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Effects of Psychiatric Clinical Orientations on the Attitudes of Nursing Students towards Psychiatry as a Specialty and People living with Mental illness

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Abstract

Mental disorders constitute a substantial global public health challenge, with approximately 450 million people worldwide affected by mental illnesses. Evidence shows negative view of the nursing students towards psychiatric nursing and people with mental disorders. Hence this study assessed effects of clinical exposures on the attitudes of prospective nurses towards psychiatry and people with mental disorders.

Methods: This study utilized prospective cohort design involving pretest and post test data collection approach. Data were collected from a scientifically calculated sample size of 400 students for each stage of the study using standardized questions (ATP-18 and MICA), Systematic random sampling was used to selected the sample from the target population. The data were cleansed and analyzed using SPSS version 26. Paired T-test was used to analyze the effect of the clinical exposure while factors associated with the attitudes were determined using simple and multiple linear regression analysis.

Results: the results of the study showed an overall mean score was 57.4, which indicates negative attitudes towards psychiatric nursing. However, following psychiatric clinical exposures, the overall mean score improved to 62.64 which means a positive attitudes towards psychiatric nursing. Paired T-test analysis revealed that clinical psychiatric posting had statistically significant effects on the attitudes of the students towards psychiatry ($p < 0.001$) and people with mental disorders ($p < 0.001$). The key determinants of attitudes towards psychiatry were: Lectures in psychiatry ($p = 0.003$), residence($p < 0.001$), school ($p < 0.001$) and marital status ($p = 0.002$) while the factors associated with attitudes towards people with mental illness were: school ($p < 0.001$), gender ($p = 0.031$) and family income ($p = 0.01$).

Conclusion: the researcher concluded that clinical psychiatric posting provided an opportunity for students to get involved in patients care and learn more about psychiatry hence the improved attitudes towards the specialty and the people with mental illness.

Background to the Study

Mental health disorders encompass a wide range of conditions that affect mood, thinking, and behavior, including depression, anxiety disorders, schizophrenia, eating disorders, and addictive behaviors, which can significantly impair an individual's ability to function in daily life (World Health Organization, 2022). These disorders constitute a substantial global public health challenge, with approximately 450 million people worldwide affected by mental illnesses (Rikhari et al., 2025). They contribute significantly to the global disease burden, particularly through disability-adjusted life years, with disproportionate impacts in low- and middle-income countries (World Health Organization, 2022). The COVID-19 pandemic further exacerbated this crisis, increasing patient acuity and mortality rates while simultaneously eroding support systems for psychiatric healthcare providers (Manning College of Nursing and Health Sciences, 2025). Despite this escalating burden, the psychiatric workforce remains critically deficient, with low-

income countries possessing merely 0.4 mental health nurses per 100,000 population (WHO Global Health Observatory, 2021–2022), creating formidable barriers to adequate mental healthcare delivery.

The stigmatization of mental illness and psychiatric nursing as a professional field is widespread all over the world that has a tremendous impact on patient care and workforce development. The problem of stigmatizing attitudes among nursing students is prevalent in the global community, which may undermine the quality of care provided to patients with psychiatric diagnoses (Fernandes et al., 2022; Brahmi et al., 2022). In cases where healthcare workers hold stigmatizing assumptions and display discrimination, it leads to dehumanization, rejection, and hopelessness in patients, which ultimately discourages apprehension of help and treatment compliance (Brahmi et al., 2022). This stigma is also posed on the specialty, and studies show that 78.2% of nursing and medical students are not interested in specializing in psychiatry and that they have negative attitudes towards the discipline (Samari et al., 2019). The workforce consequences are significant, which is that chronic stigma increases recruitment and retention issues in psychiatric nursing, further exacerbating the existing shortage of workforce and ultimately reducing mental health services (Manning College of Nursing and Health Sciences, 2025).

The situation in Nigeria is especially tricky with ingrained cultural beliefs and extensive stigma over mental illness. Stigma associated with mental health has immense implications of how mentally ill people are treated within communities, which hinders treatment initiation, continuation and outcomes with especially devastating impacts in resource-starved environments like Nigeria (Pederson et al., 2020). In most communities in Nigeria, mental illness is explained as spiritual or psychic, which places traditional and religious leaders as the frontline healthcare providers of mental health problems as opposed to the traditional psychiatric care (Esan et al., 2019). The increasing incidence of mental illness in Nigeria increases the relevance of the issue of workforce recruitment due to a variety of challenges that psychiatric nurses encounter, including both staffing shortages and stigmatization in society, and the lack of willingness by the nursing students to pursue a career in psychiatric nursing (2021).

The clinical placements in psychiatry are the crucial points where theory meets clinical reality, as they are the key points when the attitudes of nurses students towards psychiatry and mental illness are formed. Recent results show that even courses in psychiatry are not enough to change the biased mindset, but meaningful contact with people who have had a lived experience of mental illness is necessary (Martin et al., 2020). Properly designed clinical placements with the emphasis on patient-based care and effective communication have proven to be able to change the views of the students positively (Yaghmour, 2025), and sub-optimal experiences could support negative stereotypes (O'Ferrall-González et al., 2020). Nonetheless, the research studies that investigate the effects of psychiatric clinical placements on the attitudes of nursing students are especially limited in Nigeria, as it is a major gap in the literature regarding how to maximize clinical education to develop the workforce in this resource-limited setting.

Methods And Materials

Research Design

The research design adopted in this study was a prospective cohort study design that involved a pre-test and post-test intervention to investigate the effect of psychiatric clinical orientation on the attitudes of nursing students towards psychiatry and people living with mental illness. The pre-post test design was chosen as the most suitable approach to the study of the changes in attitudes over time due to the impact of the clinical posting experience, thus enabling every participant to act as a control group and maximize statistical power with the decrease of confounding factors related to the difference in individuals (Martin et al., 2020).

Study Setting

The research was carried out in four nursing training programs in the south eastern part of Nigeria namely: the Department of Nursing science at Ebonyi state university (EBSU), school of nursing in Federal teaching hospital Abakaliki (FETHA), Mater Misericordiae Hospital School of Nursing, and School of Nursing Uburu. As the geopolitical area with the highest density of rural population, the low level of mental health facilities presents Ebonyi State, the most typical place in Nigeria where the challenge of developing the workforce in the field of psychiatric nursing is most urgent (Esan et al., 2019). The psychiatric clinical placements were carried out within Federal Neuropsychiatric school of nursing Calabar and it lasted for six weeks. Three weeks orientation and three weeks in the clinical exposures to psychiatric patients.

Study Population

All the undergraduate nursing students in the four participating nursing institutions in Ebonyi state who are set to have psychiatric clinical posting in the course of the study period were the target population. The students in their second (200 level) and fourth (400 level) year in the Bachelor of Nursing Science (B.N.Sc.) program or similar diploma programs were eligible as the groups of students who usually complete psychiatric clinical rotations in their core curriculum requirements.

Inclusion Criteria

Students were eligible for inclusion in the study if they met the following criteria: (1) enrolled as full-time nursing students in one of the four participating institutions; (2) scheduled to undergo psychiatric clinical posting during the study period; (3) willing to participate in both pre-posting and post-posting assessments; (4) able to read and comprehend English language questionnaires; and (5) provided written informed consent (or assent with parental consent for students under 18 years of age).

Exclusion Criteria

Students were excluded from the study if they: (1) had previously completed a psychiatric clinical posting; (2) were on academic suspension or leave of absence during the study period; (3) withdrew from the psychiatric clinical posting before completion; (4) had incomplete questionnaire responses at either the pre-posting or post-posting assessment phase;

Sample Size Determination

The sample size was calculated using the formula for comparing paired means in a pre-post intervention study design (Lwanga & Lemeshow, 1991):

$n = [(Z\alpha + Z\beta)^2 \times 2\sigma^2] / d^2$

Where:

n = required sample size

Zα = standard normal variate for type I error (1.96 for 95% confidence level)

Zβ = standard normal variate for type II error (0.84 for 80% power)

σ = pooled standard deviation of the outcome measure

d = minimum detectable difference in mean scores

Based on previous research by Martin et al. (2020) examining changes in nursing students' attitudes toward psychiatry following clinical posting, the anticipated mean difference in Attitudes Toward Psychiatry (ATP-18) scores was estimated at 4.5 points with a pooled standard deviation of 7.5. Using these parameters, the calculated minimum sample size was 276 students. To account for potential attrition, incomplete responses, and loss to follow-up estimated at approximately 30%, the sample size was adjusted to 360 students. Ultimately, 400 questionnaires were distributed to provide additional buffer for non-response and ensure adequate statistical power for subgroup analyses.

Sampling Technique

Selective sampling strategy used was systematic random sampling of the eligible student population of the four institutions involved. The number of students who were eligible in all four institutions was identified and k (sampling interval) was calculated by dividing the total population by the required sample size. A random initial number between 1 and k was picked up through a random number table and then all of the k the student on the list were picked till the desired sample size of each institution was reached.

Each of the four institutions was proportionally represented in the sample given the number of students on the institutions as this was done to achieve representativeness of the institutional distribution of

Ebonyi State nursing students.

Data Collection Instrument

The data were gathered in the form of a self-administered questionnaire that had a structured form and had three major parts, including socio-demographic characteristics, attitudes towards psychiatry, and attitudes towards mental illness.

Section A: Socio-demographic Characteristics.

In this section, the demographic and background details of the participants were collected such as age, gender, institution, level of study, residence, parental occupation, monthly family income, school place of residence, marital status, psychiatric lectures, mentorship, membership of mental health club and previous psychiatric work experience. These variables were chosen in accordance with the established relationships with mental health attitudes in available literature (Fernandes et al., 2022; Wu et al., 2024).

Section B: Attitudes toward Psychiatry Scale (ATP-18)

ATP-18 (Burra et al., 1982) is a 18-item tool that assesses attitudes toward psychiatry in a variety of dimensions: scientific foundation, treatment efficacy, career attractiveness and perceived status in comparison to other medical specialties. The ratings will be done using a Likert-scale of 5 points (1 = strongly disagree, 5 = strongly agree), but reverse-scoring will be used to reduce bias in responses. Total scores are rated between 18–90 with the higher the score, the more positive attitudes. The scores will be categorized into negative (30–59), neutral (60), and positive (> 60). The ATP-18 has a high internal consistency (Cronbachs 0.74–0.82), test-retest reliability, cross-cultural environment (Martin et al., 2020).

Section C: Mental Illness Clinicians Attitudes scale (MICA)

MICA (Kassam et al., 2010) as adjusted by Dalky et al. (2024) to measure the attitudes of nursing students toward people with mental illness is a 16-item test that evaluates the presence of stigmatizing attitudes. On a 6-point rating scale, where 1 = strongly agree and 6 = strongly disagree, the total scores take the range of 16–96. A lower score reflects more positive (less stigmatizing) attitudes which are divided into positive (< 56), neutral (56), and negative (> 56). The MICA has good psychometric characteristics (Cronbachs 0.79–0.87) when used with nursing students of the same culture (Moxham et al., 2024) and its use was predetermined by the healthcare-oriented specificity and educational intervention sensitivity.

Validity and Reliability of Instruments

There are confirmed psychometric properties of both ATP-18 and MICA scales which are reported in international literature. To test the content validity and cultural appropriateness of the instruments in the

context of the Nigerian environment, a panel of experts, including two psychiatric nursing specialists and one psychiatrist and one psychometrician reviewed the instruments before the data collection process started. Linguistic changes were slightly carried out to make it more understandable and conceptual similarity was achieved with the original scales. The instruments were then pilot-tested on 30 nursing students in another state that was not involved in the main study to determine the level of understanding and time taken to complete the instruments and internal consistency. The pilot study provided alpha coefficients of 0.78 of the ATP-18 and 0.81 of the MICA which is sufficient internal consistency reliability.

Data Collection Procedure

Data collection was performed in two stages: pre-posting assessment (baseline) and post-posting assessment (follow-up), and each of the stages was performed according to the standard procedures to avoid inconsistency and bias.

Pre-Posting Assessment (Baseline)

The process of baseline data collection involved the use of data that were collected within 1 week before the start of the psychiatric clinical posting in the different institutions. The questionnaires were distributed in the participating institutions by the researcher with the help of trained research assistants who were recruited among the nursing faculty members during the scheduled classes. The questionnaires were also sent out in classroom environments to get the highest possible response rates and enable clarification of questions regarding items made immediately. The questionnaires were gathered as soon as they were completed, screened (to ensure completeness), and stored. The whole procedure lasted 25–30 minutes on average per subject.

Psychiatric Clinical Posting

After baseline measure, the subjects went through the scheduled psychiatric clinical posting as per the normal curriculum requirement of the respective institutions. The length of clinical posting was 4–8 weeks based on institutional policies with majority of students doing 6 weeks rotations. Clinical placements were done in specified psychiatric centres where the students participated in direct patient care processes under the supervision of qualified psychiatric nurse preceptors and clinical instructors. The clinical activities generally entailed assessment of the patient, therapeutic communication, drug administration, attending group therapy sessions, and designing of unique care plans to the patients with diverse mental health disorders.

The post-posting measurement was done one week after the psychiatric clinical posting had been completed in each institution, the conclusion of which was similar to that of the baseline assessment. The researcher and research assistants contacted the study participants using the unique identification codes issued during baseline to schedule the follow-up data collection process. ATP-18 and MICA questionnaires were re-administered to the respondents with the same procedures so that only comparable measures could be taken. Out of 400 questionnaires that were issued at baseline, 370 were collected during follow up (92.5% retention rate). But 20 were left with incomplete responses and were

not included in the analysis thus in the final analysis 350 participants (87.5% response rate) who completed both pre-posting and post-posting assessments received the final analytical sample.

Ethical Considerations

Data collection began with the Research Ethics Committee of Ebonyi State University giving ethical approval to the study “in accordance with the Declaration of Helsinki” (Reference number: [insert reference number]) before data collection. Other administrative clearances were also obtained with the officials of the respective participating institutions such as the Dean of the Faculty of Health Sciences at EBSU, the Chief Medical Directors of FETHA and Mater Misericordiae Hospital, and the Principal of the School of Nursing Uburu.

Written participant information sheet and verbally provided by the researcher and trained research assistants, all participants were provided with extensive information regarding the purpose of the study, the procedures involved, possible risks and benefits as well as their rights as research participants. They were clearly told that their involvement was completely voluntary and that they could leave the study without any consequences and that any information they would provide would remain confidential and anonymous.

The research ensured confidentiality and anonymity by issuing of unique identification codes to each participant with questionnaires being referred by these codes but not by names or other personal details. Questionnaires were stored in locked cabinets that were strictly guarded by the research team and the electronic data in the form of the files with a password. None of the individual participants could be recognized in any of the reports or publications published after the study.

Clinical Trial Number: Not applicable to this study

Results

Socio-demographic Characteristics of the Respondents :

Table 4.1 presents the socio-demographic features of the respondents to this study. Four hundred questionnaires were distributed for the pre-psychiatric posting phase and after the posting. Of the 400 questionnaires shared, 370 copies were returned, of which 20 were incomplete and excluded from analysis. The response rate was 87.5% (350) for the quantitative study's pre and post-clinical posting phases.

The mean age of the respondents was 23.96 (3.30) years old. The nursing department of EBSU had 28.6%, the highest, followed by the School of Nursing Uburu with 25.7%, while Mater and FETHA had equal percentages of respondents. Females dominated the respondents, with 72.6%. About 28.6% of the respondents have had lectures in psychiatry before the posting, while 33.1% have mentors in school. The majority of the respondents are not single (94.3%), belong to a mental health club (0.6%), and have had psychiatric experience (4.9%).

Additionally, the highest family income among the respondents was 110,000-150,000 naira per month (28.9%). Most schools were in urban (45.1%) and semi-urban areas (46.6%). Occupationally, most of the parents were civil servants (34.7%), followed closely by business (31.7%), and the least were healthcare workers (4.0%).

Table 4.1
Socio-demographic Characteristics of the respondents (N = 350)

Variables	Mean(SD)	Frequency	Percentage (%)
Age	**23.96(3.30)**		
Schools:			
EBSU Dept. of Nursing		100	28.6
FETHA School of Nursing		80	22.9
Mater School of Nursing		80	22.9
UBURU School of Nursing		90	25.7
Gender			
Male		96	27.4
Female		254	72.6
Residence			
Urban		177	50.6
Semi-urban		141	40.3
Rural		32	9.1
Parents' Occupation			
Civil Service		121	34.6
Farming		80	22.9
Business		111	31.7
Healthcare worker		14	4.0
Others		24	6.9
Level of Study			
400 level		100	28.6
200 level		250	71.4
Family Income (Naira)			
10,000–50,000		36	10.3
60,000-100,000		60	17.1
110,000-150,000		101	28.9

Variables	Mean(SD)	Frequency	Percentage (%)
Age	**23.96(3.30)**		
Schools:			
160,000-200,000		83	23.7
Above 200,000		70	20.0
School Location			
Urban		158	45.1
Semi-urban		163	46.6
Rural		29	8.3
Lectures in Psychiatry			
No		250	71.4
Yes		100	28.6
Mentors			
No		234	66.9
Yes		116	33.1
Marital Status			
Single		330	94.3
Married		20	5.7
Mental Health Club			
No		348	99.4
Yes		2	0.6
Psychiatric Experience			
Yes		17	4.9
No		333	95.1

4.2.2a Effects of psychiatric clinical orientation on attitudes towards people living with mental illness and psychiatry among Nursing Students in Ebonyi State, Nigeria.

As presented in Table 4.2, the respondents showed diverse attitudes towards psychiatry and mental illness. About 54.6% reported having negative attitudes, 41.1% showed positive attitudes, and 4.3% had neutral attitudes towards psychiatry before clinical posting. The respondents had a mean score of 59.15

with a standard deviation of 8.20, which denotes overall negative attitudes. Attitudes towards mental illness showed that 54.29% had positive attitudes while 45.71% had negative attitudes. The overall mean score was 57.4, which indicates negative attitudes.

Moreover, following clinical psychiatric posting, the respondents showed a more positive attitude towards psychiatry, with 68.6% scoring > 60 as the mean score while 26.3% had a negative mean score. Overall, the mean score increased from 59.15 to 63.64, which implied more positive views. Regarding attitudes towards mental illness, the overall mean score dropped from 57.4 to 52, denoting improved attitudes from negativity to positivity.

Table 4.2
Impacts of psychiatric clinical posting on aattitudes towards mental illness and psychiatry among Respondents.(N = 350)

ATP-18 Score Pre-clinical Posting			**MICA Score Pre-clinical Posting**		
Variables	**Freq(N)**	**Percentage**	**Variables**	**Freq (N)**	**Percentage**
Negative Mean Score (30–59)	191	54.6	Negative mean score(> 56)	160	45.71
Neutral Mean Score (60)	15	4.3	Neutral mean Score (56)	0	0.00
Positive Mean Score (> 60)	144	41.1	Positive Mean Score (< 56)	190	54.29
Overall Mean ATP Score (SD)	59.15(8.20)		Overall Mean MICA Score(SD)	57.4(8.79)	
ATP-18 Score Post-clinical Posting			**MICA Score Post-clinical Posting**		
Negative Mean Score (30–59)	92	26.3	Negative mean score(> 56)	94	26.86
Neutral Mean Score (60)	18	4.9	Neutral mean Score (16)	0	0.00
Positive Mean Score (> 60)	240	68.6	Positive Mean Score (< 56)	256	73.14
Overall Mean ATP Score (SD)	63.64(6.37)		Overall Mean MICA Score(SD)	52.00(6.82)	

4.2.2b Changes in attitudes towards Psychiatry and Mental illness among the respondents after psychiatric clinical posting (N = 350).

Paired T-test analysis of the impacts of psychiatric clinical posting on attitudes towards psychiatry and mental illness presented in Table 4.3 showed that clinical posting had clinically significant impacts on the mean attitudes towards psychiatry and mental illness. It had p-values < 0.001 and T statistics 8.268 and − 8.452, respectively.

Table 4.3

Changes in attitudes towards Psychiatry and Mental illness among the respondents before and after psychiatric clinical posting (N = 350).

Mean(SD)				
Variables	**Pre-ATP score**	**Post-ATP score**	**T statistics (df)**	**P-value**
ATP Score	59.134(8.17)	63.637(6.37)	8.268(349)	< 0.001
MICA Scores	57.431(8.78)	52 .003(6.83)	-8.452(349)	< 0.001

Paired T-test

4.2.2c Factors associated with attitudes towards Psychiatry (ATP).

At simple linear regression screening of the variables of the study, the following variables showed significant association with attitudes towards psychiatry (ATP Diff scores): age (P = 0.117), school (p < 0.001), Level of Study (p = 0.003), School Location (p = 0.078), lectures (p = 0.003), mentors (p = 0.210), marital status (p = 0.001) and psychiatric experience (p = 0.095). The variables with p-values < 0.25 were selected and entered into the multiple linear regression phase.

At the multiple linear regression (MLR) analysis, variables significant at the screening level were selected into the MLR and analyzed using stepwise, forward and backward approaches. The outcome was examined, and the researcher chose the forward model as the fit model. Out of the eight variables entered, Lectures (p = 0.003), residence(p < 0.001), school (p < 0.001) and marital status (p = 0.002) remained significantly associated with attitudes towards psychiatry among the respondents.

Table 4.4

a **Factors associated with attitudes towards Psychiatry (ATP)**

	Simple Linear Regression			**Multiple Linear Regression**		
Variables	**Crude b[c] (95%CI)**	**T-Stat.**	**P-value**	**Adj. b[d](95%CI)**	**T-stat**	**P-value**
Age	0.26(-0.65, 0.58)	1.57	0.117			
School	1	-3.67	< 0.001	-1.65(-2.57,-0.75)	-3.52	< 0.001
EBSU	-1.74(-2.67,-0.81)					
Colleges						
Gender	1	-0.41	0.684			
Male	-0.49(-2.90, 1.91)					
Female						
Residence	1	-0.64	0.020	3.34(2.21–1.094)	2.12	0.001
Urban	-0.54(-2.18, 1.11)					
Rural						
Occupation	-0.07(-1.04. 0.89)	-0.15	0.880			
Level of Study	1	-2.94	0.003			
400 level	-3.51(-5.86. -1.16)					
200level						
Family Income	1	0.93	0.352			
Above 200000	0.41(-0.45, 1.27)					
Below 200000						
School Location	1	-1.77	0.078			
Urban	-1.52(-3.95, 0.17)					
Rural						
Lectures	1	2.94	0.003	4.53(2.34, 5.22)	4/12	0.003
Yes	3.51(1.16, 5.86)					
No						

	Simple Linear Regression			Multiple Linear Regression		
Variables	**Crude b[c] (95%CI)**	**T-Stat.**	**P-value**	**Adj. b[d](95%CI)**	**T-stat**	**P-value**
Mentor	1	1.26	0.210			
Yes	1.45(-0.82, 3.73)					
No						
Mental health club	1	-1.91	0.648			
Yes	-0.99(-5.23, 3.26)					
No						
Marital Status	1	3.30	0.001	1	3.13	0.002
No	7.63(3.08, 12.18)			7.15(2.66, 11.63)		
Yes						
Psychiatric exper.	1	-0.26	0.095			
Yes	4.23(-0.74. 9.20)					
No						

CI=confidence interval, b(regression coefficient). no multicollinearity (VIF = 1.04, T = 0.996), variables were normally distributed as tested using histogram plot, no interaction between the independent variables, assumptions of the multiple linear regression were fulfilled.

4.2.2d Factors associated with attitudes towards mental illness (MICA) among nursing students

As presented in Table 4.4b, the simple linear regression screening of the socio-demographic variables at $p < 0.25$ showed that school ($p < 0.001$), residence ($p = 0.001$), level of study ($P < 0.001$), family income ($p = 0.008$), school location ($p < 0.001$), lectures ($p < 0.001$), mentor ($p = 0.004$), mental health club ($p = 0.207$), marital status ($p = 0.105$) and psychiatric experience ($p = 0.119$) had p-values < 0.25. However, age ($p = 0.799$) and parents' occupation($p = 0.860$) showed no statistically significant association in the simple linear regression analysis; hence, they were not included in the final analysis. On the other hand, gender ($p = 0.355$) was included in the final model because it is considered clinically significant to the concept under consideration.

Furthermore, the above variables were entered into multiple linear regression (MLR) using stepwise, forward, and backward approaches separately to determine the best fit for the final model. In the end, the researcher chose the forward approach as the best model of the association between attitudes towards mental illness and the socio-demographic variables of the respondents. The final model had the

following as the key determinants of the attitudes towards mental illness: school ($p < 0.001$), gender ($p = 0.031$) and family income ($p = 0.01$).

Table 4.4
b Factors associated with attitudes towards mental illness (MICA) among nursing students

	Simple Linear Regression			Multiple Linear Regression		
Variables	**Crude b[c] (95%CI)**	**T-stat.**	**P-value**	**Adj. b[d](95%CI)**	**T-stat**	**P-value**
Age	-0.05(-0.43, 0.33)	-0.25	0.799			
School EBSU Colleges	1 -5.08(-6.06,-4.09)	-10.14	< 0.001	1 -5.02(-6.00,-4.04)	-10.10	< 0.001
Gender Female Male	1 1.33(-1.49, 4.17)	0.93	0.355	1 2.73(0.26,5.20)	2.17	0.031
Residence Urban Rural	1 -3.16(-5.07,-1.25)	-3.25	0.001			
Occupation	0.10(-1.03,1.24)	0.18	0.860			
Level of Study 400 level 200 level	1 -11.07(-13.62,-8.53)	-8.56	< 0.001			
Family Income Above 200000 Below 200000	1 -1.36(-2.37,-0.36)	-2.66	1 0.008	-1.17(-2.05,-0.28)	-2.59	0.01
School Location Urban Rural	1 -4.06(-6.02,-2.10)	-4.08	< 0.001			
Lectures Yes No	1 11.07(8.53, 13.62)	8.56	< 0.001			

	Simple Linear Regression			Multiple Linear Regression		
Variables	**Crude b[c] (95%CI)**	**T-stat.**	**P-value**	**Adj. b[d](95%CI)**	**T-stat**	**P-value**
Mentor	1	2.86	0.004			
Yes	3.87(1.21, 6.52)					
No						
Mental health club	-2.38(-5.33, 0.57)	-1.59	0.114			
Marital Status	4.49(-0.945, 9.92)	1.63	0.105			
Psychiatric exper.	4.66(-1.21, 10.52)	1.78	0.119			

CI=confidence interval, b[C](regression coefficient). no multicollinearity (VIF = 1.014, T = 0.998), variables were normally distributed as tested using histogram plot, no interaction between the independent variables, assumptions of the multiple linear regression were fulfilled.

Discussion

Socio-demographic Characteristics of Respondents

The present study revealed significant socio-demographic patterns among nursing students in Ebonyi State, Nigeria, with implications for understanding the contextual factors that influence attitudes toward mental illness and psychiatry. The mean age of respondents was 23.96 years (SD = 3.30), which aligns with the typical age range for nursing students in sub-Saharan Africa pursuing diploma and undergraduate nursing education. This finding is consistent with recent research by Njaka et al. (2024), who reported similar age demographics among nursing students in Nigeria, noting that the average age reflects the educational pathways and entry requirements for nursing programs in the region. The predominance of female participants (72.6%) mirrors global trends in nursing education, where women continue to constitute the majority of the nursing workforce and student population. This gender distribution is comparable to findings from multiple international studies, including research from China where female nursing students comprised 89.9% of participants (Meng et al., 2022), and Jordan where female students represented 82.9% of the sample (Dalky et al., 2024). The feminization of nursing has been attributed to historical gender role expectations, societal perceptions of nursing as a caring profession traditionally associated with women, and persistent gender stereotypes that influence career choices (Moxham et al., 2024).

The educational background of respondents revealed that only 28.6% had received lectures in psychiatry before their clinical posting, and merely 33.1% reported having mentors in school. These findings are

particularly concerning given the established evidence that pre-clinical psychiatric education and mentorship significantly influence attitudes toward mental illness and career choices in psychiatric nursing. Martin et al. (2020) emphasized that early exposure to psychiatric concepts through structured coursework and mentorship programs can serve as crucial anti-stigma interventions that shape students' perceptions before they encounter clinical realities. The lack of psychiatric education among the majority of participants in this study may have contributed to the negative attitudes observed before clinical posting, as students entered their psychiatric clinical experiences without adequate theoretical preparation or conceptual frameworks to contextualize mental illness. This observation aligns with recommendations from recent systematic reviews suggesting that psychiatric education should be integrated throughout nursing curricula rather than being confined to standalone courses immediately preceding clinical placements (Zeng et al., 2024).

Family income distribution among respondents showed that 28.9% reported monthly household incomes between 110,000-150,000 naira, representing a middle-income category within the Nigerian economic context. The relationship between socioeconomic status and mental health attitudes has been extensively documented in recent literature, with studies demonstrating that family economic resources influence not only access to mental health information but also shape attitudes toward mental illness through complex mediating pathways. Research by Wu et al. (2024) demonstrated that family socioeconomic status affects mental health literacy through chain-mediated effects involving parenting styles and interpersonal relationships, suggesting that economic resources translate into educational opportunities, exposure to diverse perspectives, and access to quality information about mental health. Furthermore, Meng et al. (2022) found that nursing students from families with better economic status demonstrated lower levels of mental health-related stigma, potentially because higher socioeconomic status facilitates exposure to mental health services, reduces economic stressors that might perpetuate negative stereotypes, and provides greater access to educational resources that promote understanding of mental illness.

The geographic distribution of respondents revealed that 50.6% resided in urban areas, 40.3% in semi-urban locations, and only 9.1% in rural areas. This urban predominance likely reflects the concentration of nursing educational institutions in urban centers and the greater accessibility of nursing education to urban populations. However, the school location data presented a more balanced distribution, with 45.1% of schools located in urban areas and 46.6% in semi-urban settings. This geographic diversity is particularly relevant given the substantial body of evidence documenting rural-urban disparities in mental health attitudes, access to services, and health literacy. Recent research has consistently demonstrated that individuals from rural backgrounds face unique challenges regarding mental health stigma, with rural communities often characterized by stronger adherence to traditional values, greater concerns about confidentiality in close-knit communities, and more pervasive misconceptions about mental illness (Ferris-Day et al., 2021). Studies examining geographic disparities in mental health services have shown that rural areas experience significant shortages of mental health professionals, limited access to mental health education, and higher rates of stigmatizing attitudes toward mental illness compared to urban areas (Graves et al., 2023). These geographic factors may have influenced the baseline attitudes

of nursing students in this study, particularly those from rural backgrounds who may have had less exposure to mental health services and more limited opportunities to interact with individuals experiencing mental illness.

The marital status distribution showed that 94.3% of respondents were single, which is consistent with the age demographics and the typical life stage of nursing students. While marital status might seem peripherally relevant to attitudes toward mental illness, emerging research suggests that relationship status and family formation can influence perspectives on health, caregiving, and vulnerability to illness. The small proportion of married students (5.7%) may have had different life experiences and responsibilities that could influence their attitudes toward patient care and mental health, though the limited representation of this subgroup restricts definitive conclusions. The extremely low participation in mental health clubs (0.6%) and limited prior psychiatric experience (4.9%) among respondents represent critical gaps in experiential learning opportunities that could have served as protective factors against stigma. Research has consistently demonstrated that direct contact with individuals living with mental illness, particularly in non-clinical contexts, represents one of the most effective strategies for reducing stigma and improving attitudes (Morgan et al., 2021). The absence of mental health club participation suggests missed opportunities for peer-led education, advocacy activities, and structured interactions with individuals with lived experience of mental illness, all of which have been identified as powerful anti-stigma interventions in nursing education (Amsalem et al., 2021).

Impact of Psychiatric Clinical Posting on Attitudes Toward Psychiatry and Mental Illness

The findings from this study demonstrate significant improvements in nursing students' attitudes toward both psychiatry and mental illness following psychiatric clinical posting, providing empirical support for the educational value of structured clinical experiences in mental health settings. Before clinical posting, 54.6% of respondents exhibited negative attitudes toward psychiatry, with a mean ATP score of 59.15 (SD = 8.20), indicating overall negative perceptions of the psychiatric specialty. Following clinical posting, there was a remarkable shift, with 68.6% of students demonstrating positive attitudes and the mean ATP score increasing to 63.64 (SD = 6.37). This statistically significant improvement ($t = 8.268$, $p < 0.001$) aligns with findings from a recent systematic review by researchers examining the effectiveness of psychiatric clinical posting across multiple healthcare disciplines, which concluded that clinical psychiatric experiences of six weeks or longer produce significant positive changes in attitudes toward psychiatry ($p < 0.001$) (Ogunlesi et al., 2024).

The magnitude of attitude change observed in this study is consistent with international evidence documenting the transformative potential of well-structured psychiatric clinical experiences. Research by Slemon et al. (2020) examining nursing students' perspectives following mental health practicum experiences reported similar patterns of attitude improvement, particularly when clinical placements provided opportunities for meaningful patient interactions, supervision by supportive clinical instructors, and exposure to recovery-oriented care models. The positive trajectory of attitudes in the present study

suggests that the clinical posting in Ebonyi State incorporated several evidence-based elements that facilitate attitude change, including sufficient duration of exposure, opportunities for direct patient care, and presumably supportive learning environments that allowed students to challenge pre-existing stereotypes and misconceptions about mental illness and psychiatric nursing.

However, it is crucial to acknowledge that not all clinical experiences produce universally positive outcomes. Martin et al. (2020) cautioned that attitudes can worsen following encounters with challenging patients or negative clinical experiences, particularly when students lack adequate preparation, supervision, or opportunities to process difficult situations. The authors noted that attitudes are more favorable when students spend more time with supportive clinical instructors, have an adequate number of clinical days, and experience placements in community-based settings rather than exclusively acute care units. This observation underscores the importance of careful planning and quality assurance in psychiatric clinical education, as the learning environment, clinical site characteristics, and instructional support significantly mediate the relationship between clinical exposure and attitude change.

Regarding attitudes toward mental illness specifically, the pre-posting assessment revealed that 54.29% of respondents held positive attitudes while 45.71% demonstrated negative attitudes, with an overall mean MICA score of 57.4 (SD = 8.79) indicating negative attitudes on the scale. Following clinical posting, there was substantial improvement, with 73.14% of students demonstrating positive attitudes and the mean MICA score decreasing to 52.00 (SD = 6.82), representing movement toward more positive attitudes (lower scores indicate less stigma on the MICA scale). This change was statistically significant ($t = -8.452$, $p < 0.001$), confirming the beneficial impact of clinical experience on reducing mental illness stigma among nursing students. These findings resonate with recent multinational research by Moxham et al. (2024), who examined attitudes toward mental illness among nursing students across six countries and emphasized that while stigmatizing attitudes remain prevalent globally, targeted educational interventions including clinical placements can effectively reduce stigma and improve students' willingness to engage with individuals experiencing mental illness.

The parallel improvements in both ATP and MICA scores suggest that clinical posting provided students with authentic learning experiences that simultaneously enhanced their perceptions of psychiatry as a medical specialty and reduced their stigmatizing attitudes toward individuals with mental illness. This dual improvement is particularly significant because attitudes toward the discipline and attitudes toward patients are interconnected yet distinct constructs. Patterson et al. (2016) demonstrated that clinical placements that incorporate contact theory principles—emphasizing equal status interactions, common goals, cooperation, and institutional support—are most effective in achieving these dual outcomes. The findings from the present study suggest that the psychiatric clinical posting in Ebonyi State incorporated elements that facilitated both professional identity development in relation to psychiatric nursing and humanization of individuals experiencing mental illness.

Nevertheless, it is important to contextualize these findings within the broader literature that presents more mixed results regarding the impact of clinical experiences. Recent research by Moxham et al. (2024) comparing traditional hospital-based placements with non-traditional community-based placements found that non-traditional settings were significantly more effective in reducing stigmatizing beliefs across all measured domains. The authors reported that traditional institutional placements sometimes fail to produce significant reductions in stigma, and may in some cases reinforce negative stereotypes by predominantly exposing students to individuals in acute crisis states without adequate contextualization of recovery trajectories. This finding raises important questions about the specific characteristics of the clinical posting evaluated in the present study and suggests that future research should examine the types of clinical experiences, patient populations encountered, and pedagogical approaches that contributed to the observed positive outcomes.

The robust statistical significance of attitude changes in both domains ($p < 0.001$ for both ATP and MICA) provides strong evidence that psychiatric clinical posting represents a critical juncture in nursing education where students' professional attitudes can be positively shaped. However, research by O'Ferrall-González et al. (2020) cautioned that the positive evolution of attitudes following clinical experiences may not be sustained over time, with some students' attitudes deteriorating in the final stages of their training after completing clinical practices. This temporal instability in attitudes underscores the need for longitudinal assessment of attitude change and suggests that single-time clinical experiences, while valuable, may be insufficient to produce lasting attitude transformation without ongoing reinforcement through curriculum integration, continued exposure, and opportunities for reflection and processing.

Factors Associated with Attitudes Toward Psychiatry

The multiple linear regression analysis revealed that school affiliation and marital status emerged as the only significant predictors of attitudes toward psychiatry among nursing students after controlling for other variables. Students from EBSU (the university nursing department) demonstrated significantly less favorable attitudes toward psychiatry compared to students from the three nursing colleges (adjusted $b = -1.65$, 95% CI: -2.57, -0.75, $p < 0.001$). This finding warrants careful interpretation within the context of institutional differences in nursing education. University-based nursing programs and hospital-affiliated nursing colleges often differ substantially in their curricula, pedagogical approaches, student demographics, and institutional cultures, all of which may influence attitudes toward psychiatric nursing.

The observed institutional differences align with research examining variations in nursing education quality and outcomes across different types of training institutions. One possible explanation for the more negative attitudes among EBSU students relates to the structure and emphasis of university nursing curricula, which may prioritize biomedical and acute care training over psychosocial and psychiatric content. University programs often face pressure to maintain academic rigor and prepare students for diverse healthcare settings, potentially resulting in less emphasis on or dedicated time for psychiatric nursing education compared to hospital-based colleges that may have stronger relationships

with psychiatric facilities and more integrated mental health clinical experiences. Additionally, the peer culture and prevailing attitudes among students and faculty within different institutions can create distinct learning environments that either reinforce or challenge stigmatizing attitudes toward psychiatry. Research has documented that institutional culture, including the attitudes and behaviors of faculty members and clinical preceptors, significantly influences students' career aspirations and specialty preferences (Slemon et al., 2020).

Marital status emerged as another significant predictor, with married students showing more favorable attitudes toward psychiatry compared to single students (adjusted b = 7.15, 95% CI: 2.66, 11.63, p = 0.002). While this finding might initially appear surprising, several theoretical explanations warrant consideration. Married individuals may have greater exposure to diverse life experiences, relationship dynamics, and family responsibilities that cultivate empathy, emotional maturity, and appreciation for the complexities of mental health and interpersonal relationships. Marriage often involves navigating conflicts, providing emotional support to a partner, and potentially caring for children or other family members, all of which may enhance understanding of psychological distress and the importance of mental health support. Additionally, married students may be older on average and may have accumulated more life experience that fosters perspective-taking and reduces judgmental attitudes toward individuals experiencing mental illness.

This finding is consistent with emerging research suggesting that life stage and social role transitions influence attitudes toward healthcare and patient populations. However, it is important to note that the small proportion of married students in the sample (5.7%) limits the generalizability of this finding and suggests caution in interpretation. The confidence interval is relatively wide, reflecting uncertainty in the estimate, and replication in larger samples with more balanced representation of married and single students would strengthen confidence in this relationship. Nevertheless, the finding raises interesting questions about how personal life experiences and social roles might intersect with professional attitude development in nursing education.

Notably, several variables that showed significant associations at the univariate level, including age, level of study, school location, previous lectures in psychiatry, and psychiatric experience, did not retain significance in the multivariable model. This pattern suggests that the apparent relationships between these variables and attitudes toward psychiatry may be confounded by or mediated through institutional affiliation and marital status. For example, the initial association between prior psychiatric lectures and attitudes may have been driven by institutional differences in curriculum rather than representing an independent effect of pre-clinical education. Similarly, the relationship between level of study and attitudes may reflect institutional or cohort differences rather than developmental changes associated with educational progression.

The absence of a significant gender effect in the final model contradicts some previous research suggesting gender differences in attitudes toward psychiatry and mental health nursing. Studies from various cultural contexts have reported that male nursing students sometimes exhibit more stigmatizing

attitudes toward mental illness (Masedo et al., 2021), while other research has found that female students demonstrate greater openness to psychiatric nursing careers (Mahsoon et al., 2024). The lack of a gender effect in the present study may reflect the specific cultural context of southeastern Nigeria, where gender-based attitudes toward mental health may differ from those observed in other regions, or may indicate that gender influences are secondary to institutional and life experience factors in shaping attitudes toward psychiatry among Nigerian nursing students.

Factors Associated with Attitudes Toward Mental Illness

The multiple linear regression analysis identifying factors associated with attitudes toward mental illness revealed a different pattern of significant predictors compared to attitudes toward psychiatry, underscoring the distinct nature of these two attitude constructs. Three variables remained significantly associated with mental illness attitudes in the final model: school affiliation, gender, and family income. Students from EBSU demonstrated significantly more stigmatizing attitudes toward mental illness compared to students from the nursing colleges (adjusted b = -5.02, 95% CI: -6.00, -4.04, $p < 0.001$). This institutional difference was even more pronounced for mental illness attitudes than for attitudes toward psychiatry, with a larger regression coefficient indicating a stronger effect. The consistency of institutional differences across both outcome measures suggests that school-specific factors—including curriculum design, clinical training partnerships, faculty attitudes, peer culture, and institutional values—exert substantial influence on students' mental health-related attitudes.

The robust institutional effect observed in this study aligns with international research examining variation in nursing students' mental health stigma across different educational programs. Fernandes et al. (2022) and Martin et al., (2020) documented significant inter-institutional variation in mental health stigma among nursing students, attributing these differences to variations in curriculum content, quality of clinical supervision, opportunities for contact with individuals with lived experience of mental illness, and the presence of dedicated mental health nurse educators who model non-stigmatizing attitudes. The findings suggest that educational institutions play a crucial gate keeping role in shaping the attitudes of future nurses and highlight the importance of institutional-level interventions to promote positive attitudes and reduce stigma.

Gender emerged as a significant predictor of mental illness attitudes, with female students demonstrating significantly less stigmatizing attitudes compared to male students (adjusted b = 2.73, 95% CI: 0.26, 5.20, $p = 0.031$). This finding is consistent with substantial literature documenting gender differences in mental health attitudes, stigma, and help-seeking behaviors. Research examining gender and mental health stigma has consistently demonstrated that men tend to endorse more stereotypical views about mental illness, express greater social distance preferences, and demonstrate more negative attitudes toward individuals with mental health conditions compared to women (Sari & Yuliastuti, 2018; Masedo et al., 2021). These gender differences have been attributed to socialization processes, gender role expectations, and cultural masculinity norms that stigmatize emotional vulnerability and discourage help-seeking behaviors among men (Mahmoodi et al., 2022).

The gender difference observed in this study may also reflect differential socialization regarding caregiving roles and emotional expression. Women are often socialized to be more empathetic, emotionally expressive, and oriented toward caregiving roles, potentially facilitating greater understanding and acceptance of mental illness. Additionally, women generally demonstrate higher rates of mental health service utilization and may be more familiar with mental health treatment through personal or family experiences, reducing fear and stigma associated with mental illness. Research by Eid et al. (2021) examining gender differences in help-seeking attitudes found that male nursing students exhibited greater self-stigma associated with seeking psychological help, suggesting that masculine gender role conflicts may extend to professional attitudes toward patients with mental illness.

Family income emerged as a significant predictor of mental illness attitudes, with students from families earning above 200,000 naira monthly demonstrating less stigmatizing attitudes compared to students from families with lower incomes (adjusted b = -1.17, 95% CI: -2.05, -0.28, p = 0.01). This socioeconomic gradient in mental health stigma has been consistently documented in research examining social determinants of health attitudes and behaviors. The relationship between socioeconomic status and mental health stigma is complex and multifaceted, operating through several potential mechanisms. First, families with higher incomes typically have greater access to educational resources, health information, and quality healthcare services, including mental health services, which may normalize mental health treatment and reduce associated stigma (Wu et al., 2024). Second, higher socioeconomic status is associated with greater social and cultural capital, including exposure to diverse perspectives, travel opportunities, and educational experiences that challenge stereotypes and promote understanding of mental illness (Potts & Henderson, 2020).

Third, economic stress and financial insecurity may contribute to more punitive attitudes toward individuals perceived as "different" or "unable to contribute economically," as resource scarcity can activate psychological mechanisms that reduce empathy and increase stigmatization of vulnerable populations. Research examining the intersection of socioeconomic status and mental health attitudes has demonstrated that individuals from lower socioeconomic backgrounds often face competing priorities and life stressors that may limit their capacity for perspective-taking and reduce exposure to anti-stigma messages (Meng et al., 2022).

The finding that family income influences nursing students' attitudes toward mental illness has important implications for nursing education. It suggests that students from economically disadvantaged backgrounds may enter nursing programs with more entrenched stigmatizing attitudes that require more intensive, targeted intervention. Educational institutions should recognize that socioeconomic diversity among students necessitates differentiated pedagogical approaches that acknowledge students' varying levels of prior exposure to mental health information and services.

Notably, several variables that showed significance at the univariate screening level did not retain significance in the multivariable model, including residence, level of study, school location, previous lectures in psychiatry, mentorship, marital status, and prior psychiatric experience. The failure of these

variables to maintain significance in the adjusted model suggests complex patterns of confounding and mediation among predictors. For instance, the initial associations between residence or school location and mental illness attitudes may have been largely explained by family income differences between urban and rural populations or between students attending different types of schools. Similarly, the relationship between prior psychiatric lectures and attitudes may have been mediated by institutional differences in curriculum implementation rather than representing an independent effect of didactic education.

The absence of a significant effect for prior psychiatric experience in the final model is particularly noteworthy and somewhat counter intuitive, given the extensive literature emphasizing contact as a powerful anti-stigma intervention. This null finding may reflect the very limited prevalence of psychiatric experience in the sample (only 4.9%), which reduces statistical power to detect effects and may indicate that the nature or quality of prior experiences varied substantially among the small number of students who reported such experience.

Conclusion

This study concluded that clinical psychiatric posting in which students are involved in real life care of people with mental illnesses and exposed to in depth knowledge of the specialty of psychiatry and the care modalities changes the view and attitudes of the students from negativity to positive view. These attitudes of the students are significantly associated with key variables such as school, marital status, residence among others.

Declarations

Ethics Approval: This was received from the ethical committee of Ebonyi state University Nigeria with approval number (XXXXXX) and permission from the participating schools.

Clinical Trial Number: Not Applicable to the study

Consent for publication: the participants in this study gave written consent to the authors for the outcome of the study to be published for knowledge purpose.

Availability of data and materials: the data for this study are available on reasonable request to the corresponding author.

Competing interest: the authors declare having no competing interest

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Authors' Contribution: NS conceived the idea and drafted the research proposal. NBA designed the methodology while NS and BO collected the data. NS and NBA conducted the data analysis while BO

drafted the first version of the manuscript which was reviewed by all the authors who approved its publication. NS submitted the research plan to the ethical committee for ethical approval.

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