellor' category included the mention of the terms 'counsellor', 'counselling' and 'church counsellor'. 'Friend', 'classmate' and 'roommate' were combined into the 'friends' category. The 'family' category included the responses of 'family', 'parents', 'elders' and 'siblings/brother/sister'. The use of the more specific terms 'psychologist' or 'psychiatrist' was afforded their categories. Respondents identified psychiatrist as the most common source of help they thought was required for the vignette character (36.3%, n=141). About a fifth of the sample population recommended a psychologist (20.4%, n=79) (table 4). A higher proportion of men (14.7%) than women (10.7%) correctly identified and labelled the schizophrenia vignette ($\chi^2=1.322$, $p=0.162$). A higher proportion of women (37.3%) recommended a psychiatrist for the vignette character, ($\chi^2=0.287$, $p=0.336$). Respondents between 25 and 30 years (39.6%, n=21) had the greatest proportion of respondents who correctly identified and labelled schizophrenia. Students of the faculty of pharmaceutical sciences also had the greatest proportion of respondents who correctly identified and labelled the schizophrenia vignette (28.8%, n=34). There was a strong association between faculty of study and ability to correctly identify and label the schizophrenia vignette ($\chi^2=44.557$, $p<0.001$). The faculty of agricultural sciences had the greatest proportion of respondents who used stigmatising labels for the schizophrenia vignette

Table 4 Recommended sources of help for the schizophrenia vignette

Variable	Frequency	Percentage (%)
Psychiatrist	141	36.3
Friends	8	2.1
Counsellor	41	10.6
God	38	9.8
Psychologist	79	20.4
Physician	56	14.4
Parents	13	3.4
Rehab	13	3.4

(21%, n=17). There was a strong association between faculty of study and the use of stigmatising label for the schizophrenia vignette ($\chi^2=13.676$, $p=0.001$). There was a strong association between faculty of study and recommending a psychiatrist for the schizophrenia vignette ($\chi^2=25.161$, $p<0.001$) (table 5). There was a strong association between study level and the ability to correctly identify and label the schizophrenia vignette ($\chi^2=33.175$, $p<0.001$). The age of respondents had no significant association with their mental health literacy.

DISCUSSION

The use of a vignette-based questionnaire was employed in this study, which allowed respondents to express their thoughts and beliefs, rather than to select answers from a pool of options. Vignettes are a simulation of real-life events and have been used to investigate different phenomena in the social, behavioural and health sciences.²²⁻²⁴ Although the use of vignettes is fraught with difficulties in establishing reliability and validity, it overcomes most of the problems associated with observation and traditional questionnaire studies such as the Hawthorne effect and ethical dilemmas.²⁵ They have been found to provide a valuable approach that is acceptable to participants and elicits important insight on participant experience and opinions.²⁶ The response rate of the study was high and comparable with response rates obtained from studies carried out among university students.^{27 28} There were more female than male respondents; this corresponds with findings from a similar study carried out among university students in Malaysia.²⁹ Research among undergraduate students has shown that response rates vary by gender, with women being more likely to respond than men.^{30 31} Most of the respondents fell within the ages of 18 and 24 years and were in their second year of study. This is in line with the 6-3-3-4 system of education obtainable in Nigeria, where the minimum age of entry into public universities is pegged at 16 years. The 6-3-3-4 system was introduced in 1987 following the introduction of the National Policy on Education.³² This was introduced to bring uniformity to the structure of education throughout the country.

About one in eight (12.1%) of the university students surveyed could correctly identify and label the schizophrenia vignette. This proportion of university students is much lower than the 60% of university students who correctly identified and labelled a schizophrenia vignette in a study carried out in Singapore.³³ This may be because the Singaporean study was restricted to medical students only. Even though many respondents were unable to recognise the problem as schizophrenia, some of the respondents (24.7%) did identify that the character's problem was a mental illness. About a tenth of the respondents reported that the vignette character had 'emotional problems'. This label may have been induced by the wordings of the questionnaire, which demanded respondents to state what parts of the vignette gave the strongest

Table 5 Association between respondents' characteristics and parameters of mental health literacy

Variable	Total N=389	Faculty				χ^2	P value
		Pharm.*	Agric.†	Arts			
Label	N (%)	n (%)	n (%)	n (%)			
Schizophrenia	47 (12.1)	34 (28.8)	3 (3.7)	10 (5.3)		44.557	0.000‡
Crazy/mad	43 (11.1)	5 (4.2)	17 (21.0)	21 (11.1)		13.676	0.001‡
Source of help							
Psychiatrist	141 (36.3)	60 (50.8)	13 (16.0)	68 (36.0)		25.161	0.000‡
Friends	7 (1.8)	4 (3.4)	0 (0)	3 (1.6)		4.265	0.371
Family	20 (5.2)	6 (5.1)	6 (7.4)	8 (4.2)		1.171	0.557
Study level							
		First year	Second year	Third year	Final year		
Label							
Schizophrenia	47 (12.1)	3 (3.8)	1 (1.0)	12 (12.0)	31 (29.5)	47.191	0.000‡
Crazy/mad	43 (11.1)	9 (11.5)	10 (9.5)	10 (10.0)	14 (13.3)	0.806	0.848
Source of help							
Counsellor	99 (25.5)	19 (24.4)	33 (24.4)	27 (27.0)	20 (19.0)	4.414	0.220
Psychiatrist	141 (36.3)	16 (20.5)	30 (28.6)	36 (36.0)	59 (56.2)	29.075	0.000‡

*Pharmaceutical sciences.

†Agricultural sciences.

‡Statistical significance at $p < 0.05$.

hints of emotional difficulties. While some researchers opine that exact labelling of the disorder is necessary for appropriate help-seeking,^{34–36} others argue that accurate labelling by members of the public may not be necessary as long as there is recognition of the presence of a mental health problem that warrants help-seeking from mental health professionals.³⁷

Ironically, some of the respondents (11.6%) thought the character in the vignette was depressed. More than a tenth of the respondents used stigmatising labels such as crazy, mad and 'insane'. Similar findings have also been reported among secondary school children in Nigeria and in other parts of the world.^{38–41} Stigma towards mental illness stems from the traditional concept of danger and incompetence, which is even more evident in the cases of major psychiatric illnesses such as schizophrenia.^{41 42} Five respondents reported that the vignette was a drug addict, although the vignette noted that the character was not on any drugs. The role of drug abuse in the aetiology of schizophrenia has been a controversial topic, and the association between psychostimulant use and psychotic symptoms has been recorded over time. Cannabis intoxication has been shown to trigger acute psychotic episodes and to exacerbate symptoms of existing psychotic illness^{43 44}; however, whether cannabis misuse could cause prolonged schizophrenic illness remains debatable. Hallucination was the most frequently recognised symptom of schizophrenia by the respondents. The *Diagnostic and Statistical Manual of Mental Disorders*, Fifth Edition, defined hallucinations as 'perception-like experiences that occur without an external stimulus'. They have been described as

realistic, lucid and involuntary. Hallucinations have been reported in different clinical populations and are not exclusive to a particular disorder. They are also common in non-clinical populations⁴⁵ and are a subject of interest for voice-hearing in the general population. In patients with schizophrenia, hallucinations can occur through any of the sensory modalities. More than half of the hallucination cases are auditory, and in 27% of those cases, they are accompanied by visual hallucinations.⁴⁶ About one-third of the respondents recommended the help of a psychiatrist, while one-fifth of them recommended the help of a psychologist. Thirteen respondents referred the vignette character to a rehab facility since they were convinced that the character was a drug addict.

The faculty of pharmaceutical sciences had the greatest proportion of students who correctly recognised and identified the schizophrenia vignette. The highest number of respondents who recommended a psychiatrist for the schizophrenia vignette was also from the faculty of pharmaceutical sciences. This finding is particularly of interest since student pharmacists are future healthcare professionals. Pharmacists who are one of the most accessible healthcare professionals and serve as an important source of information for patients must be well informed of the role of stigma as a barrier to mental healthcare. This is essential in the context of the efforts that must be made to reduce the enormous treatment gap for mental disorders by increasing the identification and appropriate referrals in community pharmacy settings. The ability to correctly recognise and identify schizophrenia increased with an increasing level of study. This is expected as increasing

study level corresponds to increasing age and exposure and possible psychological challenges in the university. This association was statistically significant.

The strength of this study lies in the fact that a vignette-based questionnaire that allows respondents to articulate their thoughts was used. Although the present study might make useful contributions to the literature on the mental health literacy of university students, some limitations should be mentioned. This research has relied on the use of brief written case vignettes. The extent to which such data can be translated into what is likely to happen in the real world is unclear. Second, students were recruited in just one university; it would be desirable to include students from different universities as ethnicity, socioeconomic status and cultural beliefs have been shown to affect mental health literacy. Furthermore, the study sample may not be representative of the study population since they were conveniently sampled.

CONCLUSION

Mental health literacy among students of the University of Nigeria was poor. About one in eight university students surveyed could identify and label the schizophrenia vignette. Hallucination was the most recognised symptom of schizophrenia. Psychiatrists were the most recommended source of help for schizophrenia. The faculty of study and the levels of study were associated with parameters of mental health literacy. More investigations on the mental health literacy of undergraduates in Nigeria should be undertaken. Furthermore, research on culturally sensitive interventions to improve mental health literacy should be embarked on.

Contributors MJO and DOA conceptualised the study and contributed to the data collection. VUO contributed to the study design and interpretation. DOA conducted the analyses, summarised the results and wrote the first draft of the manuscript. All authors contributed to the study design, data interpretation and revisions to the text, and approved the final text and agreed to be accountable for the work.

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Competing interests None declared.

Patient consent for publication Not required.

Ethics approval Ethical clearance for the study was received from the University of Nigeria ethical committee. A verbal informed consent instead of a written informed consent was obtained to preserve students' desired anonymity. They were also assured of the confidentiality of the information that they would give.

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Data availability statement Data are available upon reasonable request.

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