MENTAL HEALTH LITERACY AMONG THE UNDERGRADUATE STUDENTS OF A NIGERIAN UNIVERSITY: A PRE-INTERVENTION STUDY

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ABSTRACT

Background: Mental health in tertiary educational institutions is an important public health concern as many mental disorders have their onset in early life. Early recognition and appropriate intervention lead to better outcomes. In Nigeria not much is known about mental health literacy of undergraduate students.

Materials and Methods: This study aimed at assessing the pre-interventional Mental Health Literacy of the undergraduate at a Nigerian University. A cross-sectional design was adopted with the use of a multistage recruitment of 3300 students from all faculties. Data collection was by questionnaires on socio-demography, Mental Health Literacy, and General Health Questionnaire-12. Descriptive and inferential statistics was done using SPSS version 20.0. Significance level was p ≤0.05 and confidence interval at 95%.

Results: About 96% (3179) of the participants correctly took part, with the Global Mental Health Score being above average in 18.6%; (mean+SD); when split into domains, those with above average scores were 14.8 % for health seeking behavior, 9.6% self-help strategies, 13.7%, - knowledge of mental health and erroneous – believe 17.2%. The socio-demographic variables found significant were age groups, female gender, third year of study, affluence and being in faculty of Arts and Humanities, where courses in psychology is part of the curriculum.

Conclusion: It was concluded like in the previous studies, that there is an inadequate Mental Health Literacy among undergraduates at the Nigerian University and socio-demographic variables maybe associated with Mental Health Literacy so it is recommended that robust ways should be found to improve Mental Health Literacy on campus.

Keywords: Mental Health Literacy, Tertiary Institution Mental Health, Mental Health.

1.0 INTRODUCTION

Mental Health Literacy (MHL) an evolving concept (Chao H-J *et al.,2020*) receiving global attention (Kutcher *et al., 2014*), is derived from Health Literacy (HL), which was obtained from observations of poorer health outcomes associated with poor general literacy (Kutcher *et al.,2016;* Dewalt *et al.,2004*). HL was defined as ability to understand and make use of health information effectively to better engage with treatment (Kutcher *et al.,2016*), it continues to expand and can be described as ability of an individual to access, understand, evaluate and communicate information in ways that promotes, maintains and improves health (Kutcher *et al.,2016;* Rootman and Gordon-El-Bihbety *2008*). Mental Health Literacy (MHL) can be described as the individual's knowledge and attributes regarding mental health that promotes recognition, management, and prevention of mental illness (O'Connor and Casey *2015*). Recently it has been expanded to four components: The first is to understand how to obtain and maintain good mental health; then, to understand mental disorders and their management, to reduce mental health related stigma and lastly, to enhance help seeking behaviour (Kutcher *et al., 2015*). Furthermore, it is understood that improving the MHL of a group of people results in better recognition of the disorders and better intervention strategies (Miles *et al.,2020*).

Mental Health in educational institutions is an important public health concern as about 20 - 27% of mental disorders frequently occurs early in life from adolescence, which if recognized early, appropriate interventions can be instituted and a better health outcome (Kutcher *et al., 2016*). It has been reported that despite growing interest in mental health literacy globally, not much has been done on the mental health literacy of young people unlike the adults in Nigeria, where negative attitude and ignorance towards the mentally ill often leads to unorthodox intervention being sought first (Aluh *et al., 2018*).

Since majority of students in universities fall into the adolescent and young adult bracket (16 - 25 years), it makes tertiary institutions an appropriate setting to implement strategies to improve mental health literacy and ultimately mental health. Moreover, there is transition to adulthood at this period, accompanied by biological, psychological, or social changes and there maybe additional vulnerabilities to mental health problems because of intense academic pressure (Amawulu and Prosper 2018). So, it is imperative for institutions of higher learning to plan for the mental health needs of their students. To effectively plan, there is a need to assess the MHL and mental health needs of this population which hither to now has been reported as low, in Low- and Middle-Income Countries (LMICS) (Brooks *et al., 2019*). Hence, the need for this study to assess the pre-interventional Mental Health Literacy among the full-time undergraduate students at the University of Ilorin, as a step in the development of a comprehensive and integrative institutional mental health care.

2.0 MATERIALS AND METHODS

2.1 Study Design

The study took place in the University of Ilorin, a Federal Government owned institution, located in the city of Ilorin, Kwara State. It was established in 1975 to cater for the increasing need for higher education and to provide equal opportunity for growth for young people, as

well as generate the much-needed development of high-level manpower for the economic growth of the nation *(timeshighereducation.com)*.

This forms part of a larger and ongoing study, the "Comprehensive and Integrative Tertiary Institution Mental Health (TIM-Health) care: developing a protocol for Nigerian Universities" (Buhari *et al.,2021*), which is a 3 phased study. This is part of the first phase, which was done between December 2019 and February 2021. It is a cross-sectional study which involved the use of multi-stage, random recruitment of students from all the 15 faculties at the University of Ilorin. Two departments per faculty were randomly selected by balloting, except where the faculty has only one department. The number of students studied in each department and faculty were allocated proportionately, and this took place in all the different years (or levels) of study except for the first year (or 100 level) of study. The first-year students were excluded because they are new to campus-life and its dynamics. The sample size calculated was 3,000 students and 10% of this was added to cater for poorly filled questionnaires and attrition. So, a total of 3,300 students were recruited into the study. The recruitment was done while the university was in academic session and administration of questionnaires were conducted in-between lecture periods. The proportionate calculations were carried out based on full-time undergraduate enrollment data for the year 2018 – 2019 as obtained in the university annual report for the year (*http://annualreport.unilorin.edu.ng/2019ap.pdf*)*, which showed a total student population of 44,897. The faculties were later dichotomised for the purpose of this study to faculties of (1) Arts and Humanities (psychology based curriculum is taught) and (2) Sciences (where only the natural sciences and medical sciences are taught)

2.2 Inclusion and Exclusion Criteria

All the full-time undergraduate students were included. Students Part-time students, first year students, postgraduate students and those students who were absent from class at the time of questionnaire administration were excluded from study.

2.3 Data Collection

This was done using an authour designed semi-structured self-administered questionnaire, which assessed socio-demography, previous health conditions, and the willingness to have internet based mental health interventions.

The 12-item General Health Questionnaire (GHQ-12) was used to screen for psychiatric morbidity, it is a self-administered and assesses psychological well-being. It has been validated for use in Nigeria among various groups, adolescents, and young people inclusive. It has a high validity, sensitivity, and specificity (Abiodun 1993, Abiodun &Parakoyi 1992) the cut -off point of 3 in community-based study with bi-modal scoring was adopted for the study.

Our study modified the 29-item final version of MHLQ for young adult that was used for Portuguese population. (Dias P et al., 2018) The instrument was assessed for face to face and content validity by the research team that consisted of psychiatrists, psychologists, guidance counselor educators, and epidemiologist. In doing this, we paid attention to issues of definition and construct.

Some adjustments were made to wordings of some of the items to make them understandable to Nigeria youths. Cognitive interview with the team's research assistants who are also youths was done to further check face validity.

The two questions on schizophrenia were merged:
1. People with schizophrenia usually have delusions (e.g., they may believe they are constantly beings followed and observed
2. A person with schizophrenia may see and hear things that nobody else sees and hears

Were replaced with: -
People with schizophrenia (psychosis) usually have delusions (e.g, they may believe they are constantly being followed and observed and may see and hear things that nobody else sees and hears.

While three questions were removed

I. Only adults have mental disorders
II. Changes in brain function may lead to the onset of mental disorders
III. The symptoms length is one of the important criteria for the diagnosis of a mental disorder,

The three questions were removed because the researchers agreed it may not be significantly relevant for this study. A pretest of instrument (Buhari et al 2021) was done for suitability and contextual adaptation using student's sample from a different university. The internal consistency of the modified questionnaire as used in this study was tested with Cronbach alpha and a score of 0.79 was obtained. This was adjudged consistent and reliable, keeping in view that a Cronbach alpha of 0.75 and above is deemed reliable (Bolarinwa 2015)

2.4 Data Analysis

This was done using Statistical Package for Social Sciences (SPSS) version 20.0. Descriptive and inferential statistics were presented on tables and regression analysis was used in finding association between mental morbidity and mental health literacy. Levels of significance was at $P < 0.05$ at a confidence interval of 95%

2.5 Ethical Consideration

Approval to carry out the study was obtained from the Ethical Review Committee of the University of Ilorin, as well as obtaining informed consent from all the participants. There was absolute conformity to the rule of autonomy and confidentiality.

3.0 RESULTS

Of the three thousand one hundred and seventy-nine (3,179) questionnaires which were correctly filled, age bracket of 19-21 years accounted for 53.8%. About half of the respondents (50.6%) were males and majority of the respondents were single (97.9%). Islam was embraced by 50% and fourth year of study accounted for 37.7% of the respondents. Those who on-

campus were 61.2%. also, the faculty of sciences accounted for most of the respondents (61.8%).

Table 1: Frequency Tables

Socio-demographic characteristics of respondents	Frequency (%) N = 3179
Age groups	
≤ 18	516 (16.2)
19 – 21	1710 (53.8)
22 – 24	701 (22.1)
≥ 25	252 (7.9)
Mean ± SD	**20.69 ± 2.51**
Gender	
Male	1610 (50.6)
Female	1569 (49.4)
Ethnicity	
Yoruba	2813 (88.5)
Hausa	182 (5.7)
Igbo	65 (2.0)
Nupe	27 (0.8)
Ebira	37 (1.2)
Others	55 (1.7)
Marital Status	
Single	3112 (97.9)
Married	67 (2.1)
Religion	
Christianity	1586 (49.9)
Islam	1590 (50.0)
Traditional	3 (0.1)
Year of study	
200 L	594 (18.6)
300 L	734 (23.1)
400 L	1197 (37.7)
500 L	505 (15.9)
600 L	149 (4.7)
Accommodation status	
On campus	1946 (61.2)
Off campus	1233 (38.8)
Faculty	
Arts	1215 (38.2)
Sciences	1964 (61.8)

It was found it was found that 25.9%,22.6% and 21.8% had below average (Mean-SD) in their Help-seeking behaviour, Self-help strategies, and erroneous beliefs respectively. Proportionately more respondents from the Faculty of Sciences were significantly below average in their self-help strategy ($x^2 = 12.871$; $p = 0.002$) and knowledge of mental health ($x^2 = 49.498$; $p < 0.001$), also they were proportionately more likely to have erroneous beliefs ($x^2 = 52.372$; $p < 0.001$) when compared with those from the Faculty of Arts.

Table 2. Illustrates a better global mental health literacy score among respondents from the Faculty of Arts.

Table 2: Relationship between Faculty and Mental Health Literacy

Variables	Faculty		t-test	P-Value
	Arts (%)	Sciences (%)		
Help seeking behavior	10.76 ± 3.28	10.86 ± 3.28	-0.786	0.432
Self-help seeking behavior	7.78 ± 2.34	7.22 ± 2.30	6.692	**< 0.001**
Knowledge of mental health	20.20 ± 4.52	18.80 ± 4.73	8.256	**< 0.001**
Erroneous beliefs	15.31 ± 3.88	13.79 ± 4.56	9.641	**< 0.001**
Global mental health	41.56 ± 7.72	38.98 ± 8.42	8.754	**< 0.001**

Table 3 illustrates that the younger age bracket ≤ 18 years were found to have significantly more erroneous beliefs than the other groups (mean ± SD = 15.05 ± 4.00; P < 0.001) while self-help strategies and knowledge of mental health was significantly better in the age bracket 19 – 21 years (mean ± SD = 7.49 ± 2.32; P = 0.025 and mean ± SD = 19.71 ± 4.61; P < 0.001).

Table 3: Mean difference in age groups of respondents based on Mental Health Literacy

Variables	Age groups				F-test	p-value
	≤ 18 (Mean ± SD)	19 - 21 (Mean ± SD)	22 - 24 (Mean ± SD)	≥ 25 (Mean ± SD)		
Global MHLS	39.91 ± 7.53	40.46 ± 7.95	39.05 ± 8.95	39.37 ± 9.44	5.392	**0.001**
Help seeking behavior	10.73 ± 3.06	10.81 ± 3.26	10.81 ± 3.21	11.09 ± 4.04	0.704	0.550
Self-help strategies	7.14 ± 2.16	7.49 ± 2.32	7.44 ± 2.33	7.43 ± 2.32	3.111	**0.025**
Knowledge of mental health	18.95 ± 4.72	19.71 ± 4.61	18.87 ± 4.75	18.89 ± 4.87	7.769	**< 0.001**
Erroneous beliefs/ Stereotype	15.05 ± 4.00	14.58 ± 4.23	13.76 ± 4.73	14.37 ± 4.37	15.076	**< 0.001**

Table 4 shows that females were significantly more likely to have more mental health knowledge as well as more erroneous belief than the males (mean ± SD = 19.61 ± 4.93; P = 0.001 and mean ± SD = 14.54 ± 4.49; P = 0.036) respectively. The married respondents were more likely to significantly have better help seeking behaviour, self-help strategies (mean ± SD = 12.76 ± 4.27; P < 0.001 and mean ± SD = 8.21 ± 2.47; P = 0.006) respectively, while erroneous beliefs were most significantly held among the unmarried respondents (mean ± SD = 14.41 ± 4.36; P = 0.004).

Table 4: Mean difference in mental health literacy skills

Variables	Gender		T-test	P-value
	Male (Mean ± SD)	Female (Mean ± SD)		
Global MHLS	39.61 ± 7.89	40.34 ± 8.59	-2.512	**0.012**
Help seeking behaviour	10.78 ± 3.20	10.87 ± 3.37	- 0.771	0.441
Self -help strategies	7.43 ± 2.22	7.43 ± 2.43	0.040	0.968
Knowledge of mental health	19.07 ± 4.45	19.61 ± 4.93	- 3.267	0.001
Erroneous beliefs/ Stereotype	14.21 ± 4.23	14.54 ± 4.49	- 2.099	0.036
Variables	**Marital status**		**T-test**	**P-value**
	Single (Mean ± SD)	Married (Mean ± SD)		
Global MHLS	39.94 ± 8.23	41.64 ± 9.39	-1.670	0.095
Help seeking behaviour	10.78 ± 3.25	12.76 ± 4.27	- 4.894	< 0.001
Self- help strategies	7.41 ± 2.32	8.21 ± 2.47	- 2.762	0.006
Knowledge of mental health	19.32 ± 4.69	20.31 ± 4.62	- 1.719	0.086
Erroneous beliefs/ Stereotype	14.41 ± 4.36	12.85 ± 4.59	2.884	0.004
Variables	**GHQ**		**T-test**	**P-value**
	Negative (Mean ± SD)	Positive (Mean ± SD)		
Global MHLS	39.48 ± 8.19	41.57 ± 8.27	-6.102	**< 0.001**
Help seeking behaviour	10.305 ± 3.10	11.49 ± 3.39	- 8.428	< 0.001
Self -help strategies	7.22 ± 2.33	7.70 ± 2.30	- 3.893	< 0.001
Knowledge of mental health	18.92 ± 4.56	20.18 ± 4.77	- 5.695	< 0.001
Erroneous beliefs/ Stereotype	14.35 ± 4.43	14.44 ± 4.20	- 0.469	0.639
Variables	**Preference for IBPS**		**T-test**	**P-value**
	Yes (Mean ± SD)	No (Mean ± SD)		
Global MHLS	40.32 ± 7.67	39.84 ± 8.46	1.468	0.142
Help seeking behaviour	10.71 ± 3.23	10.87 ± 3.31	- 1.203	0.229
Self-help strategies	7.40 ± 2.39	7.44 ± 2.31	- 0.470	0.229
Knowledge of mental health	14.83 ± 4.32	14.20 ± 4.38	3.620	< 0.001
Erroneous beliefs/ Stereotype	19.48 ± 4.39	19.28 ± 4.81	1.064	0.638

The higher scorers on the General Health Questionnaire -12 (GHQ positive) had statistically significant help seeking behaviour, help seeking strategies and knowledge of mental health (mean ± SD = 11.49 ± 3.39; P < 0.001, mean ± SD = 7.70 ± 2.30; P < 0.001, mean ± SD = 20.18 ± 4.77; P < 0.001) respectively. The relationship between the preference for internet based

psychological services and GHQ-12 was only found to be significant among those with erroneous beliefs (mean ± SD = 14.83 ± 4.32; P < 0.001).

The year of study revealed that erroneous beliefs were significantly present among those in their second year of study compared with others (mean ± SD = 15.02 ± 4.01; P < 0.001) and self-help strategies were significantly more likely among those in the third year of study compared to others (mean ± SD = 7.71 ± 2.34; P < 0.001). Respondents who stayed in the on-campus "private" hostel had more significant self- help strategies, knowledge of mental health and erroneous beliefs (mean ± SD = 8.05 ± 2.25; P < 0.001, Mean ± SD = 20.19 ± 4.27; P < 0.001 and mean ± SD = 14.86 ± 3.98; P = 0.001) respectively.

4.0 DISCUSSION

The aim of this study was to assess the pre-intervention mental health literacy of the under-graduate students at the University of Ilorin, as well as identify probable factors associated with it. It had been previously reported that mental health problems would have been first experienced and probably diagnosed on or before the age of 25 years. An age bracket 18 ≤ 25 years, which is commonly found in the tertiary institutions, serves as an important time to intervene, and promote mental well-being (Vasquez *2016*; Salerno *2016*).

This study found that mental health literacy was high in less than a quarter of the respondents which is consistent with earlier report of inadequacy of mental health literacy in low and middle income countries like Nigeria (Brooks *et al., 2019*) and particularly among students of tertiary institutions whose age coincides with the peak time of onset of most mental disorders (Vasquez *2016*) and students with psychological problems often suffer academic impairments as well as an exacerbation of illness (Hunt *et al., 2010*). It is important to make adequate mental care facilities available for students as it has been reported that mental health problems may result from academic and social stresses, which is frequent among students of higher learning, and may negatively impact educational outcomes. This makes it essential that students' mental health literacy and mental health needs be assessed with a view to make adequate provisions for such services and to facilitate its' utilization (Farrer *et al.,2008*).

This study revealed that socio-demographic variables such as age can influence mental health literacy. As reported in a precious study, mental health literacy varies across all age brackets (Miles *et al., 2020*). We found that respondents 18 years or younger had more erroneous beliefs than other age groups. This seems to lend credence to the report that there is a need to set different and appropriate age-related mental health information for research, as well as educational purposes (Miles *et al., 2020*).

Gender differences were also significant in this study like in previous reports (Miles *et al., 2020;* Farrer *et al.,2008;* Dahberg *et al.,2008*) with more females having better mental health literacy, which has been suggested may be due to "gender-socialization" (Miles *et al., 2020*). The levels of education, which in most cases reflects the number of years spent on campus studying, was found to impact mental health literacy as those with the least number of years on campus in this study had the highest erroneous beliefs. Their age may account for their limited mental health literacy because most students in the second year of study were in the lower age bracket and may not have been exposed to mental health education as part of their secondary

school education. Mental health literacy is not a part of secondary-school curriculum in Nigeria, which may also be the case in the other lower- and middle-income countries. Respondents in the third year of study were revealed to have the best global mental health literacy scores showing better self-help strategies and better knowledge of mental health, unlike help-seeking behavior which, although higher, was not significant. This finding can be explained by better and longer exposure to general education materials and opportunities present on campus. With further years of study, self-help strategies and help-seeking behaviours were seen to decline which may be explained by the fact that students at this time, may fail to adequately follow up on mental health issues. This may be due to stress as they prepare for graduation in the higher levels, or they may attribute symptoms of illness to stress which may be interpreted as normal and therefore not amenable to medical interventions. Moreover, at this time, there may be a lower priority placed on mental health issues compared to that of academic pursuits (Goodman *2017*).

Married status showed a trend of better global mental health literacy, particularly significant in the areas of help seeking behaviour, self-help strategies and less erroneous belief. This may not be surprising as they are mostly older than the younger, single respondents. Since the younger students form the majority group on the campus, efforts must be made to improve their mental health literacy as it is common knowledge that a good mental health literacy leads to better health outcomes (Kutcher *et al., 2016*). Since institutions of higher learning have been identified as an "ideal venue" for both education and mental health intervention purposes, a large group of young people can be targeted for intervention at the same time. Knowing that mental illness has its peak for first time onset among youths who fall in the age brackets usually found in tertiary schools, coupled with the reports of a high prevalence of mental illness among this age group who are undergoing the important transition to full adulthood in addition to ongoing stresses of academics (Kang *et al., 2021;* Goodman *2017*), it becomes important to enhance and promote the mental health of university students in order to achieve the mandate of "student achievement and preparation for global competition" (Goodman *2017*).

There has been an increase in the number of students with mental illness enrolling for higher learning with a few more getting the diagnosis of mental illness in the university as a result of the added social, economic and academic pressures on them. It is therefore imperative that measures are taken to enhance and promote mental health literacy and ultimately mental health in tertiary institutions (Hunt *et al., 2010;* Goodman *2017*).

Marital status showed a significant impact on help seeking behavior and self-help strategies in this study which supports the earlier report that social relationships, of which marriage is one, promotes better acquisition of health information and skills (Farrer et al., *2008;* Rikard *et al.,2016*). The current study also revealed that respondents living in a more affluent hostel on campus have better mental health literacy which is in keeping with reports of better health literacy among those with higher income (Rikard *et al.,2016*). This is not surprising for it may be due to the ease of access to sources of information which those with lower incomes may not have access to.

Unlike previous research which found that having a previous diagnosis of mental illness may not always translate to a better mental health literacy (Miles *et al., 2020*; Lauber *et al., 2005*), we found that respondents who scored higher on the General Health Questionnaire- 12 (GHQ$_{12}$) also had a better mental health literacy. This may imply that being in an academic environment

may have had an impact on the respondent's knowledge-seeking behaviour, which we also found to be significantly higher than those who had lower scores.

In contrast to previous reports, where those in science related fields of study in institutions had better mental health literacy (Lauber *et al., 2005*), we found that respondents from the Faculty of Sciences being proportionately more represented in those with lower mental health literacy. The reason for this finding may be explained by the unique arrangement of courses in the University of Ilorin, where only the Pure and Applied Sciences are grouped together with the Health Sciences to make up the Faculty of Sciences while the Faculty of Arts is made up of all other courses like Education, Humanities and all the psychological based fields. The Faculty of Arts offer courses in Psychology for either their majors or minors unlike in the Sciences where only the medical students are taught Psychology.

In this study only a good knowledge of mental health was a predictor for choosing to have the school's internet based psychological services over face to face intervention (aOR=1.610). This may reflect the importance placed on making mental health a priority and the fact that youths are more internet savvy.

Mental health literacy was generally poor in the students, this may be because the responsibility of initiating care and "support relationship" may be new to them, being in a higher educational setting brings about an abrupt shift in students' responsibilities, and they may not be inclined to attend to their mental health needs on their own (Goodman *2017*; Kreider *et al.,2015*). There is an urgent need to increase mental health literacy among students to empower them to identify mental illness correctly and adequately seek early intervention for a better mental health outcome.

Mental health is cardinal to academic achievement. It is documented that about 64% of students who dropped out of school have diagnosable mental health problems. Also, attitudes and behaviours towards illnesses are formed in the younger ages of life which is the development period. The peak period for most mental illness coincides with the period spent in tertiary education, so efforts must be made to reduce the treatment gaps for mental illness by increasing mental health literacy and intervention programs in tertiary institutions (Kristina *et al.,2020*; Kelly *et al.,2007*). Following the WHO recommendations that mental health should be seen as a priority (Sokolowska *et al.,2016*), several groups, including university students, have been targeted for mental health intervention programs (Storrie *et al.,2010*). The reason being that much responsibility has been placed on educated young people and much is expected of their future contribution to the socio-economic and intellectual progress of the society (Hussain *et al.,2013*).

Since mental health plays a crucial role in academic achievement, it is therefore important that the mental health of students be promoted and programs be designed in the context of their needs and expectations (Sokolowska *et al.,2016*; Lipson and Eisenberg *2017*). Currently around the globe, many institutions are researching into the students' mental health with a view of mental health promotion, intervention, and academic support for both the students and staff of the academic community (Hussain *et al.,2013*; Lipson and Eisenberg *2017*; Collin and Mowbray *2005*; Milin *et al., 2016*).

The limitation of this study was the absence of adjustment for confounders. However, it can form the basis for future research and be a template for policy makers on mental health promotion.

5. 0 CONCLUSION AND RECOMMENDATIONS

It was concluded that Mental Health Literacy was inadequate among undergraduates at the Nigerian University and socio-demographic variables maybe associated with Mental Health Literacy. We recommend that new ways of improving the mental health literacy among students should include in-depth orientation programs for all new students, highlighting the mental health resources available on campus and mental first aid should be emphasized as part of such orientation programs. In addition, there should be compulsory introduction of mental health education in the curriculum of the students in the early years of study.

6.0 ACKNOWLEDGEMENT

DECLARATION

We declare that we all took part in the conceptualization, data management, writing and proof reading of the manuscript and there was no conflict of interest.

AUTHORS CONTRIBUTION

OINB : developed the concept, contributed to literature review, data management and writing, OAA : contributed to literature review, data management and manuscript writing, OAB : developed the concept, contributed to literature review, data management and manuscriptdraft, AJO: contributed to literature review, data management and manuscript writing, RO: contributed to literature review, data management and manuscript writing, MA : contributed to literature review and data management AA and SM: developed concept, contributed to literature review and manuscript writing

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