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Stigmatizing attitude towards mental illness, disabilities, emotional and behavioural disorders, among healthcare students in a Tropical University College of Health Sciences

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Abstract:

BACKGROUND: Stigma toward mental illness (MI), physical disability (DA), and emotional/behavioral disorders (EBD) has been identified as a form of violence and a cause of nontake-up of help by people in need. Stigmatization can aggravate an individual's feeling of rejection and incompetence and can be detrimental to treatment-seeking and adherence behaviors. This study evaluated the attitude of healthcare students toward MI, DA, and EBDs.

MATERIALS AND METHODS: This study employed a cross-sectional survey method. A disproportionate stratified sampling technique was used to recruit participants. Sixty five consenting students who met the inclusion criteria were consecutively recruited from each clinical department of the college. The students were selected from the five clinical departments of the College (Nursing sciences, Medical Rehabilitation, Radiography, Medical laboratory science, and Medicine). The questionnaires on stigmatizing attitudes toward MI, EBD, and DA were self-administered. Descriptive statistics of frequency count, percentage, range, mean, and standard deviation were used to summarize participants' sociodemographic data and their questionnaire scores. Inferential statistics of Spearman rank order correlation was used to test for correlation; Mann-Whitney U test was used to test the influence of gender, religion, and family history; and Kruskal-Wallis test was used to test the influence of department of study and level of study. Alpha level was set at 0.05.

RESULTS: Three hundred twenty seven students comprising 164 (50.2%) males and 163 (49.8%) females participated. Mean age of participants was 22.89 ± 2.05 years. 45.3% of the participants reported positive family history of one or a combination of MI, DA, and EBDs. The study observed poor attitude toward MI and fair attitude toward DA and EBD. There were significant correlations between attitudes toward MI and disability ($r = 0.36, P = .000033$), MI and EBD ($r = 0.23, P = .000023$), disability and EBD ($r = 0.46, P = .000001$), and age and attitude toward disability ($r = 0.15, P = .009$). Females had significantly more positive attitude toward disability ($P = .03$) and EBDs ($P = .03$). Nursing students also demonstrated the most positive attitudes toward MI ($P = .03$) and EBD ($P = .000416$), while final year students demonstrated the most positive attitudes toward MI ($P = .00145$) and EBDs ($P = .03$).

CONCLUSIONS: There was a poor attitude toward MI and a fair attitude toward DA and EBD. Attitude toward MI, DA, and EBD correlated significantly with one another. Older students, females, and higher levels of training in the healthcare profession were associated with more positive attitudes toward MI, DA, and EBDs.

Keywords:

Attitude, disability, emotional and behavioural disorders, healthcare students, mental illness, stigma

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Introduction

Stigma is not a self-evident phenomenon but like all concepts has a history.^[1] It has been central to debates around social security^[2] and is defined as negative attitudes and discriminatory behaviours toward people with devalued characteristics that result, in part, from a lack of knowledge about those characteristics.^[3] Stigmatization can lower a person's self-esteem, contribute to disrupted family relationships, and affect employability.^[4] It has long been seen by some as essential to discourage excessive claims, yet seen by others as a cause of nontake-up of help by people in need and as a form of symbolic violence.^[2] Stigmatization is a significant factor affecting social engagement, interpersonal and occupational functioning, and treatment and care processes of individuals with mental illnesses and can also be seen among health professionals.^[5] Such experiences of stigma are likely to aggravate an individual's feeling of rejection and incompetence, and thus detrimental to that individual's treatment-seeking and on-going participation in treatment.^[6] In general, all psychiatric disorders elicit feelings of strangeness and discomfort, which may create stigma and lead to the social exclusion of the mentally ill and of the people relating with them.^[7]

Although mental illness has long been stigmatized,^[8] stigmatization of people with mental illness is as much present among healthcare professionals as in the general population.^[9-12] There is no country, society, or culture where people with mental illness have the same societal value as people without a mental illness.^[13] In public perception, mental illness and violence remain inextricably intertwined, and much of the stigma associated with mental illness may be due to a tendency to conflate mental illness with the concept of being dangerous or a threat; however, this perception is further augmented by the media which sensationalises violent crimes committed by persons with mental illness, particularly mass shootings, and focuses on mental illness in such reports, ignoring the fact that most of the violence in society is caused by people without mental illness.^[14] Stigma toward individuals with mental illness is a severe social problem and a heavy burden for affected people.^[15,16] Awareness of the presence of stigmatizing attitudes among healthcare professionals has also been increasing in recent years. Healthcare professionals were considered to be immune to these cognitive, emotional, and behavioural modalities toward people with mental illness and disability disorders.^[17] However, stigmatizing views about mental illness are not limited to uninformed members of the general public, even well-trained professionals from most health disciplines subscribe to stereotypes about mental illness.^[4] It appears that medical students and doctors may hold negative attitudes toward people with mental

illnesses, including schizophrenia and alcohol and drug abuse.^[18] People with mental illness or disabilities and children with emotional/behavioral disorders (EBD) are usually in need of healthcare and rehabilitation services to assist them in adapting to their difficulties and achieving their full potential; therefore, the attitudes of healthcare professionals toward these people and their families in this process thus play a critical role in their motivation and intention to become involved in therapy, as any negative, stigmatizing attitudes of professionals may become a barrier to the building of therapeutic relationships and the delivery of quality services.^[19]

Individuals with EBDs such as autism, attention deficit hyperactive disorder, and others are also at an increased risk of facing public stigmas or stereotypes for the majority of their lives.^[19] Some of these common stigmas include that they are troublemakers and less academically and socially able than their peers and may result in being despised and rejected by peers at school.^[20] Parents of children with EBD are also likely to experience stigma by association.^[21] The stigma related to children with EBD may prevent their parents from seeking diagnosis and professional help especially if the stigmatization is from among the healthcare providers. Stigmatization during childhood may have a lasting negative impact on a child's lifelong development as childhood is a vital period for the development of self and the capacity to have close emotional and social relationship with others.^[22]

Individuals with physical or intellectual disabilities, just like those with mental illness are also subject of public stereotype.^[20] Seeing people with physical disabilities (e.g. amputee, stroke, cerebral palsy, and spinal cord injury) may trigger in some people a threat to body image and existential anxiety, thus eliciting uncomfortable feelings in able-bodied individuals and the desire to withdraw from such encounters.^[23] Similarly, with regard to people with intellectual disabilities, although they may be viewed as innocent, they are also perceived to be incapable, dependent, and lacking the potential to change.^[24] These findings indicate that people with physical or intellectual disabilities are perceived as additional burden to their families and society. Their opportunities to fully integrate into the community life are constrained.^[20]

Patients with severe mental illness constitute a high-risk group vulnerable to violence in the community. Symptoms associated with severe mental illness, such as impaired reality testing, disorganised thought processes, impulsivity and poor planning, and problem solving, can compromise one's ability to perceive risks and protect oneself and make them vulnerable to physical assault.^[25,26]

Students of healthcare professions may also share in the public stigma toward mental illness, disabilities and emotional, and behavioural disorders rooted in the sociocultural system just like other members of the public.^[22] Therefore, examining the stigmatizing attitudes of healthcare students toward these populations is a crucial step in planning educational interventions to enhance stigma awareness and reduce stigmatizing attitudes and behaviours (i.e. anti-stigma programs) for these future professionals.^[20] In the light of these considerations, this study aimed to determine the presence or otherwise of stigmatizing attitude of healthcare students toward mental illness, disabilities, and emotional/behavioural disorders and the inter-relationship among these attitudes. The researchers could not find any published work assessing the stigmatizing attitudes of healthcare students or workers toward persons living with mental illness, disabilities, and emotional/behavioural disorders within the country of study. This research will serve as reference foundation and literature in this regard and encourages further research in this area, which could in turn help to develop and foster correct attitudes and policies toward persons with mental illness, disabilities, and emotional/behavioural disorders.

Materials and Methods

Study design and setting

This was a cross-sectional survey involving consecutively recruited volunteering healthcare students of a tropical University. The study was designed to be consistent with the Strengthening the Reporting of Observational Studies in Epidemiology checklists. The study was carried out among clinical undergraduate healthcare students in a College of Health Sciences (Faculty of Health sciences and faculty of Medicine) in Nigeria. The study was conducted between October 2021 and February 2022.

Study participants and sampling

The participants of this study were clinical phase students of a tropical university college of health sciences. This included students in Medical Rehabilitation (Physiotherapy) department in their third, fourth, and fifth year of training. Students in the Radiography department (third, fourth, and fifth year); Nursing department (second, third, fourth, and fifth year); Medical Laboratory Science department (third, fourth, and fifth year); and Medicine and surgery department (fourth, fifth, and sixth year). A sample size of 327 was determined using the Taro Yamane method of sample size calculation. Participation in the study was voluntary and anonymous, and participants were included if they met the inclusion criteria. The inclusion criteria for this study were volunteering healthcare students in their clinical phase of training. The exclusion

criterion for this study was students whose training did not involve direct contact with patients.

Data collection tool and technique

The questionnaire on stigmatizing attitudes toward mental illness, the questionnaire on stigmatizing attitudes toward disabilities, and the questionnaire on stigmatizing attitudes toward children with EBD was used to assess, respectively. The instruments for this study was either self-administered or interviewer-participant. Relevant sociodemographic data of the participant were also collected. Questionnaire on stigmatizing attitudes toward mental illness

This is a 16-item questionnaire that evaluated the level of stigmatizing attitudes toward mental illness. It contains 4 subscales: deviant behaviour, social isolation, negative stereotype, and self-stigma. It was rated on a six-point (1 to 6) likert-like scale. The total score for this instrument ranges from a minimum of 16 to a maximum of 96.^[22] An average score of ≤ 48 ($\leq 50\%$ of total score obtainable) demonstrated poor attitude toward mental illness, while scores of 48.1 to 76.8 (51% to 80% of scores obtainable) demonstrated fair attitude toward mental illness; persons who scored ≥ 76.8 (more than 80% of total score obtainable) were considered to have good attitude toward mental illness.

Questionnaire on stigmatizing attitudes towards children/people with Emotional and Behavioural Disorders

This instrument assessed the stigmatizing attitudes toward children/people with EBD. It is a 14-item questionnaire, consisting of 3 subscales: rejective attitude, negative stereotype, and deviant behaviour. It was rated on a six-point (1 to 6) likert-like scale. The total score for this instrument ranged from minimum of 14 to maximum of 84.^[20] A percentage score of $\leq 50\%$ was interpreted as poor attitude toward emotional and behavioural disorders; a percentage scores more than 50% but less than 81% were considered fair attitude toward emotional and behavioural disorders, while percentage scores of 81% and more were considered good attitude toward emotional and behavioural disorders.

Questionnaire on stigmatizing attitudes toward disabilities

This instrument evaluated the level of stigmatizing attitudes toward disabilities. This instrument consists of 10 items rated on six-point (1 to 6) likert-like scale. It has 3 subscales: positive stereotype, negative stereotype, and pessimistic expectation. The total score for this instrument ranged from minimum 10 to maximum 60.^[20] A percentage score of $\leq 50\%$ represented a poor attitude

toward disabilities; scores more than 50% but less than 81% represented fair attitude toward disabilities, while 81% and more were considered good attitude toward disabilities.

Ethical consideration

The study was conducted as per the guidelines of the Declaration of Helsinki and approved by the Ethical Review Committee of the College. Ethical consideration of number code: NAU/FHST/2022/MRH8.

Informed consent was obtained from all subjects involved in the study, after the purpose and nature of the study explained to them. Participants' anonymity and confidentiality of information provided were also upheld.

Data analyses

The analysis was done using the IBM Statistical Package for Social Sciences (SPSS) for windows version 24. (IBM Corp Armonk, NY: IBM United States, 2016). Alpha level was set at 0.05. All *P* values <.05 were interpreted as showing significant relationships. Descriptive statistics of frequency counts, percentages, range, mean, and standard deviation (SD) were used to summarize participants' sociodemographic data and their scores on stigmatizing attitude toward mental illness (SATMI scores), disabilities (SATD scores), and emotional and behavioural disorders (SATEBD scores). Correlations between quantitative variables were analyzed using the Spearman rank order correlation. Comparison of the values of quantitative variables in two groups was performed using the Mann-Whitney test. Comparison of the values of quantitative variables in three and more groups was performed using the Kruskal-Wallis test.

Results

Socio-demographic characteristics of the participants

The study involved 327 healthcare students, 50.2% (n = 164) males and 49.8% (n = 163) females selected from five departments in the University. Mean age of participants was 22.89 ± 2.05 years and most of the participants were Christians. Participants' sociodemographic data are presented in Table 1. **Mean SATMI, SATD, AND SATEBD scores of the participants**

The mean attitude scores of the participants toward mental illness (SATMI scores), disabilities (SATD scores), and emotional and behavioural disorder (SATEBD scores) were 53.00 ± 13.97, 34.00 ± 9.28, and 55.45 ± 13.27, respectively [Table 2]. 47.4% (n = 155) of the participants showed poor attitude toward mental illness. 33.0% showed poor attitude toward disability, while

13.1% (n = 43) of the participants showed poor attitude toward emotional and behavioural disorder [Table 2].

Table 3 shows the Spearman rank order test showing the relationship between age, SATMI, SATD, and SATEBD

Table 1: Sociodemographic profile of the participants

Variable	Frequency (%)
Gender	
Male	164 (50.2)
Female	163 (49.8)
Religion	
Christianity	308 (94.20)
Islam	19 (5.80)
Department of Study	
Medical Rehabilitation	62 (19)
Nursing Science	92 (28.10)
Radiography	77 (23.50)
Medicine and Surgery	70 (21.40)
Medical Laboratory	26 (8.00)
Level of Education	
200 level	24 (7.3)
300 level	84 (25.7)
400 level	115 (35.2)
500 level	87 (26.6)
600 level	17 (5.2)
Family history of MI, DA, EBDS	
Yes	159 (48.6)
No	168 (51.4)

MI (Mental illness); DA (Disabilities); EBD (Emotional and behavioural disorders)

Table 2: Distribution of participants SATMI scores, SATD scores, and SATEBD scores

Characteristics	Frequency (%)		
	SATMI	SATD	SATEBD
Range	29-93	22-84	22-84
Mean±SD	54.55±13.31	55.49±13.17	55.49±13.17
Categories			
Poor attitude	155 (47.4)	108 (33.0)	44 (13.1)
Fair attitude	141 (43.1)	193 (59.0)	216 (66.1)
Good attitude	31 (9.5)	28 (8.0)	74 (20.8)

*SATMI (Stigmatizing attitude towards mental illness); SATD (Stigmatizing attitude towards disabilities); SATEBD (Stigmatizing attitude towards emotional and behavioural disorders)

Table 3: Spearman rank order test showing the relationship between age, SATMI, SATD, and SATEBD among the participants

Variables	Age	SATMI	SATD	SATEBD
Age		r=-0.04, ρ=0.94	r=0.15, ρ=0.01*	r=0.02, ρ=0.75
SATMI			r=0.26, ρ=0.000033*	r=0.23, ρ=0.000023*
SATD				r=0.46, ρ=0.000001*
SATEBD				

*To identify levels of significance at *P*<0.05. SATMI (Stigmatizing attitude towards mental illness); SATD (Stigmatizing attitude towards disabilities); SATEBD (Stigmatizing attitude towards emotional and behavioural disorders)

among the participants. The study observed a significant positive correlation between each pair of attitude toward mental illness and disability ($r = 0.36, P = .000033$), mental illness and emotional and behavioural disorder ($r = 0.23, P = .000023$), and disability and emotional and behavioural disorder ($r = 0.46, P = .000001$). However, age only demonstrated a significant positive correlation with attitude toward disability ($r = 0.15, P = .009$) but not with attitude toward mental illness or toward emotional and behavioural disorders [Table 3].

Table 4 shows the influence of gender, positive family history of MI, DA, or EBD, and religion on SATMI, SATD, and SATEBD among the participants. There were significant gender differences in attitude toward disability ($P = .03$) and attitude toward emotional and behavioural disorder ($P = .03$), with the female gender showing more positive attitude. There was a significant influence of family history on attitude toward mental illness ($P = .01$), disability ($P = .0003513$), and emotional and behavioural disorder ($P = .01$). There was a significant influence of religion on attitude toward mental illness ($P = .000001$), disability ($P = .000023$), and emotional and behavioural disorder ($P = .000006$). Christians showed more positive attitude.

There was a significant influence of department of study on attitude toward mental illness ($P = .03$) and emotional and behavioural disorder ($P = .000416$). Participants from Nursing department showed a more positive attitude toward mental illness and emotional and behavioural disorder [Table 5].

Final year (5th and 6th year) students showed the most positive attitude toward mental illness and toward emotional and behavioural disorder (Table 6 but there was no significant influence of level of study on the attitude toward disability ($P = .16$).

Discussion

Almost half (48.6%; $n = 159$) of the participants reported positive family history of one or a combination of mental illness, disabilities, and/or emotional/behavioral disorders. The study observed that persons who reported positive family history had significantly more positive attitude toward all of MI, DA, and EBDs. It could be that presence of family history improved awareness and possibly some significant knowledge and understanding of these conditions, thereby making persons with family history to better appreciate the symptoms and manifestations of these conditions and as well demystify these conditions making them less fearful. Studies have shown that people are less fearful of health conditions they understand than the ones they have little knowledge

Table 4: The influence of gender, positive family history and religion on SATMI, SATD, and SATEBD

Variable	Male	Female	U	P
Gender				
SATMI	171.49	156.46	12137	0.15
SATD	157.38	170.60	12280	0.03*
SATEBD	152.64	175.43	11502.5	0.03*
	No	Yes	U	P
Positive Family History				
SATMI	134.28	160.9	8847.5	0.01*
SATD	133.03	162.16	8663.0	0.003513*
SATEBD	134.33	160.85	8854.5	0.01*
	Christianity	Islam	U	P
Religion				
SATMI	169.25	72.37	1185	0.000001*
SATD	171.54	41.82	604.5	0.000023*
SATEBD	171.81	37.39	520.5	0.000006*

*To identify levels of significance at $P < 0.05$. SATMI (Stigmatizing attitude towards mental illness); SATD (Stigmatizing attitude towards disabilities); SATEBD (Stigmatizing attitude towards emotional and behavioural disorders)

Table 5: Kruskal-Wallis test showing the influence of department of study on SATMI, SATD, and SATEBD among the participants

Variable	Class	Mean rank	Chi-square	P
SATMI	Med. Rehab	168.26	10.56	0.03*
	Nursing	179.79		
	Radiography	141.99		
	Medicine	175.06		
SATD	Med. Lab	133.4	2.02	0.73
	Med. Rehab	164.03		
	Nursing	179.79		
	Radiography	141.99		
SATEBD	Medicine	175.06	48.07	0.000416*
	Me. Lab	133.4		
	Med. Rehab	221.25		
	Nursing	165.2		
	Radiography	113.16		
	Medicine	176.69		
	Med. Lab	139.65		

*To identify levels of significance at $P < 0.05$. SATMI (Stigmatizing attitude towards mental illness); SATD (Stigmatizing attitude towards disabilities); SATEBD (Stigmatizing attitude towards emotional and behavioural disorders)

of and that poor knowledge will most likely always amount to poor attitude.^[3,27-29]

It has been reported that persons with a family history were more likely to exhibit positive attitude toward persons with mental illness and disabilities, especially when they are first-degree relatives.^[30] A study carried out in Kano, Nigeria reported that more than 65% of the relatives of mentally ill persons agreed that they could maintain a friendship with mentally ill person and among the interviewees, 27.1% agreed that they could marry someone with a mental illness.^[31]

A great proportion of the participants ($n = 156; 47.7%$) showed poor attitude toward mental illness. This

Table 6: Kruskal-Wallis test showing the influence of level of study on SATMI, SATD, and SATEBD among the participants

Variable	Class	Mean rank	Chi-square	P
SATMI	2 nd year	132.79	18.5	0.00145*
	3 rd year	170.13		
	4 th year	141.34		
	5 th year	189.39		
	6 th year	201.15		
SATD	2 nd year	123.19	6.6	0.16
	3 rd year	170.13		
	4 th year	141.34		
	5 th year	189.39		
	6 th year	201.15		
SATEBD	2 nd year	115.92	10.91	0.03*
	3 rd year	166.02		
	4 th year	167.89		
	5 th year	177.51		
	6 th year	126.41		

*To identify levels of significance at $P < 0.05$. SATMI (Stigmatizing attitude towards mental illness); SATD (Stigmatizing attitude towards disabilities); SATEBD (Stigmatizing attitude towards emotional and behavioural disorders)

finding was consistent with the result of the study of undergraduates of a Catholic University in Southern Nigeria which found that only 33% of their participants displayed fair to good attitude toward persons with mental illness and that attitudes expressed toward the social acceptance of peers with mental illness were substantially negative which in turn fuels self-stigma by the sufferers.^[32] A study of a group of Indonesian students also observed negative perceptions of mental illness in majority of the participants, poor attitude toward mental illness in almost half of the participants, and significant positive correlation between knowledge and attitude toward mental illness as was demonstrated in this present study.^[27] The study concluded that some healthcare students maintained negative perceptions regarding individuals with mental disorder, which resulted in doubts on how to relate with and fear of such individuals.^[27]

More than half (59%) of the participants in this present study showed fair attitude toward disability while 33% showed poor attitude. This is considered quite a significant amount of negativity as these students would soon become practicing health professionals. Studies have shown that attitudes developed as young people (students inclusive) tend to persist even upon graduation and qualification.^[33]

The participants of this present study demonstrated the best attitudes toward emotional and behavioural disorders; only 13% of the participants showed poor attitude toward emotional and behavioural disorders. The finding of better attitude toward persons with emotional and behavioural disorders among the

participants of this present study could be because unlike MI, manifestations of EBDs often appear to pose more harm to the sufferers than to persons around them such that the sufferers are generally not perceived as a threat or as likely to cause bodily harm to the persons around them.

This study further revealed significant positive correlation between stigmatizing attitude toward mental illness and attitude toward disability and a weak positive correlation between stigmatizing attitude toward mental illness and emotional and behavioural disorder. This showed that the participants' attitude toward mental illness was consistent with their attitude toward disability and also toward emotional/behavioural disorders. Healthcare profession students are also members of the general public who may share the public stigma rooted in our sociocultural system.^[22] People may be stigmatized if they have mental illness, EBD, or disabilities which are conditions that healthcare professionals are likely to encounter during clinical practice and during training as healthcare students.^[20] Results from previous studies on attitudes toward MI, EBDs, and DAs among healthcare professionals have varied widely with some reporting positive attitudes and others negative attitudes.^[34-37] However, healthcare professionals generally have been reported to have better attitudes toward persons with mental illness and disabilities compared to the general public.^[35] It has been reported that educational interventions are effective in decreasing stigma, especially for healthcare professionals with little or no mental health training and this might account for the better attitudes of healthcare professionals toward persons with mental illness and disabilities compared to the general public.^[34]

Furthermore, there was a weak significant positive correlation between age and attitude toward disability. This implies that the attitude toward disability in this population improved with age. Other studies have also reported that attitudes toward disability could be affected by factors such as culture, demographics, type of disability, age, and gender.^[38] Attitudes toward individuals with disabilities follow a developmental trend as favourable attitudes increase from early childhood to adolescence, decrease in late adolescence, and increase again in young adulthood through late adulthood.^[39]

There was a significant gender difference on attitude toward disability and EBD, with females showing more positive attitude than males in this present study. The lower stigmatizing attitudes in women may correspond with a generally higher rate of social empathy in women, given that as the more empathic a person is, the less likely he/she holds stigmatizing attitudes toward a

group or devalued characteristics.^[40] In addition, the more stigmatizing attitudes in men may be attributable to traditional masculine ideals that value strength, competence, and independence.^[41] However, there was no significant gender difference in the attitude toward mental illness within the population of study.

This present study also observed a significant influence of religion on the participants' attitudes toward mental illness, disabilities, and EBD. Participants who were of the Christian religion appeared to demonstrate more positive attitudes toward all three constructs than their non-Christian counterparts. While the researchers could not find any studies that compared empathy across religious groups, a study of a group of Romanian students observed that Christian faith appeared to be a predictor of empathy.^[42]

Attitudes toward mental illness and EBD also seemed to vary across departments of study. Nursing students displayed the most positive attitude toward persons with mental illness compared to their colleagues in other departments, this is consistent with a previous study that reported more positive attitude toward mental illness among nursing students in comparison with medicine students,^[43] while students of medical rehabilitation showed the most positive attitude toward persons with EBD. Another study further reported that nursing students displayed more positive attitude toward physically disabled people than their peers.^[2, 44]

There was a significant influence of level of study on participants' attitude toward mental illness and EBDs in this present study. Participants in their final year of training (500 and 600 levels) demonstrated the most positive attitudes toward MI, DA, and EBDs. This is understandable as knowledge, understanding, and experience are expected to increase with increasing levels of training. In a study to compare the attitudes of interns and medical students of different levels, it was reported that there were significant differences between the interns and the students from different professional years.^[45] Overall interns were found to have more favourable attitudes toward mentally ill as compared to the medical students from different professional years.^[45] A study among second and third year nursing students also found that longer theoretical studies and clinical experience relating to mental illnesses contributed to the development of positive attitudes toward mental illness.^[46]

The overall finding in this present study suggests that there is need to develop strategies to familiarize healthcare students with arrays of disorders that constitute mental illness, disabilities, and EBDs and to develop antistigma educational interventions as a

part of the training curriculum for healthcare students. Furthermore, healthcare professional trainees and the general population should be sensitized with the understanding that persons with mental illnesses, disabilities, and emotional disorders are not necessarily a threat to others.

Limitations and recommendation

This present study is not without some limitations, as most of the participants were of Christian religion; the researcher was unable to get a proper religious match of respondents because the area under study was predominantly occupied by Christians. There is therefore need to be cautious in the interpretation of influence of religion on the attitudes toward mental illness, disabilities, and EBDs; however, the statistical analysis was believed to have reduced this limitation significantly.

Conclusions

A significant proportion of the healthcare students had negative attitudes toward mental illness and disabilities but not so much toward EBDs. Intercorrelations were also found among the three constructs; attitudes toward mental illness, disability, and EBDs. This study also showed a significant influence of some sociodemographic factors (such as gender, family history, department, and level of study, etc.) on attitudes toward mental illness, disability, and EBDs. **Acknowledgment and ethical oral code**

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Conflicts of interest

There are no conflicts of interest.

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