Prevalence and correlates of depression among students in a senior high school in Ghana: A school-based cross-sectional study

Nana Akua Sarfoah Obeng-Okon[1], Douglas Aninng Opoku[2,3] iD,
Nana Kwame Ayisi-Boateng[1,4], Joseph Osarfo[5] iD,
Obed Kwabena Offe Amponsah[6] iD, Jennifer Ashilevi[7],
Sheneil Agyemang[7] iD, Frempong Bernard[8], Helena Addai-Manu[2]
and Aliyu Mohammed[2]

Abstract

Objectives: Depression is one of the most widely reported mental health issues that affect adolescents globally. However, there is a dearth of data on its prevalence and associated factors among senior high school students in Ghana, since previous studies have focused more on adult populations. This can hinder policies needed to champion mental health and mental health care in senior high schools. Hence, this study sought to assess the prevalence of depression and associated factors among senior high school students in Ghana.

Methods: An analytical cross-sectional study involving 289 students at the Manya Krobo Senior High School was conducted from December 2022 to February 2023. The students were selected using a two-stage random sampling method. A questionnaire was used to collect data on sociodemographics and individual characteristics. The primary outcome was depression, and this was assessed using the Patient Health Questionnaire-9. Summary statistics were presented as means, frequencies, and percentages. Multivariate logistic regression was used to identify factors associated with depression and odds ratios presented with 95% confidence intervals. Statistical significance was considered at p-value < 0.05.

Results: The mean age of the students was 16.6 ($\pm$1.2) with a range of 14–20 years. Over a quarter (26.3%) of the students reported financial difficulties. The prevalence of depression among the students was 68.9%. The factors associated with depression in this study were female sex (adjusted odds ratio: 1.74, 95% confidence interval: 1.01–2.97), age (adjusted odds ratio: 1.41, 95% confidence interval: 1.10–1.81), history of chronic health condition (adjusted odds ratio: 3.74, 95% confidence interval: 1.36–10.25), and financial difficulties (adjusted odds ratio: 2.31, 95% confidence interval: 1.15–4.63).

Conclusion: This study shows that depression is rife among students at the Manya Krobo Senior High School, Manya Krobo District, Ghana. These findings call for pragmatic interventions such as strengthening counseling units and professional mental health services to ameliorate the impact of depression on the lives of students.

[1]School of Medicine and Dentistry, Kwame Nkrumah University of Science and Technology, Kumasi, Ghana
[2]School of Public Health, Kwame Nkrumah University of Science and Technology, Kumasi, Ghana
[3]Allen Clinic, Family Healthcare Services, Kumasi, Ghana
[4]University Hospital, Kwame Nkrumah University of Science and Technology, Kumasi, Ghana
[5]Department of Community Health, School of Medicine, University of Health and Allied Health Science, Ho, Ghana
[6]Faculty of Pharmacy and Pharmaceutical Sciences, Department of Pharmacy Practice, Kwame Nkrumah University of Science and Technology, Kumasi, Ghana

[7]Komfo Anokye Teaching Hospital, Kumasi, Ghana
[8]School of Medicine and Health Sciences, University of North Dakota, Grand Forks, ND, USA

Corresponding author:
Douglas Aninng Opoku, School of Public Health, Kwame Nkrumah University of Science and Technology, University Post Office, PMB KNUST, Kumasi, Ghana.
Email: douglasopokuaninng@gmail.com

Introduction

Mental disorders are defined by the World Health Organization (WHO) as cognitive, emotional control, or behavioral abnormality that is medically substantial and is usually linked to extreme anxiety or loss of critical areas of competence.[1] Mental disorders include depression, anxiety, and behavioral disorders and are the major causes of disease and disability among adolescents.[2] They account for a significant proportion of the global disease burden.[3] Worldwide, mental disorders contribute to about 13% of the burden of disease among adolescents between the ages of 10–19 years.[2] The academic demands, reduced physical activities in the adolescent stage, and developmental (physical, psychological, and behavioral) changes that occur in senior high school (SHS) students (usually aged 13–19 years) make them more susceptible to social and mental or psychological disorders.[4–6] Depression among SHS students (secondary level of education) is a significant public health issue considering its negative effect on academic performance, quality of life, and the risk of substance abuse.[7–9] However, compared to physical health, mental health and mental health care are usually given less priority.[10] In 2022, the WHO called on all stakeholders (mental health advocates and decision-makers) to intensify efforts and increase commitment to issues related to mental health.[11]

The WHO defines depression as a mental disorder that is marked by a protracted feeling of grief and a decline in interest in routine or pleasurable activities for extended periods, which may negatively impact an individual's ability to focus, eat, and sleep.[12] A growing body of evidence suggests that depression is prevalent among students at the secondary level of education.[13–16] Studies in Asia and Turkey reported a depression prevalence ranging from 44.2% to 74% among high school students from 2007 to 2022.[14,16–18] In sub-Saharan Africa, prevalence rates of depression among high school students range from 29.5% to 48.2% in Nigeria, Ethiopia, and South Africa.[13,19,20] Factors such as female sex, low perceived social support, not sharing problems with others, and the occurrence of adverse life events have been reported to be associated with depression among high school students worldwide.[13,17,20] Other factors reported to be associated with depression among this population include financial difficulties, health conditions, older age, and reduced sleep time.[21–24] Low perceived social support and not sharing one's problems with others are associated with about 3.6 and 1.9 times increased risk of experiencing depression compared to those with high perceived social support and those that shared their problems with others, respectively.[17] A study in Ethiopia also reported that female students had about 30% increased risk of depression compared with male students.[13] Older age among SHS students is also associated with a 69% increased risk of depression.[24] Eisenberg et al.[23] reported that students who reported going through financial struggles had about 64% increased risk of depression.

In Ghana, there is a dearth of data on studies that specifically assessed depressive disorders among SHS students.

Earlier studies in Ghana have concentrated on other populations such as university students,[25] and people living with HIV.[26] Ahorsu et al.[27] compared students at all levels of education (junior high school, SHS, and university) and noted that depression scores were higher in SHS students than in university students (17.37 ± 11.06 vs 9.94 ± 8.00) in Ghana. Asante and Ando-Arthur[25] also evaluated depression among university students in Ghana and reported an overall prevalence of 39.2%. The majority of mental health disorders like depression develop around this time of the adolescents' life,[2] which makes it crucial to assess depression among them. This is the time the adolescents go through physical, emotional, and social changes, such as exposure to deprivation, peer pressure and abuse, or violence, which increase their susceptibility to mental health issues.[28] If left unattended, depression can lead to suicidal ideation and suicide.[29] In Ghana, a previous study that analyzed patterns of media reports on suicides found 44 adolescent suicides from 2001 to 2014.[30] Similarly, between 2020 and 2022, there has been an increase in the number of news stories published online about suicides among SHS students in Ghana.[31–35] These data suggest that mental health disorder is an issue of public health concern, particularly among SHS students in Ghana. This study was undertaken in light of the above circumstances to estimate the prevalence and factors associated with depression among students in an SHS in the Eastern Region of Ghana. This study provides important data for a better understanding of the prevalence and the factors associated with depression among this population. This is necessary for promoting mental health and mental health care in the educational system, especially at the SHS level. This study could also promote the implementation of policies that would target reducing depression, an essential means of preventing suicide among SHS students in Ghana and beyond.

Methods

Study design and setting

A school-based cross-sectional study was conducted among students of Manya Krobo SHS in the Lower Manya Krobo District of Ghana from 20th December 2022 to 20th February 2023. The school is located in the lower Manya Krobo District in the Eastern Region of Ghana. This school was selected for this study due to the diverse backgrounds of the students. It has a student population of 1660 (females: 897 and males: 763). Manya Krobo SHS offer six programs, including business, agriculture, home economics, visual arts, general arts, and general science.

Study population

The study population consisted of all students of Manya Krobo SHS. A student qualified to be recruited into the study if he or she was in either the first or second year. Final-year students (SHS 3) were excluded from the study because they

were preparing to write the final-year examination (West African Senior School Certificate Examination). This was to avoid the potential influence of examination-related stress on the final-year students' assessment of depression as this could affect the outcome of the study. Students who were also absent on the days of the data collection were excluded from the study.

Sample size estimation and sampling

The sample size was estimated using Epi Info version 7.2.4.0 (Centers for Disease Control and Prevention (CDC), USA) at a 95% confidence interval (CI), a power of 80.0%, and a 5% margin of error. Assuming the factors associated with depression among SHS students in the current study were similar to the ones reported among high school students in Nepal[17]; students who received low and moderate perceived support from a significant other (odds ratio: 3.11), a low and moderate perceived social support (odds ratio: 3.60) and low self-esteem (odds ratio: 5.28), a sample size of 180 would have adequate power (of more than 80%) to detect all the factors. Using a design effect of 1.5 and a nonresponse rate of 10%, a total of 297 students were recruited for the study.

The students were recruited using a two-stage sampling approach. In the first stage, 20 out of 52 classes (SHS 1 and 2 classes) from all the programs were randomly selected, while students in each class were randomly selected in the second stage. In each class, the number of students selected was determined using probability proportional to size based on the number of students that were present in school using the class attendance register (obtained from teachers). Based on the size of the classes, 185 and 112 students were to be recruited from both SHSs 1 and 2, respectively. A listing of the students was done using the class attendance register, and a random code generator was used to generate random numbers based on the estimated number of students to be selected from each class. The random numbers were traced to the attendance register, and the names corresponding to the numbers that were generated were recruited for the study. This was repeated in all the classes until the estimated sample size for the study was obtained.

Data collection tools and technique

The study data were collected using a pretested structured questionnaire (see Supplemental File), employing a face-to-face interview in English. The questionnaire was developed by the investigators through a review of the literature.[36–42] The questionnaire was used to capture data on sociodemographic variables, including age, sex, religion, year of student, etc. and individual variables such as self-reported academic performance, previous history of chronic and mental health conditions, beating or canning, and drug abuse. Beating or canning in this study was defined as students who received any form of beatings or canning from either their seniors or teachers in school. The Patient Health Questionnaire-9 (PHQ-9)[43] was adopted to screen for the presence of depression among the students. The validity and reliability of the PHQ-9 for screening for depression have been reported worldwide.[42,44,45] Previous studies have utilized the PHQ-9 tool to assess the severity of depression among different populations in Ghana.[46–48] The PHQ-9 is a nine-item instrument with a four-point rating scale ranging from "0" (not at all) to "3" (nearly every day).[43] The PHQ-9 total scores range from 0 to 27 and are categorized as no depression (1–4), mild depression (5–9), moderate depression (10–14), moderately severe depression (15–19), and severe depression (20–27).[43] The PHQ-9 that was used to assess depression has been validated previously among adolescents in Ghana by Anum et al.[41] and it was found to be reliable with an internal consistency of 0.71.[41] To improve the validity and reliability of the questionnaire, robust measures including pretesting (among 20 SHS students in a different school) and experts such as those with a background in mental health, adolescents' health, biostatistics, and a family medicine consultant were engaged to review it. All the necessary corrections were made to the questionnaire after the pretest before using it to collect the study data. The prevalence of depression in this study was defined as all students who had 5 marks or above on the PHQ-9 scale divided by the total number of students in this study expressed as a percentage.

Data quality management and analysis

Data entry was done independently in Epi Info version 7.2.4.0 (CDC, USA) by two research assistants. The data entered were checked for accuracy and consistency by removing all wrong and double entries by a data validation team. All data entries were compared and merged after satisfying all data quality controls. The data were exported to Stata version 16 (StataCorp, College Station, USA) statistical software package for analysis. Continuous data were analyzed and presented using means with standard deviations for variables with normal distribution and medians with interquartile ranges for skewed ones. Categorical data were analyzed and presented using tables, frequencies, and percentages. Chi-square or Fischer's exact test was used to establish an association between demographic characteristics, individual factors (financial difficulties, presence of chronic health condition and previous mental health condition, etc.), and depression. The primary outcome of the study was the presence of symptoms of depression. Bivariate and multivariate logistic regression analyses were used to identify independent factors associated with depression. First, bivariate logistic regression analysis was used to assess the strength of association between independent variables (including age, sex, history of chronic health condition, previous mental health condition, experienced beating/canning, and financial difficulties) and the outcome variable

(depression). In the multivariable analysis, all statistically significant variables ($p < 0.05$) from the bivariate analysis were included in the multivariate logistic regression. Crude odds ratios (CORs) and adjusted odds ratios (AORs) were reported with 95% CIs. Statistical significance was maintained at $p < 0.05$ in the final multivariate model.

Ethical consideration

Approval to conduct this study was granted by the Committee on Human Research, Publications and Ethics, School of Medicine and Dentistry, Kwame Nkrumah University of Science and Technology, Kumasi, Ghana (approval reference number: CHRPE/AP/824/22). This was done after obtaining written approval from the management of Manya Krobo SHS. Written informed consent was obtained from the study participants. We obtained written informed consent from the legally authorized representative of the minor subjects (those below 18 years) prior to study initiation. This was done by the minors providing assent and the head teacher/teachers also providing consent for them. The head teacher/teachers assumed the role of a guardian and provided consent for the minors because it was practically not possible to seek consent from their parents/guardians. The respondents were mostly students in the boarding house who do not get to see their parents/guardians until school is on vacation. Besides, the parents/guardians are from all over the country, including areas without internet access and could not be mobilized to sign consent forms. This was explained in the application for ethical clearance, and approval was given.

Results

Demographic characteristics and individual factors of study participants

Of the 297 students who were recruited, 289 (response rate of 97.3%) completed the questionnaire. The mean age of study participants was 16.6 ($\pm$1.2) with a range of 14–20 years. Over half (51.9%) of the students were male students. Forty-eight (16.6%) of the students reported a previous history of chronic health condition. Eighteen (6.2%) of the students reported a history of mental health condition. Over a quarter (26.3%) of the students reported financial difficulties (Table 1).

Prevalence of depression among study participants

The median PHQ-9 score of the students was 7 (interquartile range: 7) with a range of 0–27. The prevalence of depression among the students was 68.9% (95% CI: 0.63–0.74). Of those who reported depression, 105 (52.8%, 95% CI: 0.46–0.60) had mild depression (Table 2). Depression was high among females (74.8%) and among those with previous chronic health conditions (89.6%). Again, depression was

high among those who experienced beating/canning (81.5%) and among those who had financial difficulties (81.6%).

Factors associated with depression among study participants

In the bivariate analysis, age (COR: 1.41, 95% CI: 1.11–1.78), female sex (COR: 1.72, 95% CI: 1.04–2.56), history of chronic health condition (COR: 8.31, 95% CI: 1.09–63.47), previous mental health condition (COR: 4.69, 95% CI: 1.79–12.28), beating/canning (COR: 2.27, 95% CI: 1.09–4.75), and financial difficulties (COR: 2.46, 95% CI: 1.29–4.68) were significantly associated with depression among the study participants. After adjusting for significant covariates in the multivariate logistic regression analysis, female sex (AOR: 1.74, 95% CI: 1.01–2.97), age (AOR: 1.41, 95% CI: 1.10–1.81), history of chronic health condition (AOR: 3.74, 95% CI: 1.36–10.25), and financial difficulties (AOR: 2.31, 95% CI: 1.15–4.63) were associated with depression among the students. Female students had a 74% (AOR: 1.74, 95% CI: 1.01–2.97) increased odds of experiencing depression compared to male students. Similarly, a unit increase in age was associated with 41% (AOR: 1.41, 95% CI: 1.10–1.81) increased odds of experiencing depression. Students who reported having a history of chronic health condition had about four times (AOR: 3.74, 95% CI: 1.36–10.25) increased odds of experiencing depression compared to those who did not have it. Compared to students who did not have financial difficulties, those who had financial difficulties had about two times (AOR: 2.31, 95% CI: 1.15–4.63) increased odds of experiencing depression (Table 3).

Discussion

This study assessed the prevalence of depression among SHS students in Ghana using a standard PHQ-9 scale. Previous studies have established the unidimensional PHQ-9 scale as a valid and reliable screening tool among students and other populations.[49,50] The current study found that 69.8% of the students had depression. Almost half of these students' depression ranged in intensity between moderate and severe. Increased odds of depression were associated with being a female, age, having a chronic health condition, as well as having financial difficulties.

The prevalence of depression observed in the present study is higher than the rate (39.2%) reported in a previous study among university students in the Greater Accra Region of Ghana.[25] The population dynamics and the difference in tools used in measuring depression in both studies could account for the variations in the study findings. High school students are exposed to several stressors such as bullying from seniors and the quest to achieve higher marks, which can increase their risk of experiencing depression unlike university students who have academic freedom, do not go

Table 1. Demographic characteristics of study participants.

Variables	Total n (%)	Depressed n (%)	Not depressed n (%)	p-Value
Age (years), mean (±SD)	16.6 (±1.2)	16.7 (±1.2)	16.3 (±1.0)	0.004
Sex				
Male	150 (51.9)	95 (63.3)	55 (36.7)	0.035
Female	139 (48.1)	104 (74.8)	35 (25.2)	
Religion				
Christian	271 (93.8)	185 (68.3)	86 (31.7)	0.600[a]
Muslim	18 (6.2)	14 (77.8)	4 (22.2)	
Year				
SHS 1	183 (63.3)	128 (70.0)	55 (30.0)	0.600
SHS 2	106 (36.7)	71 (67.0)	35 (33.0)	
History of chronic health condition				
Yes	48 (16.6)	43 (89.6)	5 (10.4)	0.600
No	241 (83.4)	156 (64.7)	85 (35.3)	
Previous mental health condition				
Yes	18 (6.2)	17 (94.4)	1 (5.6)	0.016[a]
No	271 (93.8)	182 (67.2)	89 (32.8)	
Self-reported academic performance				
Good	79 (27.3)	57 (72.2)	22 (27.9)	0.458
Poor	210 (72.7)	142 (67.6)	68 (32.4)	
Experienced beating/canning				
Yes	54 (18.7)	44 (81.5)	10 (18.5)	0.026
No	235 (81.3)	155 (66.0)	80 (34.0)	
Financial difficulty				
Yes	76 (26.3)	62 (81.6)	14 (18.4)	0.005
No	213 (73.7)	137 (64.3)	76 (35.7)	
Drug abuse				
Yes	41 (14.2)	30 (73.1)	11 (26.8)	0.520
No	248 (85.8)	169 (68.2)	79 (31.9)	

SD: standard deviation; SHS: senior high school.
[a]Analyzed using Fisher's exact.

Table 2. Depression among study participants.

Variables	Frequency, N = 289	Percentage, % (Range)	95% CI
Prevalence of depression			
Yes	199	68.9	0.63–0.74
No	90	31.1	0.26–0.37
Median PHQ-9 score (IQR)	7 (IQR: 7)	(0–27)	
Severity of depression (n = 199)			
Mild depression	105	52.8	0.46–0.60
Moderate depression	69	34.7	0.28–0.42
Moderately severe depression	22	11.1	0.07–0.16
Severe depression	3	1.5	0.01–0.05

through such bullying from their seniors, and also cope better with life's challenges. Again, university students have wider counseling and psychotherapy options available on campus at various college levels. An earlier study that compared students from all levels in the education system found higher scores of depression in SHS students than in university students in Ghana.[27] Also, the present study used the PHQ-9 compared to the Center for Epidemiological Studies Depression Scale, which was used in the study among university students in Ghana. These tools have specific cutoff points for defining both depression and nondepression cases.[43,51]

The prevalence rate of depression observed in the present study (69.8%) is comparatively similar to the rates reported among SHS students in Saudi Arabia (74.0%), Jordan (72.4%), and Iran (72.6%).[15,18,40] However, the prevalence rate in the current study varies remarkably from those reported in studies among SHS students in Nepal (44.2%), Bangladesh (25.0%), Uganda (16.4%), and Ethiopia (41.4%).[13,17,38,39] The variations in the prevalence rates of depression could be attributed to the differences in study populations, cut-offs, and tools used for assessing depression. The present study used the PHQ-9 to assess depression, while the studies conducted in Bangladesh[38] and Nepal[17] used the Center for Epidemiological Studies Depression Scale. Again, the Ugandan[39] study assessed depression among only female SHS students, unlike the present study

Table 3. Factors associated with depression among study participants.

Variables	Crude OR (95% CI)	*p*-Value	Adjusted OR (95% CI)	*p*-Value
Age (years)	1.41 (1.11–1.78)	0.006	1.41 (1.10–1.81)	0.006
Sex				
Male	1.00		1.00	
Female	1.72 (1.04–2.56)	0.036	1.74 (1.01–2.97)	0.045
History of chronic health condition				
No	1.00		1.00	
Yes	8.31 (1.09–63.47)	0.041	3.74 (1.36–10.25)	0.010
Previous mental health condition				
No	1.00		1.00	
Yes	4.69 (1.79–12.28)	0.002	4.55 (0.55–37.83)	0.161
Experienced beating/canning				
No	1.00		1.00	
Yes	2.27 (1.09–4.75)	0.029	1.71 (0.77–3.83)	0.189
Financial difficulties				
No	1.00		1.00	
Yes	2.46 (1.29–4.68)	0.006	2.31 (1.15–4.63)	0.018

OR: odds ratio; CI: confidence interval.

that involved both male and female SHS students. The findings of the current study may require follow-up assessment in a clinical setting to determine the best course of action for such young students. This is of utmost importance considering the range of intensity of depression found among the students from mild to severe in more than two-thirds of students with depression.

It was observed in the present study that female students had about 74% (AOR: 1.74, 95% CI: 1.01–2.97) increased odds of experiencing depression compared to male students. This implies that female students in this cohort were more likely to be depressed compared to their male counterparts in school. This finding is consistent with other findings in Malaysia,[52] Bangladesh,[38] Jordan,[15] and Ethiopia.[13] This could be explained by factors such as changes in hormones, premenstrual dysphoric disorder, and unwillingness to discuss mental health difficulties.[53–55] Females usually present with inner-directed challenges, which increases their risk of depression compared to men who exhibit externalizing symptoms.[56] Again, the higher odds of depression in female students may be due to the social and family restrictions they encounter during their adolescent years, which can predispose them to experience depression.

In the present study, it was observed that an increase in age was associated with 41% (AOR: 1.41, 95% CI: 1.10–1.81) increased odds of experiencing depression among the students. This implies that as a student gets older, his or her likelihood of experiencing depression increases. This is consistent with previous studies that reported increasing age as a significant determinant of depression among SHS students.[38,39] It has been well noted in previous studies that the severity of mental health disorders, such as depression,

increases as children get older (i.e., from adolescence to adulthood).[57,58] Naturally, the age of students increases along with their class of study, and this thus increases their workload due to the higher class. This may limit their time for socialization or engagement in other activities and thus increase their risk of experiencing depression. Additionally, older adolescents may lack interaction with age mates, and this may lead to isolation and loneliness. There is some evidence to suggest that loneliness leads to poorer depression outcomes among the general population.[36] Students who are in higher age groups should therefore be among the key targets for interventions to improve depression through peer counseling or professional clinical services.

Having a history of chronic health condition was associated with about four times (AOR: 3.74, 95% CI: 1.36–10.25) increased odds of experiencing depression. This implies that the occurrence of depression among students with a history of chronic health was higher compared to those without it. This is consistent with initial reports that depression is common among people with a history of chronic health condition.[37,59] Some chronic health conditions lead to depression as a result of their neurohumoral processes as well as the psychosocial impact of the condition on the individual.[60] Typically, most of these conditions have dietary restrictions and limit activities patients can indulge in, which leads gradually to a withdrawal from pleasurable activities with subsequent development of depressive symptoms and disorders.[61] Combine this with the stressors of navigating adolescence and you have a potential for a greater prevalence of depressive symptoms and depression. Patients with chronic health conditions as well as depressive symptoms have a lower quality of life and have less productive days.[62] Such persons require counseling and support at the time of diagnosis and throughout the care continuum.

It was also observed in the present study that students who reported having financial difficulties had about two times (AOR: 2.31, 95% CI: 1.15–4.63) increased odds of experiencing depression compared to those who did not. This implies that going through some financial difficulties could predispose a student to depression. This is consistent with studies conducted in Greece,[24] Britain,[63] and Nigeria.[64] Financial stress is an economic determinant of depression with a positive association in both developed and developing countries, although the association is stronger in developing countries.[65] A systematic review found that socioeconomically disadvantaged children and adolescents were two to three times more likely to have mental health problems including depression.[66] This could account for the study findings linking financial difficulty to depression among high school students. Beyond the study participant's perception of current financial difficulties, studies have shown a significant association between perceived financial strain in childhood and depression in early adulthood.[67,68] The introduction of the "Free SHS" in Ghana was meant to lessen the financial burden on both parents and students. However, this

program may not be enough to solve all the financial burdens of both students and parents. Hence, high school students with perceived financial difficulty should be identified by the school boards and given the help they need to cope. This can be through peer counseling or professional mental health services instituted by the management of the schools.

Strengths and limitations of the study

The study used a standard and validated PHQ-9 tool to assess depression among the study participants. Again, the high response rate constitutes one of the strengths of this study as it reduces sampling bias.

This study was limited to only first- and second-year students as well as only students from Manya Krobo SHS, and this can affect the generalizability of the study findings. The CI estimate of the odds ratio of the chronic health condition was extremely large, which suggests little precision. Hence, we recommend that the result should be interpreted with caution.

Conclusions and recommendations

Our study revealed that depression is rife among students at the Manya Krobo SHS, Manya Krobo District, Ghana, which calls for immediate public health attention. The study findings provide useful information, which can inform policy directions on promoting mental health and mental health care in SHS in Ghana and beyond.

Depression among these high school students needs to be given greater attention by the management of secondary-level education to help the students cope. This requires school-based programs such as routine screening for depression, increasing awareness of the dangers of depression, and the need to seek early treatment or counseling. It is also recommended that the management of schools provide adequate support, which includes psychological therapy and counseling services to at-risk populations such as students with history of chronic health conditions, financial difficulties, females, and students of higher age groups. A pragmatic approach to reduce or eliminate depression among SHS students could be the implementation of a counseling program in SHS in Ghana by the Ghana Education Service. The Ghana Education Service could also collaborate with the school boards to organize training for school counselors to be able to help students cope with the stressors that lead to depression as well as promptly referring those requiring professional care to designated facilities. Such a program will increase the resilience of students against depression. Pragmatic interventions such as strengthening counseling units and professional mental health services by school boards may also help to ameliorate the impact of depressive symptoms on the lives of students. We also advocate for more education by head teachers, teachers, and school counselors on the need for students to "break the silence" or talk to someone about issues that bother them.

ORCID iDs

Douglas Aninng Opoku 🆔 https://orcid.org/0000-0003-2321-387X
Joseph Osarfo 🆔 https://orcid.org/0000-0002-5366-3997
Obed Kwabena Offe Amponsah 🆔 https://orcid.org/0000-0003-0016-7639
Sheneil Agyemang 🆔 https://orcid.org/0009-0002-5480-4541

Data availability

The datasets used for this study will be made available upon reasonable request from the corresponding author.

Supplemental material

Supplemental material for this article is available online.

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