

# Factors Influencing Student Nurses' Willingness to Care for Mentally Ill Patients with Highly Infectious Diseases in Nigeria: A Cross-Sectional Study

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## ABSTRACT

**Background:** Individuals experiencing mental illness and diagnosed with highly infectious diseases (HID) are doubly stigmatized. Identifying the factors influencing student's willingness to care for this special population is essential not only to inform stigma reduction strategies but also to provide useful information towards building a critical mass of future compassionate caregivers with ultimate goal of improving the quality of nursing care for mentally ill persons. **Methodology:** A cross-sectional descriptive research design was utilized to examine 200 participants from a training institution in Ebonyi state. Data was collected using validated author constructed instrument. Descriptive and inferential statistics were utilized to analyze data. **Result:** Multiple logistic regression analysis revealed that the variables were statistically significant at  $\chi^2(4) = 23.133, p < 0.001$ . This demonstrates that all factors (gender, marital status, incentives, and family type) influence student nurses' willingness to work with mentally ill patients who have highly infectious diseases. **Conclusion:** The findings of this study suggest that appropriate institutional policies, additional training, and incentives should be adopted to boost student motivation.

## 1. INTRODUCTION

Student nurses learn real-life care of patients through supervised care provision to health-care consumers thus form an extended part of clinical care agents. Caring for mentally ill patients experiencing highly infectious diseases presents one of the greatest challenges to healthcare professionals because of the presentation of some mental illnesses especially major mental disorders. For instance, delusions and hallucinations may be a major limitation towards appraisal and compliance to basic care standards thus capable of predisposing, precipitating and perpetuating infection cycle [1-3].

Infectious diseases can spread over a distant area and become viral, for instance, several arboviruses such as dengue and yellow fever. These infectious diseases knew no border, with the latest, and perhaps most lethal in terms of spread among all being the novel Coronavirus (COVID-19) which broke out in a commercial city of Wuhan in People's Republic of China at the tail end of 2019. Historically, people known to have infectious diseases have been shunned by society, even in the days before routes of disease transmission were understood [4-9] and this in part may explain the reason people with highly infectious diseases such as COVID-19 show an increased risk of incidence of mental health disorders, including anxiety disorders, depressive disorders, stress and adjustment disorders, neurocognitive decline, and sleep disorders [1].

Contemporaneously, people with mental illness have suffered similar societal rejection, often attributed to the nature of their ill health and symptoms exhibited [10]. Even with training and experience, substantial numbers of healthcare workers are less likely to care for these groups of patients without extra reward beyond saving human lives [11]. Likewise, nursing students have a fear of, and negative attitudes toward people living with highly infectious diseases [2]. Unfavourable disposition to mentally ill has been linked to a lack of knowledge, stigma attached to the disease, and a fear of possibly becoming infected in the case of infectious disease [12, 13].

The speed with which highly infectious diseases spread with associated fatality especially in people experiencing mental illness underscores the importance of the present study. Willingness refers to the voluntary disposition towards a phenomenon and it is a strong proxy for positive psychological capital. It is a major ingredient for adequate preparedness for potential health care workers. Identifying the factors influencing student's willingness to care is essential not only to reduce the fear, anxiety, stress or stigma associated with mentally ill persons suffering from highly infectious disease, but also to provide useful information towards building a critical mass of compassionate care givers with ultimate goal of improving the quality of nursing care.

However, the thrust of numerous existing current studies have been on highly infectious diseases and health professionals wellbeing or preparedness [14-16]. Some researchers have also investigated pertinent variables among with regards to HID among nursing students [17-20]. However, none has focused on factors affecting willingness of nursing students to care for the mentally ill experiencing highly infectious disease even with the concern that mental disorders have surpassed the estimated 20% - 25% of global population have been reported [21, 22]. To this end, the present study identified an important gap, thus examined willingness to care with mentally ill patients experiencing highly infectious diseases among student nurses.

## **2. METHODOLOGY**

This is a descriptive and quantitative cross-sectional study. It was conducted among all clinical nursing students on clinical experience.

### **2.1. Samples**

The study subjects consisted of all 200 clinical nursing students from year two to year five who were on clinical posting. Year one students were excluded from data collection reason being that they had minimal clinical exposure. All the 200 student nurses who were on clinical experiences in the above settings were included within January and March, 2022.

### **2.2. Instruments and Data Collection**

A researcher-structured questionnaire "Willingness to care for mentally ill patients with highly infectious diseases" was used in collecting data for this study. It was a 54 itemed instrument with two sections—Section A comprised 8 items that eliciting information on socio-demographic variables and Section B which is 46 itemed parts elicit information on willingness to practice care with mentally ill patients with

highly infectious diseases. The research instrument was validated using content validity which was first examined by three research experts. The entire method of the study was pilot tested with twenty (20) respondents who were not part of the study sample. The reliability of the questionnaire instrument was determined using the test-retest method. This involved giving respondents' questionnaire to fill twice within a week. The scores were collated and subjected to Pearson Product Moment Correlation Coefficient. A reliability coefficient with Cronbach alpha of 0.739 was obtained.

### 2.3. Ethical Consideration

Permission to undertake the research was obtained from the institution. Informed consent was equally obtained from all the research participants.

### 2.4. Data Analysis

Collected field data were analyzed with descriptive statistics for the socio-demographic variables, while Chi-square test of association and multiple logistic regressions were used to test the influence of the significant socio-demographic variables as determinants of level of willingness to practice care with mentally ill patients experiencing highly infectious diseases.

## 3. RESULTS

Analysis was based on one hundred and eighty two (182) out of the two hundred (200) questionnaires distributed. These were questionnaires successfully retrieved from the field completed without errors. This indicates 91% return rate, thus, considered adequate for the study. The socio-demographic characteristics of the participants are shown in [Table 1](#).

The greatest proportion of them was in year 3 (34.6%) while the smallest proportion was in year 2 (13.2%). The age ranged from 18 to 49 with a mean age of  $27 \pm 8$  years. The greatest proportion of them (64.8%) was between 21 - 30 years, while the least proportion was 41 years and above (8.8%). Majority of the respondents were females (83%), single (125, 68.7%), Christians (172, 94.5%), from monogamy family (151, 83%). In regards to training and sponsorship, the greatest proportion had self/family sponsorship (173, 95.1%), community sponsorship (7, 3.8%) and the least proportion was government sponsorship (2, 1.1%).

Factors such as self-related factors, family-related factors, incentives as motivating factors, professional norms, and culture were identified as determinants of student nurses' willingness to care for mentally ill patients suffering from highly infectious diseases. Other factors implicated were religion, precautionary/preventive/curative measures, resource availability, and institutional factor. [Table 2](#) shows the results of the willingness survey.

Given their lack of insurance coverage, a majority of the participants (55.5%) agreed or strongly agreed that they would not risk their lives by accepting to work at a hospital where mentally ill patients with highly infectious diseases were treated. When asked if they would be willing to care for mentally ill patients with highly infectious diseases who survive the virus, the majority of student nurses objected or strongly disapproved (62.1%). 62.6 percent of them agree or strongly agree that whether or not they are involved in providing nursing care to patients with highly contagious diseases, if one will die of the disease, it will surely happen. In terms of age and health history, a lesser percentage of students felt that these criteria would prevent them from considering (30.2%) or accepting to nurse (43.4%) mentally ill patients with highly infectious diseases. This suggests that lack of insurance coverage is a self-related condition that may lead to a negative willingness to provide care to mentally ill patients with highly infectious diseases, while age and health history may not play a significant influence in willingness.

Furthermore, 51.1% agreed or strongly agreed that family members objected to the students' involvement in caring for mentally ill patients with highly infectious diseases. In support of this, approximately the same percentage of students (53.8%) disagreed or strongly disagreed with the assertion that none of their family members would be concerned if they were assigned to a facility where mentally ill

**Table 1.** Socio-demographic characteristics of respondents (N = 182).

Variable	Category	Frequency	Percentage
<b>Gender</b>			
	Male	31	17.0
	Female	151	83.0
<b>Age (in years)</b>			
	≤20 years	21	11.5
	21 - 30 years	118	64.8
	31 - 40 years	27	14.8
	41 and above	16	8.8
<b>Year in College/University</b>			
	Year 2	24	13.2
	Year 3	63	34.6
	Year 4	48	26.4
	Year 5	47	25.8
<b>Marital status</b>			
	Married	56	30.8
	Single	125	68.7
	Divorced	1	0.5
	Widow/widower	0	0
<b>Religion</b>			
	Christian	172	94.5
	Islam	10	5.5
	African Traditional Religion	0	0
<b>Family type</b>			
	Monogamy	151	83.0
	Polygamy	24	13.2
	Single parent	7	3.8
<b>Ethnic group</b>			
	Niger Delta	140	76.9
	Ibo	12	6.6
	Yoruba	11	6.0
	Missing*	19	10.4
<b>Training Sponsorship</b>			
	Self/Family-sponsored	173	95.1
	Community sponsored	7	3.8
	Government sponsored	2	1.1

x = Mean, SD—Standard Deviation, \*Missing—Information not given.

**Table 2.** Participants responses to determinants of student nurses' willingness to care for mentally ill patients experiencing highly infectious diseases (N = 182) \*n = 56 (Married only).

	Statement	Disagree n (%)	Agree n (%)
<b>Self-Related Factor</b>			
1	I have no insurance cover; therefore I cannot risk my life by accepting to work in a hospital where mentally ill patients experiencing highly infectious diseases are receiving treatment	81 (44.5%)	101 (55.5%)
2	Since patients who survive viral diseases still carry the virus, I cannot risk nursing such a patient, talk less of nursing a mentally ill patient with active infection	113 (62.1%)	69 (37.9%)
3	Whether or not one is involved in giving nursing care to highly infectious diseases patients, if one will die of the disease, it will surely happen	68 (37.4%)	114 (62.6%)
4	Considering my age, I don't think I will accept caring for a mentally ill patient experiencing highly infectious diseases	127 (69.8%)	55 (30.2%)
5	Considering my health history, I don't think I will consider nursing a mentally ill patient experiencing highly infectious diseases	103 (56.6%)	79 (43.4%)
<b>Family Related Factor</b>			
6	My family members will kick against my involvement in caring for a mentally ill patient experiencing highly infectious diseases.	89 (48.9%)	93 (51.1%)
7*	My spouse will never allow me to work in a hospital where highly infectious diseases patients are admitted/being treated	39 (69.6%)	17 (30.4%)
8*	Being involved in nursing a highly infectious diseases patient can lead to divorce/separation from my partner/spouse	47 (83.9%)	9 (16.1%)
9	I don't think any of my family member will be worried if I am posted to a unit where mentally ill patients experiencing highly infectious diseases are receiving care/treatment	98 (53.8%)	84 (46.2%)
<b>Incentive As Motivating Factors</b>			
10	There is nothing that will make me to accept to nurse a mentally ill patients experiencing highly infectious diseases, even if that will make me an instant millionaire	130 (71.4%)	52 (28.6%)
11	In the light of the current economic situation, I may consider caring for mentally ill patients experiencing highly infectious diseases, if the financial incentives are attractive enough for me	77 (42.3%)	105 (57.7%)

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12	Due to possible professional advancement opportunities, I may consider nursing mentally ill patients experiencing highly infectious diseases, if there is an adequate counseling and support for health professionals	25 (13.7%)	157 (86.3%)
13	Due to possible award and recognition in the profession and in the wider society, I may consider nursing mentally ill patients experiencing highly infectious diseases, if a special salary pay package is offered	59 (32.4%)	123 (67.6%)
14	If there is an adequately insurance scheme, I may consider caring for highly infectious diseases patients	33 (18.1%)	149 (81.9%)
15	Working in the ward for nursing mentally ill patients with highly infectious diseases can be very strenuous therefore for every three days of work I should be given 3/4 days off duty to avoid burn out	31 (17%)	151 (83%)
<hr/> <b>Professional Norms</b> <hr/>			
16	The nursing code of ethics will not allow me to discriminate against any patient even a highly infectious diseases patient	25 (13.7%)	157 (86.3%)
17	Professional ethics or no ethics I can never take the risk of nursing a mentally ill patient experiencing highly infectious diseases	138 (75.8%)	44 (24.2%)
18	I don't think professionally I will be held accountable if I protect myself by refusing to care for a mentally ill patient experiencing highly infectious diseases	73 (40.1%)	109 (59.9%)
19	I will refuse to care for a mentally ill patient experiencing highly infectious diseases, despite the stand of nursing code of ethic because I have not heard of any nurse being penalized in this regard	129 (70.9%)	53 (29.1%)
20	I am aware of the occupational risk involved in being a nurse before choosing the profession, so I may consider nursing a mentally ill patient experiencing highly infectious diseases	29 (15.9%)	153 (84.1%)
21	I think my personal safety from infection from highly infectious disease patients supersedes any professional code of ethics	59 (32.4%)	123 (67.6%)
<hr/> <b>Culture And Religion</b> <hr/>			
22	According to our culture, anybody inflicted with a mentally illness with highly infectious disease has committed undesirable acts which they are paying for. So why should I care about them	150 (82.4%)	32 (17.6%)

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23	In case there is an outbreak, mentally ill patient experiencing highly infectious diseases should be abandoned in faraway bush and be left to die there so as to stop the epidemic/pandemic	148 (81.3%)	34 (18.7%)
24	By not allowing family members or the community to perform the last rites for individuals that died of highly infectious diseases, our culture is being undermined. Therefore, I cannot work in a system that shows disrespect for our people	141 (77.5%)	41 (22.5%)
25	My religion forbids me from discrimination against fellow human being. Therefore, in the event of an outbreak of a highly infectious disease, I will not mind if posted to a ward for treating such cases	55 (30.2%)	127 (69.8%)
26	Because of fear of possible rejection by our community, I cannot participate in nursing a mentally ill patient experiencing highly infectious diseases	153 (84.1%)	29 (15.9%)
<b>Precautionary/Preventive/Curativemeasures/Resource availability Related Factors</b>			
27	If there is vaccine that can protect me from highly infectious diseases patients, I may consider nursing mentally ill patient experiencing highly infectious diseases	37 (20.3%)	145 (79.7%)
28	Current treatment does not guarantee survival so I cannot risk caring for patients infected with such diseases	132 (72.5%)	50 (27.5%)
29	High mortality rate among nurses and doctors who volunteered to treat mentally ill patient experiencing highly infectious diseases reveals substandard protection. Therefore, I cannot expose myself to the risk of infection by accepting to work in highly infectious diseases ward	120 (65.9%)	62 (34.1%)
30	Standard Infection Prevention and Control ensure protection against being infected, then I do not mind nursing clients infected with such diseases	28 (15.4%)	154 (84.6%)
31	If the resources needed for the care of mentally ill patient experiencing highly infectious diseases are made available, then I will not mind nursing clients infected with such diseases	38 (20.9%)	144 (79.1%)

patients with highly infectious diseases receive care or treatment. This means that if they are sent to the unit, their family members will be concerned and will fight against it. 30.4% percent of the 56 married participants agreed or strongly agreed that their spouse will never allow them to work in a restaurant.

In terms of incentives as a motivator, the majority of students (71.4%) disagreed that no amount of money would persuade them to accept to nurse mentally ill patients with highly infectious diseases, even if it meant becoming instant millionaires. Motivating variables such as incentives, on the other hand, can be deduced as an important tool for increasing their readiness to accept nursing patients with highly infectious diseases. The responses on the following questionnaire items backed up this claim. In light of Nigeria's current economic position, 57.7% of respondents agreed or strongly agreed that they would be willing to provide care to mentally ill patients with highly infectious diseases provided the financial incentives were sufficient. Because of the potential for professional progress, 86.3 percent agreed or strongly agreed that they should.

Moreover, when it comes to the nursing code of ethics, 86.3% of student nurses agree or strongly agree that they would not discriminate against any patient, even those with viral infections. However, 24.2% of students stated that no matter what their professional ethics are, they will never incur the danger of nursing mentally ill patients who are infected with highly infectious diseases. On the other hand, over 60% of them believe that if they protect themselves professionally by refusing to care for mentally ill patients with highly infectious diseases, they will not be held accountable. Furthermore, despite the nursing code of ethics, roughly 29% of them agreed or strongly agreed that they would reject to care for highly infectious disease patients with mental illness.

In terms of cultural views, the majority of student nurses disputed or strongly disagreed with the negative perceptions of patients suffering from mental illness and diseases that are extremely infectious: 82.4% disagreed that mentally ill patients with highly infectious diseases have committed undesirable acts for which they are paying, and thus have no reason to care about them; 81.3% disagreed that mentally ill patients with highly infectious diseases should be abandoned in faraway bush and left to die there in order to stop the epidemic or pandemic; 77.5% disagreed with the statement "by not allowing family members to visit them," and 77.5% disagreed with the statement "by not allowing family members to visit them." As a result, I am unable to work in terms of cultural views, the majority of student nurses disputed or strongly disagreed with the negative perceptions of patients suffering from mental illness and diseases that are extremely infectious: 82.4% disagreed that mentally ill patients with highly infectious diseases have committed undesirable acts for which they are paying, and thus have no reason to care about them; 81.3% disagreed that mentally ill patients with highly infectious diseases should be abandoned in faraway bush and left to die there in order to stop the epidemic or pandemic; 77.5% disagreed with the statement "by not allowing family members to visit them," and 77.5% disagreed with the statement "by not allowing family members to visit them." As a result, I am unable to work in such units.

Nonetheless, in terms of precautionary/preventive/curative measures and resource availability, a higher percentage of students agreed that they would not mind caring for patients infected with such diseases if there was a vaccine that could protect them from infection (79.7%), if Standard Infection Prevention and Control ensured protection against infection (84.6%), and if the resources needed for the care of mentally ill patients experiencing highly infectious diseases were available (79.1%). A minority of them agreed that caring for patients infected with such diseases would put them at risk of infection, based on the belief that treatment does not guarantee survival (27.5%) and that the high mortality rate among nurses and doctors who volunteered to treat patients with highly infectious diseases reveals inadequate protection (34.1%).

Furthermore, the role of gender, marital status, and family type as factors of willingness to care for the mentally ill patients suffering from highly infectious diseases was investigated using multiple logistic regression analysis. The logistic regression model was statistically significant,  $\chi^2(4) = 23.133$ ,  $p < 0.001$ . This thus implies that all the variables are determinants of willingness care with mentally ill patients experiencing highly infectious diseases. As shown in **Table 3**, Male student nurses are slightly likely (0.26 times) to have positive willingness than the female students (AOR = 0.262, 95% CI = 0.080 - 0.865,  $p = 0.028$ ). Married students were 9.2 times more likely to practice care with mentally ill patients experiencing highly infectious diseases than the single students (AOR = 9.215, 95% CI = 1.107 - 76.710,  $p = 0.040$ ). With respect to family type, students from monogamy family were about 5 times more likely to have positive

**Table 3. Determinants of level of willingness to practice care with mentally ill patients experiencing highly infectious diseases (N = 182).**

Variables	AOR	95% CI	<i>p</i> value
Gender (Ref—Female)	0.262	0.080 - 0.865	0.028*
Marital status (Ref—Single <sup>b</sup> )	9.215	1.107 - 76.710	0.040*
Family type (Ref—Others <sup>c</sup> )	3.998	1.292 - 12.377	0.016*

Abbreviations: AOR, Adjusted Odds Ratio; CI, Confidence interval; \*Significant at  $p \leq 0.05$ , <sup>b</sup>(single & 1 divorced), <sup>c</sup>(Polygamy and single parent).

willingness to practice care with mentally ill patients experiencing highly infectious diseases patients than students from polygamous family and single parent family (AOR = 3.998, 95% CI = 1.292 - 12.377,  $p = 0.016$ ).

#### 4. DISCUSSION

The unmitigated rise in cases of infection and mortality rates may affect students' willingness to care for patients, especially patients with concurrent issue of mental illness. In this study a number of factors were discovered to influence student nurses' desire to care for mentally ill patients who are infected with highly infectious diseases.

Personal variables have a substantial impact on student nurses' desire to care for this special population. The study found that not having insurance is a self-related factor that may predispose to unwillingness for effective caregiving for mentally ill patients who are suffering from highly infectious diseases. This is evidence in the finding that a majority of participants (55.5%) affirmed that if they did not have insurance, they would not risk their lives by accepting to work in a hospital where highly infectious disease patients are being treated. This is consistent with the earlier evidence by Yonge, Rosychuk, Bailey, Lake, Marrie whereby absence of insurance and incentives were among the key factors responsible for lack of will on the part of nursing student work in mental health facilities hosting patients with infectious diseases [23]. While this has implications on the policies governing the placement of student nurses, it also calls for universities and health care organizations to create protocols for the recruiting, protecting, and incentivizing nursing volunteers, including access to appropriate PPE and adequate incentives [24].

Gender had a statistically significant relationship with level of willingness, with male student nurses marginally more likely than female students (0.26 times) to have positive willingness scores (AOR = 0.262, 95 percent CI = 0.080 - 0.865,  $p = 0.028$ ). These findings could be due to the fact that males have more financial responsibility thus eager to work in any situation. This result supports the demographic conclusions of previous earlier research studies conducted in and outside of Nigeria [25, 26]. Earlier studies also support the finding. Accordingly, men who are not comfortable with the relational aspects of the hallmark nursing role of caring could be choosing psychiatric nursing because of the wide range of functions that are task oriented and comply with their masculine identity [27]. The finding is supported by other research, which had suggested that male nurses would normally choose task-oriented fields [28, 29]. However, in contrast to this conclusion, a study [30], observed no correlations between demographics and willingness to treat COVID-19 patients.

The outcome of the study showed that in the Eastern part of Nigeria, family variables equally influence student nurses' desire to care for patients with highly contagious diseases. This is based on the significant affirmation by up to 51.1% of the respondents that family members would oppose their involvement in caring for mentally ill patients with highly infectious diseases. The logistic analysis also revealed that, in terms of family type, students from monogamous families were around 5 times more likely to care for the mentally ill. Married students were 9.2 times more likely than single students to provide care to mentally

ill individuals with highly contagious disorders (AOR = 9.215, 95% CI = 1.107 - 76.710,  $p = 0.040$ ). When compared to married and divorced student nurses, singles had a greater proportion (14.4 percent) with a negative willingness level. Similarly, family type was found to be significantly associated with willingness to care for mentally ill patients with highly infectious diseases, leading the researchers to conclude that family members and one's spouse may play a significant role in determining a student's willingness to work with mentally ill patients. This result agrees with evidence from earlier studies that up to 52% of respondents would not choose family above work during a pandemic since it would not impair their motivation to practice during disease outbreaks [31]. Consistent with the results of other studies [32-37], the number of years spent in college or university had no bearing on the level of desire.

It follows that the exiting body of evidence on effective care for the mentally disorders suffering from infectious diseases needs policy framing of necessary recruitment, incentive and protective mechanisms necessary to safely engage student nurses in mental healthcare facilities where infectious diseases are treated.

The implication of the above findings is that existing health policies need modifications in order to provide effective direction for the care of special groups thus, optimizing the benefit of student nurses in mental health facilities where health workforce shortages exist.

## 5. CONCLUSION

The outcomes of this study suggest that a variety of factors may impact student nurses' desire to care for mentally ill patients infected with highly dangerous infections. As a result, student nurses must have access to current and adequate information about the treatment process and outcomes of patients with highly contagious diseases. If student nurses obtain adequate training and practice on infection control utilizing sufficient and acceptable equipment, they may have a greater desire to care for mentally ill patients who are infected with highly contagious diseases, especially during pandemics like COVID-19. Therefore, the government, nursing schools, and the Nursing Council must focus their resources right. The findings of this study demonstrate that in this situation, appeals and rewarding incentives can improve the wiliness to care.

## LIMITATIONS

Self-reported questionnaires, which were used in the study, have a tendency to overstate actual responses, especially in the face of significant illness outbreaks. The researcher created the tool, which only has face validity. However, the instrument's Cronbach alpha was 0.739, showing good reliability.

## CONFLICTS OF INTEREST

The author declares no conflicts of interest regarding the publication of this paper.

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