

Factors Associated with Mental Health Distress Among Undergraduate Nursing Students at the University of Nairobi, Kenya: A Cross-Sectional Study

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ABSTRACT

Background: Nursing students face an increased susceptibility to mental health distress. Despite growing evidence of mental distress among university students globally, limited data exist on undergraduate nursing students in Kenya, particularly regarding mental health distress and their help-seeking behaviours. Our objective was to investigate the prevalence of mental distress, identify associated risk factors, and assess help-seeking behaviours among nursing students specifically enrolled at the University of Nairobi.

Method: We employed a cross-sectional descriptive design with 203 undergraduate nursing students. The data collection instrument was the WHO's Self-Reporting Questionnaire (SRQ-20), administered via a Google Form.

Results: Most (57.63%) of the respondents were female. The majority were aged 18-22 years, and most lived on campus. About 29.56% of the respondents reported potential mental distress. The most frequently reported symptoms were daily academic work-related stress (61.08%), nervousness (49.75%), and difficulty paying attention (34.48%). Family history of mental illness and drug use were significantly associated with mental distress among the nursing students. Students in the third year of study reported lower levels of mental distress.

A significant majority either did not seek help for mental distress (16.3%) or did not disclose their help-seeking practices (42.9%), highlighting potential barriers to mental health service utilisation. Only 13.3% specifically sought help from the university students' clinic.

Conclusion: This study found a high prevalence of potential mental distress associated with a family history of mental illness and drug use, while advancement in academic years, especially the third year, appeared protective. The findings highlight the need for improved mental health support and awareness among student nurses. There is need to review the curriculum for workload distribution across the years of study and strengthen health systems to support mental health services within and without the university.

BACKGROUND

Mental health distress is increasingly recognised as a significant challenge affecting individuals' emotional, social, behavioural, and cognitive aspects of college students,¹ with a prevalence of as high as 34% being reported among health science students.² This may be exacerbated by the constant academic pressure they face, especially among health professional students.^{2,3} COVID-19 further magnified the vulnerability of college students, with reported higher mental Health distress among students who had no pre-existing mental health issues.⁴ Unfortunately, graduate students have been reported to have low self-care practices,⁵ especially those in health-related courses.^{6,7}

Nursing students may be at a higher risk of mental health distress due to their dual roles as learners and health professionals.⁸ Among nursing professionals,

younger nurses are reported to be more prone to mental distress.^{9,10} Globally, the devastating impact of mental health distress among nursing students ranges from shame, low self-compassion, sleep disorders,¹¹ late drop out of the program,¹² and poor performance.¹³

Nursing students in various countries have experienced elevated levels of mental distress, highlighting the global nature of this concern. In Ghana,¹⁴ found that 73% of nursing students were experiencing elevated levels of mental distress, while reported 52% of resident nurses had suspected mental distress.¹⁰ Lower levels of 12.1% and 29.2% have been reported in other developing countries.^{15,16} Understanding these disparities is crucial for developing targeted interventions to support the mental well-being of these students.

Studies on mental distress among nursing students reveal a complex interplay of factors including academic

-related stressors,¹⁷ student-related stressors,¹⁸ and environmental factors.¹⁹

In their study,¹⁹ investigated the influence of environmental factors, particularly the COVID-19 pandemic, on the mental distress experienced by nursing students. Their research revealed that at the outset of the pandemic, nursing students reported relatively lower levels of distress. However, as the pandemic continued to unfold, these distress scores progressively increased, indicating a significant impact of its duration on the mental well-being of nursing students.

Other factors that have been reported to determine mental distress among nursing students include gender,^{10,20} marital status, age,¹⁰ level of support from family, module of study,¹⁴ training period,¹⁷ life satisfaction, and locus of control.²⁰ These studies illuminate the multifaceted nature of stressors faced by nursing students. Given the potential development of mental health issues and comorbidities alongside impaired learning abilities, understanding the correlates and impact of mental distress on nursing students is essential.

Research focused on the mental health status of nursing students serves a crucial purpose in identifying risk factors, facilitating early detection, and implementing preventive and intervention strategies to enhance the overall well-being of these students. By comprehending and proactively addressing mental health challenges through support mechanisms and mental health training, stakeholders can foster resilience among nursing students, ultimately reducing attrition rates and consequently elevating the quality of patient care.^{8,19}

Currently, there is a scarcity of empirical evidence examining mental health distress and the help-seeking behaviours of Kenyan undergraduate nursing students.

The aim of this study was therefore to; (1). Assess the prevalence of mental distress among undergraduate nursing students enrolled at the University of Nairobi, (2). Identify the various risk factors contributing to mental distress within the nursing student population at the University of Nairobi, (3). Investigate the help-seeking behaviours of respondents concerning mental distress among nursing students at the University of Nairobi.

METHODS

Study Design

We adopted a descriptive, cross-sectional research design to delve into the psychological well-being of nursing students enrolled in the Faculty of Health Sciences within the Department of Nursing Sciences.

Participants

The targeted population comprised 412 individuals within the department, distributed across different academic years of study, otherwise referred to as levels of study: Level one had 132 students, Level two had 90 students, Level three had 87 students, and 103 students from Level IV.

Sample Size Calculation

We calculated the sample size using the Cochran formula,^{21,22} giving a total of 199 students, and added a

further 10% to cater for potential non-responses.

We utilised a stratified random sampling technique to ensure representation across different academic levels. This gave a total of 69 first years, 53, second years, 48 third years, and 51 fourth-years. A list of official email addresses of all the nursing students was obtained from the college administration. This list served as the basis for selecting participants for the survey.

Study Tool

The data collection tool consisted of a small section on socio-demographics that covered aspects of gender, age, marital status, place of residence, area of growing up (urban versus rural), year of study, use of drugs, and history of mental illness in the family. The second part of the questionnaire was adapted from WHO's self-reporting questionnaire (SRQ-20). The SRQ-20 consists of twenty simple-to-understand items that question respondents about symptoms and problems likely to be present in those with mental distress. The tool has been validated for use in low and medium-income countries.^{23,9} The answers were dichotomised into a 'yes' or 'no' answer. The last section of the data collection tool explored the help-seeking behaviour and treatment sources among the nursing students.

Data Collection

We collected data between June and July 2023. The link to the Google Form was shared to the sampled students through their official email addresses. This ensured that the survey reached the intended audience. It was noted that the link could easily be shared with other students in the class. Authenticity was ensured by requiring respondents to manually input their email addresses, with only verified university domain (@uonbi.ac.ke) entries being valid for the survey. This step aimed to confirm that respondents were indeed college students and part of the target sample. To enhance the credibility of responses, participants were prompted to sign in with their Google accounts before accessing the survey. This added an extra layer of verification. We prevented duplication of responses through the use of a time stamp. The respondents were explicitly informed that only one response was allowed per participant. The survey form settings were configured to restrict multiple submissions from the same respondent.

Data Analysis

The data was downloaded in Excel format, data cleaning was performed, and the data was then transferred to the Statistical Package for the Social Sciences (SPSS) software, version 29, for analysis. The analysis encompassed a range of techniques, including tabulation to organise the data and measures of association to identify patterns and relationships. We did the Chi-Square test to establish the association between demographic characteristics and mental distress. To further explore these associations and control for confounding variables, we performed both bivariate and multivariable logistic regression analyses. The variable "year of study" was treated as a categorical variable and entered into the regression model using dummy variables, with first-year students serving as the reference category. This approach enabled a comparison of each academic year with the reference group without

assuming a linear trend across years of study. The adequacy of the multivariable logistic regression model was assessed using the Akaike Information Criterion (AIC). Adjusted odds ratios (AORs) were calculated along with 95% confidence intervals and we presented our findings through tables.

Ethical Considerations

Ethical approval was obtained from the Kenyatta National Hospital/University of Nairobi Ethics Review Board. Permit Number (UP176/03/2023). Ethical principles were upheld throughout the research process. Clear instructions were given as part of the Google form. Informed consent was obtained from all participants before their involvement in the study. The anonymity and confidentiality of participants' responses were ensured to encourage honest and candid participation.

RESULTS

Of the 220 targeted respondents, 92.3% (203) completed the questionnaire, while 10 (4.9%) had incomplete questionnaires and 7 (3.4%) used an email address that did not have the university domain and hence were excluded from the analysis. The demographic characteristics of the respondents are summarised in Table 1. Most of the respondents were females (57.63%). Most of the respondents were aged 18-22 years (69.46%), and 63.05% were living on campus. Most of the respondents had grown in the rural area (57.64%). In terms of relationships, 76.85% of the students were single. Only 12.8% of the nursing students reported using psychoactive drugs.

TABLE 1: Socio-Demographic Characteristics of Respondents

Variable	Count	Percentage (%)
Gender		
Male	86	42.36
Female	117	57.63
Age		
18-22 years	141	69.46
22-25 years	58	28.57
above 25 years	4	1.97
Relationship		
In a romantic relationship	43	21.18
Married and living together	2	0.99
Married but not living together	2	0.99
Single	156	76.85
Residence		
In campus	128	63.05
Off-campus	75	36.94
Growing up		
Rural	117	57.64
Urban	86	42.36
Year of Study		
First-year	51	25.12
Second year	48	23.64
Third year	48	23.64
Fourth-year	56	27.59
On drugs		
Yes	26	12.80
No	177	87.19
Mental distress family history		
Yes	27	13.3
No	176	86.70

We explored the prevalence of mental distress among respondents and identified factors associated with it. Respondents were asked about various symptoms of mental distress, and those who answered affirmatively to eight or more out of 20 questions within the previous four weeks were categorised as experiencing potential mental distress. This cut-off point of ≥ 8 was adopted based on previous validation studies that showed acceptable sensitivity and specificity for screening common mental disorders in both community and clinical settings. Several studies conducted in low- and middle-income countries, including African populations, have recommended a cut-off score of 8 or higher as an appropriate threshold for identifying probable cases of mental distress.^{21,22} Researchers widely apply the cut-off in mental health research because it is reliable and suitable for resource-limited settings.

We calculated the Cronbach's alpha coefficient to evaluate the reliability of the mental distress assessment tool. For this sample, the Cronbach alpha was 0.792 CI (0.738, 0.834), implying that the test is 79.2% reliable with good internal consistency.

Table 2 summarises the results of the different symptoms reported. The most frequently reported symptoms of mental distress by respondents were daily academic work-related stress (61.08%), nervousness (49.75%), difficulty paying attention (34.48%), easily being frightened (32.51%), and experiencing headaches (30.54%). Some participants were unsure if they had experienced these symptoms.

The average count of affirmative responses among participants was 5.2 (SD=4.3) and a median of 5. Notably, one respondent indicated experiencing all 20 mental distress symptoms. The calculated prevalence of mental distress in our sample was 29.56%.

Factors Associated with Mental Distress Among the Respondents

To examine the potential associations between demographic characteristics and mental distress, we conducted a chi-square test. Family history of mental illness ($\chi^2 = 8.721$, $p=.003$) and drug use ($\chi^2 = 9.841$, $p=.002$) were significantly associated with mental distress among the nursing students at a 5% level of significance, indicating a possible link between family history, use of drugs and mental distress. Table 3 summarises the analysis.

To further explore these associations and control for confounding variables, we performed both bivariate and multivariable logistic regression analyses. We calculated adjusted odds ratios (AORs) and their 95% confidence intervals (CIs) to assess the relationships between mental distress and independent variables. Variables with a p -value less than or equal to 0.05 in the bivariate analysis were included in the final multivariable analysis. The fitted model had an AIC value of 236.33, showing an acceptable balance between model fit and complexity.

Family history of mental illness, use of psychoactive drugs, and year of study were the only factors that were significantly related to mental distress. The nursing students from families with a history of mental illness were 3.01 times more likely to suffer mental distress

TABLE 2: Summary of Mental Distress Symptoms Reported by Undergraduate Nursing Students at the University of Nairobi

	Symptom	Yes(%)	No(%)	Not Sure(%)
1.	Headache	62(30.54)	131(64.53)	10(4.93)
2.	Poor appetite	34(16.75)	158(77.83)	11(5.42)
3.	Trouble sleeping	41(20.20)	149(73.40)	13(6.40)
4.	Easily frightened	66(32.51)	124(61.08)	13(6.40)
5.	Nervous /tense worried	101(49.75)	89(43.84)	13(6.40)
6.	Hands shake	39(19.21)	139(68.47)	25(12.32)
7.	Trouble thinking clearly	33(16.26)	159(78.33)	11(5.42)
8.	Feel unhappy	48(23.65)	135(66.50)	20(9.85)
9.	Crying more than Usual	28(13.79)	165(81.28)	10(4.93)
10.	Difficult paying attention	70(34.48)	118(58.13)	15(7.39)
11.	Difficult to make a decision	51(25.12)	134(66.00)	18(8.87)
12.	Daily academic work stressing	124(61.08)	62(30.54)	17(8.37)
13.	Lost interest in academics	55(27.09)	134(66.0)	14(6.90)
14.	Have digestion problems	58(28.57)	131(64.53)	14(6.89)
15.	Feel worthless	41(20.20)	151(74.38)	11(5.42)
16.	Thought of ending life	10(20.20)	189(74.38)	4(5.42)
17.	Difficult to interact with others	57(28.08)	130(64.04)	16(7.88)
18.	Uncomfortable feeling	44(21.6)	140(68.97)	19(9.36)
19.	Thought of deferring or dropping out of the nursing program/study	56(27.59)	141(69.5)	6(2.9)
20.	Feel tired all the time	51(25.12)	129(63.54)	23(11.33)

TABLE 3: Multivariable Logistic Regression Model Results

Variables	Estimate (β)	Standard Error	AOR(95% CI)	P Value
Intercept	-0.7633	0.3032	0.4661(0.2573;0.8446)	.01183
Family history (Yes)	1.1025	0.4660	3.011(1.2082; 7.5079)	.01800
Family history (No)	Reference		1	
Drugs (Yes)	1.3735	0.4808	3.9489(1.5389;10.1333)	.00428
Drugs (No)	Reference		1	
Year of study (Fourth)	-0.8449	0.4629	0.4296(0.1734; 1.0642)	.06794
Year of study (Third)	-1.0195	0.4905	0.3607(0.1379 ;0.9435)	.03768
Year of study (Second)	-0.1477	0.4437	0.8623(0.3616; 2.0583)	.73918
Year of study (First)	Reference		1	

compared to those who came from families with no history of mental illness. Nursing students who were taking drugs were 3.948 times more likely to suffer mental distress compared to those not involved in drugs. The year of study was another factor that was related to mental distress. In the third year of study, students are less likely (0.36) to have mental distress compared to first-year students. While the other years had a reduction in mental distress compared to the first year, the difference was not significant. While the use of multiple dummy variables introduces multiple comparisons, no formal correction was applied since we considered the year of study as an

important predefined explanatory variable. The study results should be interpreted cautiously because of the increased possibility of type I error.

Variables such as age and gender were initially considered for inclusion in the multivariable logistic regression model because of their theoretical and demographic significance concerning mental distress. Nevertheless, these variables were omitted from the final multivariable model due to their lack of statistical significance in the bivariate analysis.

Regarding help-seeking behaviour, our results indicate

that a notable portion (31.03%) of the nursing student respondents sought counseling, demonstrating an awareness of the need for mental health support and a willingness to seek professional assistance.

Table 4 presents the help-seeking behaviour on mental distress among nursing students at the University of Nairobi. The table displays the count, percentage, and various responses related to seeking counseling and sources of help sought by respondents.

Of the total respondents, 13.3% had sought help in clinics, 12.31% from counselors followed by doctors (8.37%). It was noted that 16.3% did not seek help. Most (42.9 %) of the participants, did not give a response on the help-seeking behaviour.

TABLE 4: Help-Seeking Behavior of Respondents in a Study on Mental Distress Among Undergraduate Nursing Students at the University of Nairobi

	Count	Percentage
Counseling		
Yes	63	31.03
No	139	68.47
Blank	1	0.49
Where respondents sought help		
Clinic	27	13.30
Counselors	25	12.31
Doctors	17	8.37
Therapy	2	0.98
Self-help	2	0.98
Family	3	1.47
Friends	7	3.44
None	33	16.3
Blank	87	42.9

DISCUSSION

In this study, we assessed the prevalence and risk factors of mental distress among nursing students and explored their help-seeking behaviour. Our study found a high prevalence of potential mental distress associated with family history of mental illness and drug use, while advancement in academic years, especially the third year, appeared protective. The findings highlight the need for improved mental health support and awareness among student nurses.

Most of the respondents in the sample were female. A majority of the respondents were 18-22 years old and living on campus. We found that about 29.56% of the nursing students had potential mental distress. The most frequently reported symptoms of mental distress by the nursing students were academic work-related stress, nervousness, difficulty paying attention, being easily frightened, and experiencing headaches.

The prevalence of mental distress among nursing students in our study is similar to that reported among medical students at Mizan Aman Health Science College (29.2%) and Hawassa University (30%),^{18,19} but higher in comparison to neighboring Tanzania (14%).²³ The estimate was slightly lower than 39.6% reported by

Aksum University students, in Ethiopia.²⁴ Recent studies have shown an exacerbation in the levels of mental distress among both nursing and health science students, as well as professional nurses, attributed to the impact of the COVID-19 pandemic.^{9,25}

The results of our study are supported by Falco et al,¹⁰ who emphasised feeling nervous as the most prevalent symptom among the surveyed individuals. Our findings echoed the results from a study conducted among students in Ethiopia, revealing that mental distress manifested in physical problems such as fatigue, headaches, digestive complications, and anxiety.²⁶

Moreover, our results align closely with a global systematic review that emphasised academic stressors as the most common stressor among nursing students, followed by clinical stressors.²⁷

Our results contrasted those reported elsewhere, which included feeling unhappy, stomach pains, difficulty relaxing and sleeping, mental health issues, and depression.²⁸ This collective evidence underscores the prevalence of various stressors among nursing students and their impact on both mental and physical well-being.

We found family history of mental health, use of drugs, and year of study to be significantly associated with mental distress. This was consistent with a study done in Tanzania²³ that showed that a family history of mental illness significantly increased the odds of mental distress.

Students with a family history of mental illness may be more vulnerable due to genetic predisposition, which may be further influenced by environmental factors such as stigma, cultural misconceptions, and shared coping and communication styles, thereby increasing susceptibility to mental distress and reducing timely help-seeking.^{29,30}

Mental distress was significantly lower among higher-year students. This may be due to better adjustment to university life, increased clinical exposure, and improved coping mechanisms developed over time. First-year students may experience higher stress because of transit challenges and heavier academic workloads in early training phases. This may also be explained by the predominance of human science studies, including nursing students, in the preparatory and preclinical years, which are characterised by a greater academic workload than clinical years (years 3–4).²⁹ The Bachelor of Science in Nursing program of the University of Nairobi has relatively less demanding courses at level 3 of study, and over 60% of their time is dedicated to clinical areas. Our findings align with a study in Saudi Arabia,¹⁵ where higher-level students reported lower levels of mental distress. Similar results were reported in Makerere where year of study was highlighted as one of the factors associated with prevalence of depression among medical students.³¹ This could also be attributed to higher-level students having had more training in mental health issues, hence being more aware and more likely to seek help.³¹

In this study, the likelihood of mental distress was higher among those nursing students who were using psychoactive drugs. This is consistent with a study carried out among university students at Wollo and Jimma Universities in Ethiopia^{32,33} that found an association

between mental distress with Khat chewing. Other studies that support this found that substance use was a predictor of mental distress among students.³⁴

We found no significant difference in mental distress between males and females. These results were similar to those of Salvarani et al,²⁰ and Tesfahunegn et al,²⁴ who established that age and sex had no significant association with mental distress, but contradicted³⁵ who found that being a female student was a risk factor for mental distress, and Eweida et al,⁹ who found higher levels of distress among male nurse residents.

While age did not emerge as a significant factor in our study, the progression of the year of study typically corresponds to an increase in age. Despite its insignificance in our findings, other research has shown that older students tend to exhibit better coping mechanisms,³⁴ while younger students have low healthcare-seeking behaviour.³⁵

Most students did not seek counselling despite experiencing mental distress, while only a minority accessed formal support services. Low help-seeking behaviour may be attributed to stigma, self-stigma, negative attitudes toward counselling, concerns about confidentiality, financial constraints, and preference for informal support systems. A proportion of students did not utilise any support source, indicating possible gaps in awareness and accessibility of mental health services. This is consistent with Tran and Silvestri-Elmore⁶ who reported weakness in help-seeking behaviour among nursing students, which may be attributed to negative attitudes. However, exploring the reasons behind this choice can provide valuable insights into improving mental health support and services for nursing students.

Students who sought help used a range of formal and informal sources, including clinics, counsellors, doctors, therapists, self-help strategies, family, and friends. This variation highlights the need for a comprehensive, accessible, and student-centred mental health support system within academic institutions. This finding is consistent with the conclusion of Brouwek et al⁵ who emphasised the need for inculcating self-care practices among nursing students. This diversity highlights the need for a multifaceted approach to mental health support that accommodates individual preferences and circumstances. Notably, a considerable portion (16.3%) did not utilise any specified treatment source, suggesting potential gaps in awareness, accessibility, or willingness to seek treatment among this demographic. Other explanations for this finding include stigma associated with mental health problems, accessibility challenges, financial constraints, or reluctance to seek professional support among the students.^{29,30} The high level of non-response as to whether respondents sought help may reflect reluctance to disclose personal mental health experiences, uncertainty regarding help-seeking behaviour, stigma associated with mental health issues, or the possibility that some respondents had not sought any form of help. This phenomenon is supported by Abdelmonaem,³⁶ who reported that a significant number of student nurses and interns were reluctant to seek mental health care due to self-stigma, financial challenges, and level of self-stigma among nursing students, while others believe that they

could manage independently.

The results of our study highlight the need for strengthening students' support systems, including incorporating structured mental health education and stress management in nursing curricula. The mental health component should be included in the earliest year of study, as these years are associated with more vulnerability.

There is need of a regulatory framework on the minimum level of mental health services at training institutions, as well as established referral systems. The collaborative approach among students, the training institutions, the community, and policy analysis is paramount in managing mental health distress among nursing students. These efforts will support equipping and the development of a resilient nursing workforce.

Study Limitations

This study was limited in a number of ways. Cross-sectional designs provide a snapshot of a specific point in time, limiting the ability to establish causal relationships. Consequently, the study findings should be interpreted as associations rather than evidence of causation. Additionally, the study was conducted in a single institution, which may limit the generalisability of the findings to nursing students in other universities. Nursing students at a single public university may differ from those in private institutions in terms of academic environment, socioeconomic background, access to support services, and exposure to stressors. In addition, the mental distress is based on self-reporting and thus is subject to errors in recall and nondisclosure by the respondents.

While the employed measures in this study were effective in minimising duplicate and fraudulent responses, it's important to acknowledge potential limitations:

Technically skilled individuals might find ways to bypass certain verification methods, although such cases were not observed. The process relied on the accuracy of the sampled email list provided by the college.

Our study did not explore enablers or barriers to seeking professional help, which is essential for tailoring interventions to encourage more students to access mental health services.

CONCLUSION

Mental distress is prevalent among undergraduate nursing students at the University of Nairobi and is significantly associated with substance use, family history of mental illness, and year of study. Despite this burden, most affected students do not seek professional help. Strengthening institutional mental health services, integrating mental health education into nursing curricula, and promoting early screening may improve student well-being and academic outcomes.

Relevance to Clinical Practice

Our study identified a potential gap in help-seeking behaviour related to mental distress among the nursing student population at the University of Nairobi, emphasising the need for targeted interventions and increased awareness regarding mental health support and resources.

There is a felt need for adjustments to the nursing curriculum, workload, or clinical placement policies to better support students' mental health. Training institutions should prepare student nurses for professional demands related to their mental wellness and consider introducing mental health courses earlier in undergraduate training.

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