



RESEARCH ARTICLE

# Pharmacy students' perceptions of the impact of mental disorders on pharmacy education in Nigeria

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## Abstract

**Background:** In Nigeria, the extent to which pharmacy students perceive that mental illness can impair their academic performance, be a reason for the dismissal or rejection of a pharmacy school applicant is unknown. **Aim:** To examine pharmacy undergraduate students' perceptions of the impact of mental illnesses on pharmacy education in Nigeria. **Methods:** A cross-sectional survey was conducted among pharmacy students from six Nigerian universities. The data were collected using a modified self-administered paper-based Mental Illness Performance Scale. Descriptive statistics, Student t-test, and One-way analysis of variance were used for the data analysis. **Results:** The study received responses from 496 pharmacy students, yielding a 93.2% response rate. A vast majority of the students agreed or strongly agreed that depression (98.7%), anxiety (98.4%), and substance abuse (83.9%) affect pharmacy students' academic performance. Fewer students agreed or strongly agreed that depression (31.4%) and anxiety disorder (37.9%) would be grounds for expulsion from pharmacy school. Substance abuse (62.5%) and schizophrenia (58.1%) were supported as reasons for rejecting an applicant into the pharmacy programme. **Conclusion:** The findings suggest that pharmacy students perceive that having a mental disorder would negatively affect pharmacy education in Nigeria.

## Introduction

Pharmacy students in Nigeria encounter a demanding academic workload as well as extracurricular activities, which can lead to stress and burnout (Ogaji & Ojabo, 2014). The majority of Nigerian pharmacy schools currently offer Bachelor of Pharmacy (B. Pharm) and Doctor of Pharmacy (Pharm. D.) degree programmes, although the former is increasingly being phased out. Pharmacy students attend regular lectures and practical laboratory sessions for significant periods of time. Furthermore, as pharmacy students continue through the programme and are exposed to clinical and experiential training in community and hospital pharmacy settings, their workload appears to increase (Ogaji & Ojabo, 2014; Ikhile & Chijioke-Nwauche, 2016).

Stress, depression, anxiety, and other mental health issues are common among pharmacy students around the world (Silva & Figueiredo-Braga, 2018; Al-Qerem *et al.*, 2021; Kathem *et al.*, 2021). Pharmacy students, like other healthcare trainees, have a higher prevalence of anxiety, depression, and stress than the general population (Hanna, Wilson, & Hanna, 2018). A recent Nigerian study, for example, discovered that the prevalence of depression, anxiety, and stress among pharmacy students was 44.6%, 63.5%, and 35.0%, respectively (Aluh, Abba, & Afosi, 2020). High academic pressures, financial constraints, and a lack of social support have all been linked to an increased risk of developing mental health problems in pharmacy students. As a result, some pharmacy students inadvertently turn to substance abuse to relieve stress and burnout, thus exacerbating the burden of mental illnesses (Al-Shatnawi *et al.*, 2016; Tavolacci *et al.*,

2018). Previous studies have found a link between mental health issues (such as stress and depression) and poor academic achievement, sleep problems, and poor physical health in undergraduate students.

In Nigeria, pharmacy students' knowledge, beliefs, and attitudes regarding mental disorders have previously been investigated (Anosike *et al.*, 2019; Anosike, Ukwe, & Oparah, 2020; Almanasef, 2021). However, it is unknown how pharmacy students in Nigeria assess the impact of their own mental problems on pharmacy education. The extent to which pharmacy students believe that mental illness can impair their academic performance, be a reason for dismissal or rejection of a pharmacy school applicant is unknown. Understanding how pharmacy students view the influence of mental disorders on pharmacy education can provide insight into students' help-seeking behaviour and mental health needs, as well as serve as a basis for possible pharmacy school curriculum reform. Pharmacy students may develop stigmatising views toward people with mental illness as a result of their ignorance of mental health issues (Bell *et al.*, 2008). Such unfavourable views may deter students from getting help for themselves or offering support to their friends and, subsequently, professional colleagues who are suffering from mental health disorders (Rickwood, Deane, & Wilson, 2007; Volmer, Maesalu, & Bell, 2008). Therefore, this study aimed to examine pharmacy students' perceptions of the impact of mental illnesses on pharmacy education in Nigeria.

## Methods

This was a cross-sectional descriptive survey of undergraduate pharmacy students from six Nigerian pharmacy schools. The pharmacy schools were as follows: 1) University of Nigeria, Nsukka; 2) University of Port-Harcourt, Port-Harcourt; 3) Nnamdi Azikiwe University, Awka; 4) University of Calabar, Calabar; (5) University of Ibadan, Ibadan; and 6) University of Uyo, Uyo. The inclusion criteria were pharmacy students who were at least in their second year of study and willing to participate in the research. With a population of 4,213 pharmacy students, a 95% confidence interval, and a margin of error of 5%, the minimum sample size required was 353, according to the Raosoft sample size calculator. Hence, all 496 students who met the eligibility criteria were included in the study. The Research and Ethics Committee of the Faculty of Pharmaceutical Sciences, University of Nigeria, Nsukka, granted ethical approval for this study, with reference number FPSRE/UNN/21/0008. All respondents provided verbal informed consent. Verbal informed

consent was acceptable as the study posed no risk to the participants. The respondents were assured that their responses would be kept anonymous.

### Study questionnaire

To assess students' perceptions of the impact of mental illnesses on pharmacy education, a modified self-administered Mental Illness Performance Scale was used (Roth *et al.*, 2000). The questionnaire included a list of ten mental disorders that were rated on a five-point Likert scale. The responses on the Likert scale ranged from strongly disagree (0) to strongly agree (4). The questionnaire was validated, and the reliability test yielded a Cronbach alpha of 0.71, which was within an acceptable range. The higher the mean score, the more negative respondents' views on the impact of mental illnesses on pharmacy education are. There were three sections to the questionnaire. The first section assessed respondents' perceptions of the impact of mental disorders on pharmacy students' academic performance. The second section assessed students' perceptions of whether mental disorders are grounds for the dismissal of pharmacy students. Finally, the third section assessed the students' perceptions of whether mental disorders are grounds for rejection of an applicant to pharmacy school. Additionally, the demographic characteristics of the respondents were obtained using an attached demographic form. The demographic characteristics collected were age, gender, year of study, marital status, previous experience with mental illness, and whether the students knew a family member with mental illness.

Twenty pharmacy students from the University of Nigeria, Nsukka, who satisfied the study's eligibility criteria, were used to pilot-test the questionnaire. The purpose of the pilot test was to confirm that the questionnaire's wording was clear and that accurate response were elicited. Adjustments to the questionnaire were made as needed at the conclusion of the exercise.

### Data collection

The data was collected during the 2021 Annual National Convention of the Pharmaceutical Association of Nigerian Students, which took place between 8 and 10 April 2021, at the University of Uyo, Akwa-Ibom State, Nigeria. The principal investigator first briefed the respondents on the study's objectives. Thereafter, eligible respondents were given a paper-based self-administered questionnaire. The students completed the questionnaire on their own, and five research assistants were on hand to collect the completed questionnaires. Wherever possible, the research team addressed any concerns raised by respondents.

**Data analysis**

The data was coded and screened in Microsoft Excel before being entered into IBM Statistical Products and Services Solution version 21 for Windows software. Descriptive statistics were used to summarize the demographic characteristics of the respondents as well as their perceptions. The independent Student t-test and One-way analysis of variance were used to compare mean perception across demographic variables. Statistically significant probability values were defined as  $p < 0.05$ .

**Results**

**Students' sociodemographic characteristics**

Table I contained information on respondents' sociodemographic characteristics. The study received responses from 496 pharmacy students, yielding a 93.2% response rate. The male and female genders were nearly equally represented (49.4% vs 50.6%). The majority of those who responded were between the ages of 21 and

25 (71.8%). The vast majority of the students were single with respect to their marital status (98.4%). About 31% have had mental health symptoms in the past or know a family member who suffers from mental illness.

**Students' perceptions regarding interference of mental disorders with academic performance**

The impact of mental illness on students' academic performance was depicted in Table II. According to the findings, 81% of students strongly agree that depression has an impact on pharmacy students' academic performance. The vast majority of respondents agree or strongly agree that anxiety disorders affect pharmacy students' academic performance (98.4%). Over 83% of respondents agree or strongly agree that substance abuse has a negative impact on students' academic performance. Sleep disturbance has a negative impact on students' academic performance, according to 76% of respondents. The mental illness that respondents believed had the least impact on their academic performance was sexual problems (43.1%).

**Table I: Respondents' demographic characteristics (n = 496)**

| Variable                                      | Frequency | Percent |
|---|-----------|---------|
| <b>Gender</b>                                 |           |         |
| Male  | 245       | 49.4    |
| Female  | 251       | 50.6    |
| <b>Age (years)</b>                            |           |         |
| 16-20   | 87        | 17.5    |
| 21-25   | 356       | 71.8    |
| 26-30   | 53        | 10.7    |
| <b>Year of study</b>                          |           |         |
| Second  | 115       | 23.2    |
| Third   | 188       | 37.9    |
| Fourth  | 122       | 24.6    |
| Fifth   | 71        | 14.3    |
| <b>Marital status</b>                         |           |         |
| Single  | 488       | 98.4    |
| Married                                       | 8         | 1.6     |
| <b>Experienced mental illness</b>             |           |         |
| No  | 341       | 68.8    |
| Yes   | 155       | 31.3    |
| <b>Know family member with mental illness</b> |           |         |
| No  | 340       | 68.5    |
| Yes   | 156       | 31.5    |

**Table II: Students' perceptions regarding interference of mental disorders with academic performance**

| Disease state     | Responses (n, %)  |          |            |            |                |
|-------------------|-------------------|----------|------------|------------|----------------|
|                   | Strongly disagree | Disagree | Neutral    | Agree      | Strongly agree |
| Depression        | 1 (0.2)           | 5 (1.0)  | 0 (0.0)    | 88 (17.7)  | 402 (81.0)     |
| Mania             | 0 (0.0)           | 31 (6.3) | 88 (36.1)  | 179 (36.1) | 198 (39.9)     |
| Anxiety disorder  | 0 (0.0)           | 8 (1.6)  | 0 (0.0)    | 185 (37.3) | 303 (61.1)     |
| Substance abuse   | 27 (5.4)          | 5 (1.0)  | 48 (9.7)   | 252 (50.8) | 164 (33.1)     |
| Sexual problems   | 30 (6.0)          | 18 (3.6) | 234 (47.2) | 123 (24.8) | 91 (18.3)      |
| Sleep disturbance | 27 (5.4)          | 28 (5.6) | 64 (12.9)  | 252 (50.8) | 125 (25.2)     |
| Eating disorder   | 49 (9.9)          | 37 (7.5) | 121 (24.4) | 234 (47.2) | 55 (11.1)      |
| Schizophrenia     | 0 (0.0)           | 48 (9.7) | 102 (20.6) | 154 (31.0) | 192 (38.7)     |
| Stress disorder   | 1 (0.2)           | 0 (0.0)  | 67 (13.5)  | 241 (48.6) | 187 (37.7)     |
| Bipolar Disorder  | 0 (0.0)           | 22 (4.4) | 118 (23.8) | 202 (40.7) | 154 (31.0)     |

**Students' perceptions regarding mental disorders as grounds for dismissal of a pharmacy student**

The percentage distribution of respondents who agreed or disagreed that mental disorders would be grounds for the dismissal of pharmacy students was shown in Table III. According to the findings, approximately 31% of those surveyed agreed or strongly agreed that depression would be grounds for

expulsion from pharmacy school. Mania (45.8%) and anxiety disorder (37.9%) were viewed as reasons for dismissing a student from a pharmacy programme by less than half of those polled. Substance abuse, according to approximately 65% of respondents, would be grounds for expulsion of a pharmacy student. Fewer than 20% agreed or strongly agreed that pharmacy students suffering from stress disorders should be expelled from pharmacy school.

**Table III: Students' perceptions regarding mental disorders as grounds for dismissal of a pharmacy student**

| Disease state     | Responses (n, %)  |            |            |            |                |
|-------------------|-------------------|------------|------------|------------|----------------|
|                   | Strongly disagree | Disagree   | Neutral    | Agree      | Strongly agree |
| Depression        | 54 (10.9)         | 166 (33.5) | 120 (24.2) | 77 (15.5)  | 79 (15.9)      |
| Mania             | 13 (2.6)          | 112 (22.6) | 144 (29.0) | 120 (24.2) | 107 (21.6)     |
| Anxiety disorder  | 7 (1.4)           | 89 (17.9)  | 212 (42.7) | 65 (13.1)  | 123 (24.8)     |
| Substance abuse   | 27 (5.4)          | 73 (14.7)  | 71 (14.3)  | 149 (30.0) | 176 (35.5)     |
| Sexual problems   | 43 (8.7)          | 122 (24.6) | 149 (30.0) | 32 (6.5)   | 150 (30.2)     |
| Sleep disturbance | 51 (10.3)         | 145 (29.2) | 155 (31.3) | 59 (11.9)  | 86 (17.3)      |
| Eating disorder   | 64 (12.9)         | 109 (22.0) | 151 (30.4) | 90 (18.1)  | 82 (16.5)      |
| Schizophrenia     | 100 (20.2)        | 101 (20.4) | 120 (24.2) | 19 (3.8)   | 156 (31.5)     |
| Stress disorder   | 35 (7.1)          | 211 (42.5) | 156 (31.5) | 15 (3.0)   | 79 (15.9)      |
| Bipolar Disorder  | 73 (14.7)         | 132 (26.6) | 136 (27.4) | 73 (14.7)  | 82 (16.5)      |

**Students' perceptions toward mental disorders as grounds for rejection of pharmacy school applicant**

Table IV shows the percentage of respondents who agreed or disagreed that mental illnesses should be a reason for rejection of pharmacy school applicants. Less than half of the respondents agree or strongly

agree that depression (44.4%), anxiety disorder (42.3%), and stress disorder (46.4%) would be grounds for rejection from pharmacy school. Substance abuse (62.5%), schizophrenia (58.1%), and bipolar illness (58.1%) were all cited as valid reasons for denying admission to pharmacy school by the majority of respondents.

**Table IV: Students' perceptions toward mental disorders as grounds for rejection of pharmacy school applicant**

| Disease state     | Responses (n, %)  |            |            |            |                |
|-------------------|-------------------|------------|------------|------------|----------------|
|                   | Strongly disagree | Disagree   | Neutral    | Agree      | Strongly agree |
| Depression        | 79 (15.9)         | 62 (12.5)  | 135 (27.2) | 53 (10.7)  | 167 (33.7)     |
| Mania             | 48 (9.7)          | 28 (5.6)   | 206 (41.5) | 51 (10.3)  | 163 (32.9)     |
| Anxiety disorder  | 49 (9.9)          | 67 (13.5)  | 170 (34.3) | 85 (17.1)  | 125 (25.2)     |
| Substance abuse   | 32 (6.5)          | 27 (5.4)   | 127 (25.6) | 114 (23.0) | 196 (39.5)     |
| Sexual problems   | 57 (11.5)         | 109 (22.0) | 87 (17.5)  | 109 (22.0) | 134 (27.0)     |
| Sleep disturbance | 24 (4.8)          | 117 (23.6) | 104 (21.0) | 63 (12.7)  | 188 (37.9)     |
| Eating disorder   | 41 (8.3)          | 133 (26.8) | 82 (16.5)  | 54 (10.9)  | 186 (37.5)     |
| Schizophrenia     | 38 (7.7)          | 68 (13.7)  | 102 (20.6) | 132 (26.6) | 156 (31.5)     |
| Stress disorder   | 68 (13.7)         | 111 (22.4) | 87 (17.5)  | 94 (19.0)  | 136 (27.4)     |
| Bipolar Disorder  | 21 (4.2)          | 72 (14.5)  | 113 (22.8) | 137 (27.6) | 153 (30.8)     |

**Sociodemographic factors associated with students' perceptions of the impact of mental disorders on pharmacy education**

The mean difference analysis of students' views of the impact of mental illnesses on pharmacy education was presented in Table V. The findings revealed that respondents' age ( $F = 22.260, p = 0.001$ ), year of study

( $F = 4.941, p = 0.002$ ), and whether or not they knew a family member with mental illness ( $t = 3.579, p = 0.001$ ) were all significantly related to their perceptions of how mental disorders interfere with academic performance. Respondents' perceptions of mental illness as a reason for dismissal of a pharmacy student was significantly associated to gender ( $t = 5.414, p =$

0.001), age ( $F = 36.275, p = 0.001$ ), year of study ( $F = 20.339, p = 0.001$ ), marital status ( $t = 2.306, p = 0.022$ ), and previous experience with mental illness ( $t = 3.997, p = 0.001$ ). Similarly, gender ( $t = 4.182, p < 0.001$ ), age ( $F = 9.984, p = 0.001$ ), year of study ( $F = 27.635, p <$

$0.001$ ), and previous experience with mental illness ( $t = 5.212, p < 0.001$ ) were all associated with respondents' perceptions of mental illness as a reason for rejection of pharmacy school applicant.

**Table V: Sociodemographic factors associated with students' perceptions of the impact of mental disorders on pharmacy education**

| Variable                                      | Interference with students' academic performance |                              | Ground for dismissal of students from pharmacy school |                              | Ground for rejection of pharmacy school applicants |                              |
|---|--|------------------------------|---|------------------------------|--|------------------------------|
|   | Mean $\pm$ SD                                    | t-value ( $p$ -value)        | Mean $\pm$ SD   | t-value ( $p$ -value)        | Mean $\pm$ SD                                      | t-value ( $p$ -value)        |
| <b>Gender</b>                                 |  |                              |   |                              |  |                              |
| Male  | 30.97 $\pm$ 4.57                                 | 1.654 (0.099)                | 23.62 $\pm$ 7.20                                      | 5.414 (<0.001) <sup>†</sup>  | 26.91 $\pm$ 11.49                                  | 4.182 (<0.001) <sup>†</sup>  |
| Female  | 30.28 $\pm$ 4.64                                 |                              | 19.43 $\pm$ 9.79                                      |                              | 22.78 $\pm$ 10.46                                  |                              |
| <b>Age (years)*</b>                           |  |                              |   |                              |  |                              |
| 16-20   | 31.87 $\pm$ 4.05                                 | 22.260 (<0.001) <sup>†</sup> | 16.16 $\pm$ 5.28                                      | 36.275 (<0.001) <sup>†</sup> | 21.39 $\pm$ 13.04                                  | 9.984 (<0.001) <sup>†</sup>  |
| 21-25   | 30.86 $\pm$ 4.52                                 |                              | 21.79 $\pm$ 8.65                                      |                              | 26.20 $\pm$ 10.87                                  |                              |
| 26-30   | 26.94 $\pm$ 4.44                                 |                              | 28.32 $\pm$ 9.64                                      |                              | 21.19 $\pm$ 7.30                                   |                              |
| <b>Year of study*</b>                         |  |                              |   |                              |  |                              |
| Second  | 30.77 $\pm$ 4.72                                 | 4.941 (0.002) <sup>†</sup>   | 19.98 $\pm$ 8.84                                      | 20.339 (<0.001) <sup>†</sup> | 28.53 $\pm$ 10.68                                  | 27.635 (<0.001) <sup>†</sup> |
| Third   | 31.48 $\pm$ 4.73                                 |                              | 24.73 $\pm$ 9.23                                      |                              | 25.82 $\pm$ 10.73                                  |                              |
| Fourth  | 29.66 $\pm$ 4.07                                 |                              | 17.45 $\pm$ 7.48                                      |                              | 17.69 $\pm$ 8.68                                   |                              |
| Fifth   | 29.76 $\pm$ 4.65                                 |                              | 22.38 $\pm$ 6.40                                      |                              | 28.42 $\pm$ 11.44                                  |                              |
| <b>Marital status</b>                         |  |                              |   |                              |  |                              |
| Single  | 30.59 $\pm$ 4.63                                 | -1.083 (0.279)               | 21.62 $\pm$ 8.85                                      | 2.306 (0.022) <sup>†</sup>   | 24.88 $\pm$ 11.18                                  | 0.880 (0.379)                |
| Married                                       | 32.37 $\pm$ 2.97                                 |                              | 14.37 $\pm$ 6.23                                      |                              | 21.37 $\pm$ 10.46                                  |                              |
| <b>Experienced mental illness</b>             |  |                              |   |                              |  |                              |
| No  | 30.57 $\pm$ 4.03                                 | -0.393 (0.694)               | 22.56 $\pm$ 9.26                                      | 3.997 (<0.001) <sup>†</sup>  | 26.53 $\pm$ 11.98                                  | 5.212 (<0.001) <sup>†</sup>  |
| Yes   | 30.74 $\pm$ 5.71                                 |                              | 19.18 $\pm$ 7.39                                      |                              | 21.04 $\pm$ 7.92                                   |                              |
| <b>Know family member with mental illness</b> |  |                              |   |                              |  |                              |
| No  | 31.11 $\pm$ 4.45                                 | 3.579 (0.001) <sup>†</sup>   | 21.38 $\pm$ 9.13                                      | -0.433 (0.665)               | 24.64 $\pm$ 9.51                                   | -0.534 (0.594)               |
| Yes   | 29.54 $\pm$ 4.80                                 |                              | 21.76 $\pm$ 8.23                                      |                              | 25.22 $\pm$ 14.14                                  |                              |

<sup>†</sup>represents F value for One-way ANOVA; †- significant at  $p < 0.05$

## Discussion

The purpose of this study was to assess pharmacy students' impressions of the influence of mental disorders on pharmacy education in terms of academic performance, reasons for dismissal from pharmacy school, and applicant rejection. The findings revealed that pharmacy students believe that mental illnesses impair academic performance. With the exception of substance abuse, the majority of the students believed that mental disorders should not be grounds for dismissal from pharmacy school. The majority of respondents, however, believed that substance abuse, schizophrenia, and bipolar disorder were reasons for a pharmacy school applicant's rejection.

In the present study, a vast majority of the students believed that mental disorders impair academic performance, except for sexual problems. This finding was consistent with a previous study in Nepal among pharmacy students (Panthee *et al.*, 2010). The Nepalese study reported that the majority of their

respondents agreed or strongly agreed that depression, schizophrenia, anxiety, psychotic disorder, bipolar disorder, and mania would impair academic performance. Additionally, the study documented that less than half of the students were of the opinion that sexual problems affect academic performance (Panthee *et al.*, 2010). Similarly, some previously published studies have established that mental illness predicts poor academic performance among college and university students (Keyes *et al.*, 2012; Sharma & Pandey, 2017; Claydon & Zullig, 2020). A Colombian study reported that higher depression severity was associated with lower academic achievement among undergraduate students (Barahona-Correa *et al.*, 2018). However, an Ethiopian study found no significant difference in academic grades between university students, whether they have common mental disorders or not (Haile, Alemu, & Habtewold, 2017).

The findings of the current study underscore the need for the provision of mental health services for students

within the university environment. University students who underwent psychiatric treatment have comparable academic performance with non-patient students who did not express any symptoms of mental disorder (Campos *et al.*, 2017). Anti-stigma awareness programmes in the schools of pharmacy should be encouraged so that pharmacy students with mental illness do not become victims of discrimination and stigmatisation in the hands of fellow students.

The majority of students believed that mental disorders should not be grounds for dismissal from pharmacy school. In other words, students generally held favourable views of mental disorders as grounds for dismissal from a pharmacy programme. The current study's findings were also consistent with those of the Nepalese study conducted among first- and third-year pharmacy students (Panthee *et al.*, 2010). In the study, for example, approximately 5% and 36% of the students surveyed agreed that depression and schizophrenia, respectively, should be grounds for dismissal of a pharmacy student from the programme (Panthee *et al.*, 2010). In Nigeria, university students with mental disorders are encouraged to seek medical attention from health professionals (Adeosun, 2016); however, this is not a statutory basis for dismissal from a pharmacy programme (Ikhile & Chijioke-Nwauche, 2016).

Notwithstanding the overall students' perception, in the present study, 65.0% of the students believed that substance abuse, including abuse of alcoholic beverages and other psychoactive drugs, should be grounds for dismissal from pharmacy school. Thus, while university administrators regulate the sale and consumption of alcoholic beverages on campus, the abuse of hard drugs such as marijuana is strictly prohibited and punishable under Nigerian law (National Drug Law Enforcement Agency Act, 2009). The few students who expressed negative perceptions of mental illnesses as a reason for dismissal from the pharmacy programme could be targeted for educational interventions such as seminars and workshops, interactive PowerPoint lecture sessions, leaflets and booklets, and health literacy web-portal.

Furthermore, the majority of respondents strongly agreed or agreed that substance abuse, schizophrenia, and bipolar disorder were sufficient reasons for a pharmacy school applicant's rejection. In contrast to the current study findings, a previous study found that a lower proportion of pharmacy students believe that substance abuse, schizophrenia, and bipolar disorder are grounds for denying an applicant admission to a pharmacy programme (Panthee *et al.*, 2010). People with substance abuse disorders are frequently perceived to engage in criminal behaviour, which may

explain the students' perceptions in the current study. Furthermore, the perceived unpredictable and aggressive behaviour associated with people suffering from untreated schizophrenia and bipolar disorder may have influenced the students' belief that both disorders should be grounds for rejecting a pharmacy school applicant.

The current study also discovered that students who were single, male, younger, in a lower year of study, and unfamiliar with mental illness had significantly higher negative perceptions than those who were not. These findings were consistent with the reports of previous studies (Corrigan *et al.*, 2001; Al-Adawi *et al.*, 2002; Panthee *et al.*, 2010; Yuan *et al.*, 2016; Anosike *et al.*, 2020). As a result, it is recommended that when developing and implementing potential anti-stigma programmes on mental health for pharmacy students, the aforementioned factors associated with students' perceptions of the impact of mental illness on pharmacy education be taken into account.

#### **Limitation**

This survey had a limitation that must be considered when interpreting the study's findings. Despite the fact that respondents were drawn from six Nigerian universities, the study population was small. This was due to the fact that the study participants were limited to pharmacy students who were physically present at the 2021 Annual National Convention of the Pharmaceutical Association of Nigerian Students.

#### **Conclusion**

According to the study findings, the majority of students believed that pharmacy students with mental disorders perform poorly academically and that substance abuse, schizophrenia, and bipolar should be grounds for rejecting an applicant into a pharmacy program. However, a few of the students believed that mental disorders are grounds for dismissing a student from a pharmacy programme. Students' perceptions of the impact of mental disorders on pharmacy education were related to their age, gender, marital status, year of study, and familiarity with mental illness. Therefore, students with negative perceptions should be targeted for educational interventions while taking into account the variables that favour such tendencies.

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