ENSIGN COLLEGE OF PUBLIC HEALTH

KPONG – EASTERN REGION, GHANA

DEPRESSION AMONG ADOLESCENTS IN SENIOR HIGH SCHOOLS IN THE GA WEST MUNICIPALITY OF THE GREATER ACCRA REGION, GHANA

BY

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A thesis submitted to the department of Community Health in the faculty of Public Health in partial fulfillment of the requirements for the degree of

MASTER OF PUBLIC HEALTH

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DECLARATION

I hereby certify that except for reference to other people's work, which I have duly cited, this Project submitted to the Department of Community Health, Ensign College of Public Health, Kpong, is the result of my own investigation, and that it has not been presented for any other degree elsewhere.

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(Ag, Head of Academic Programme) Signature Date

DEDICATION

I dedicate this work to my husband Prince, my parents James and Lucy Dinu and to my friend Mamertus who lost his life to cancer before he could graduate from his Master's Degree Programme at University of Ghana Business School.

ACKNOWLEDGEMENT

I would like to express my sincere gratitude to God almighty for his grace throughout the period of my study, my supervisor, Dr. Juliana Y. Enos who guided this work. I am very grateful. I would also like to thank my family and friends for their support, especially my husband Mr. Prince H. Kabutey for his unwavering support, my colleagues who supported in diverse ways, heads of senior high schools that allowed for the study to be carried out in their schools, the Ghana Education Service – Ga West Municipal and all students in the Ga West Municipality who participated in this study.

DEFINITION OF TERMS

Depression: Depression is a common mental disorder that is characterized by sadness, loss of interest or pleasure, feelings of guilt or low self-worth, disturbed sleep or feelings of tiredness and poor concentration (WHO 2012)

Adolescents: Adolescence is the period in human growth and development that occurs after childhood and before adulthood, from ages 10 to 19 (WHO 2017).

Sex: Being male or female

ABBREVIATION/ACRONYMS

1. CESD - Center for Epidemiological Studies – Depression Scale
2. DALYS - Disability-Adjusted Life Years
3. GES – Ghana Education Service
4. SHEP – School Health Education Programme
5. SHS – Senior High School
6. WHO – World Health Organization

ABSTRACT

Adolescent depression is known to have links with the development of depression in later life. The main aim of the study was to assess the prevalence of depression among adolescents and to contribute to knowledge on depression and give context specific information for Ghanaian children.

The study used a cross sectional study design with an adopted CESD questionnaire to elicit responses from study participants. A school based survey was conducted using a simple random sampling technique.

The data was analyzed using bivariate and multivariate analysis after data was entered through MS Excel 2013 and transferred to Stata 14.0 for the analysis. Results revealed that depressive symptoms were higher among female adolescents (67.31%) compared to male adolescents (53.68%). Sex was significantly associated with depression at p-value 0.003 (X^2=8.61). Depressive symptoms were found to be higher in adolescents who had siblings above four (68.13%) as compared to those who had less than four siblings (57.09%). Those who had parental care some or little of the time were more likely to report depressive symptoms as compared to those who have parental care all the time (AOR:1.27, 95%CI: 0.67-2.38). There was a highly likelihood of depressive symptoms among adolescent who rarely or none of the time felt valued (AOR: 10.10, 95%CI: 3.10-32.37). There was also a significant association between those who felt like harming themselves and depressive symptoms. Adolescents who rarely or none of the time felt like harming themselves were 0.20 (80%) less likely to be report depressive symptoms than those who felt like harming themselves all the time (AOR:0.20, 95%CI:0.48-0.80). Abuse was also observed to be significantly associated with depressive symptoms and those who rarely or none of the time were abused were 80% less likely to have depressive symptoms (AOR: 0.20, 95%CI: 0.16-1.47).

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CHAPTER ONE
INTRODUCTION

1.2 Background information

Depression is a common mental disorder that is characterized by sadness, loss of interest or pleasure, feelings of guilt or low self-worth, disturbed sleep or feelings of tiredness and poor concentration (WHO 2012). According to the WHO report on mental health, at least 350 million people live with depression and it is the leading cause of disability in the world (WHO2012). In 1990, it was the fourth most common cause of loss of disability-adjusted life years
(DALYs) in the world, and it is projected to become the second most common cause by 2020 (World Bank, 1993).

The WHO identifies adolescence as the period in human growth and development that occurs after childhood and before adulthood, from ages 10 to 19. Adolescents are faced with several developmental milestones as they transition into adulthood and experience many adult lifestyles for the first time. Changes in the adolescent's life at this stage range from biological, physical, psychological, and social among others. The development of one's identity and the transition to abstract reasoning amidst other social, family and school demands can be challenging to the adolescent.

The period of adolescence is critical for optimal health as studies have shown that several diseases have their onset from the adolescent years and progress to adulthood (Kim-Cohen, 2003).

A UNICEF report on the State of the World's Children in 2011 with the title "Adolescence an age of opportunity' categorized sub-Saharan Africa as the most challenging place for an adolescent to live. Some adolescent risk factors that have been identified to contribute to depression range from parent relationships, peer relationships, positive and negative feelings including suicidal thoughts, and lifestyle variables including academic performance, exercise and drug use.

1.2 Problem statement

According to Hankin (2006), depressed mood at younger ages carries risk for development of depressive disorders later in life. Studies by the WHO in seventeen (17) countries in the world revealed that depression disorders often start at a young age (WHO 2012). The average age of the first episode of major depression occurs in the mid-20s and, although the first episode may occur at any time from early childhood through to old age, a substantial proportion of people have their first depression in childhood or adolescence (Fava & Kendler, 2000). Although in developed countries much studies have been done in the areas of adolescent depression, little is known about the case of adolescents in developing countries and in particular, Ghana. Young people between the ages of 10 to 19 years characterized by WHO as adolescents face diverse challenges especially growing up in the developing world. The changing roles of young people as they transition into adulthood can be overwhelming to them, leading to mental health and other public health concerns. Depressive symptoms among youth are often attributed to the normal stress of adolescence; misdiagnosed as primarily conduct, attentional or substance abuse disorders; or seen as a stage the youth are going through (Saluja et al 2004). Assessing the prevalence of a major cause of disability (depression) in order to address the consequence of non-diagnosis is important in promoting adolescent health and safeguarding the health of the future generation.

It is against this backdrop that this study was carried out to ascertain the prevalence of depression in adolescents in the Ga West Municipality in Ghana to inform policy and address challenges that adolescents face in this part of the world.

1.3 Rationale of the study

This study is intended to identify the prevalence of depressive symptoms that are among Senior High School (SHS) level adolescents in the Ga West Municipality, to identify their risk factors for these depressive symptoms as well as their knowledge on ways of coping with adolescent developmental challenges. The study is also to inform the Ghana Education School Health

Programme at the Ga West Municipality to improve the health of adolescents.

1.4 Hypothesis/Conceptual framework

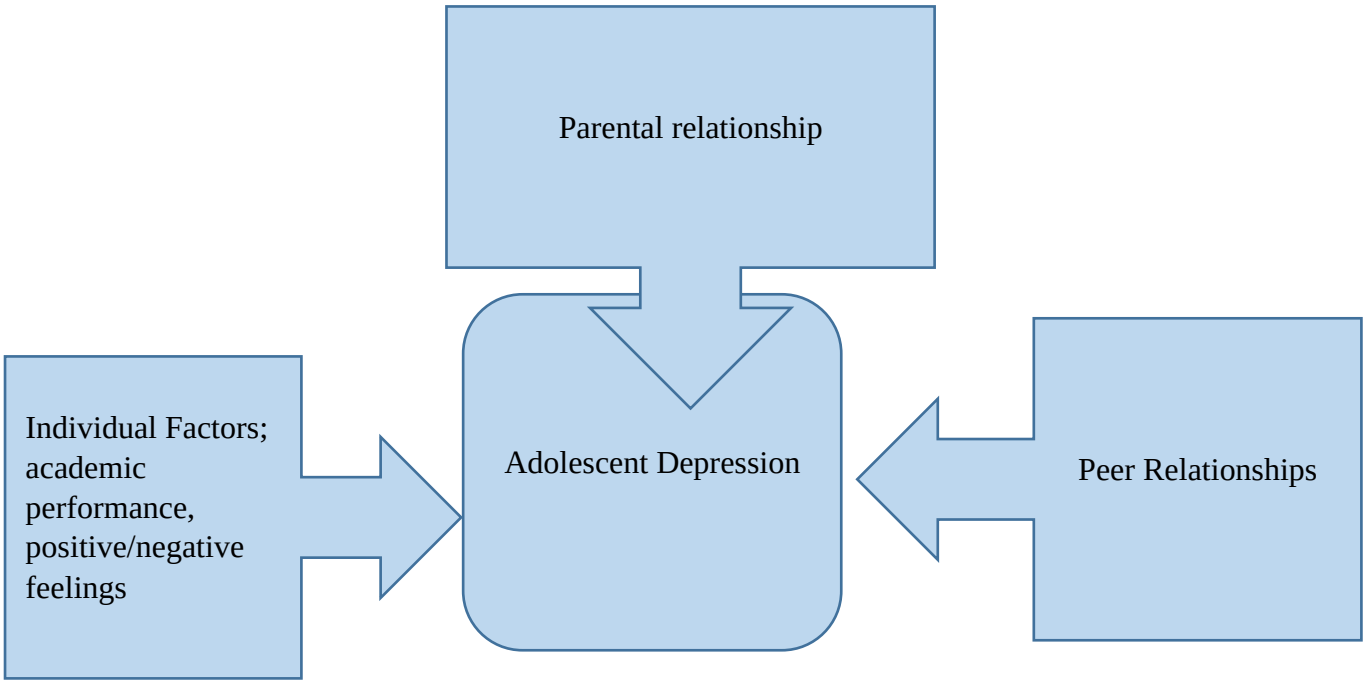


Figure 1: Conceptual Framework

1.5 Research Questions

Questions that guided the study include;

1. What is the prevalence of adolescent depression symptoms among Senior High School Students in the Ga West Municipality of the Greater Accra Region, Ghana?
2. What are the risk factors that are responsible for the depressive symptoms that students report?
3. What are the coping strategies for adolescents with depressive symptoms?
4. Where do adolescents seek help for the depressive symptoms that they may experience?

1.6 General Objective(s)

The goal of this research is to assess the prevalence of depression among adolescents and to explore the help-seeking behaviors and coping strategies of adolescents with depressive behaviors. The outcome of this study will contribute to knowledge on depression among

adolescents and provide context specific information for Ghanaian children.

1.7 Specific Objectives

1. To assess the prevalence of depression among adolescents.

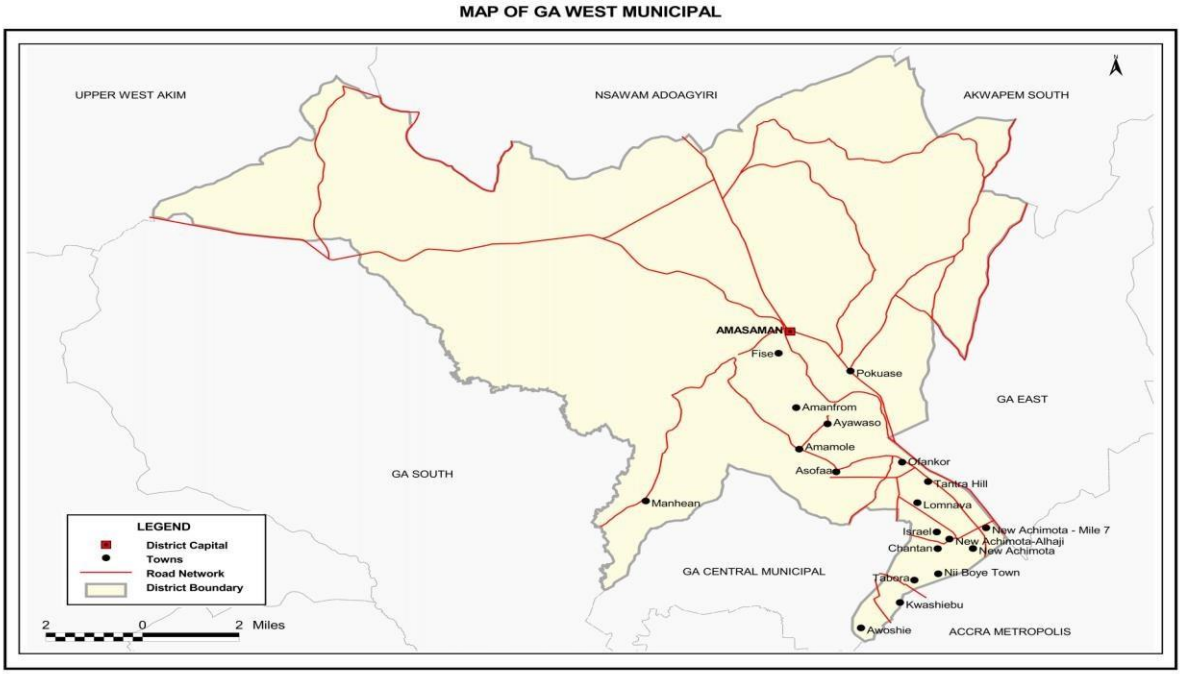
2. To assess risk factors for depression among adolescents in the Ghanaian context.

3. To assess the knowledge of adolescents on coping mechanisms that can be used to manage the challenges that they face, especially in relation to depressive symptoms as a result of their transition into adulthood.

1.8 Profile of study area

The Ga West Municipality shares boundaries with the Ga East and the Accra Metropolitan Area to the East, Akwapem South to the North, Ga South to the South and Ga Central to the North South. The Municipality covers a total land surface area of 299.578 square kilometers. For health administration, the municipality which was formerly divided into 5 sub-districts has currently been further divided into seven sub-districts comprising of Pokuase East, Pokuase West, Ofankor, Trobu, Kotoku, Amasaman and Oduman sub-districts. The population can be termed as a largely youthful one with 33.4% of the population being below the age of 15 years while the older generation of 60 and above are 4% (Ghana Statistical Service, 2010). There are very limited recreational facilities in the community, with some health problems ranging from malaria, malnutrition to diarrhea and cholera. The figure bellow shows the map of the Ga West Municipality where the study was conducted.

Map 1: Map of Ga West Municipal



1.9 Scope of study

The study sought to ascertain the depressive symptoms that adolescents 10 to 19 years in senior high schools face using a cross sectional study design. The study analyses the depressive symptoms and scores them in categories to ascertain those with high scores of likely depression symptoms and those with low scores. The study does not diagnose depression in study participants but uses scores adopted from the Centre for Epidemiological Studies Depression Scale (CESD) tool to determine the level of symptoms of possible depression that a respondent elicits. The study focused on adolescents that were in the age bracket of 10 to 19 years and are

attending formal learning in a senior high school setting.

1.10 Organization of report

Chapter one (1) of this thesis introduced the problem statement and described the specific problem addressed in the study. Chapter two (2) presents a review of literature and relevant research associated with the problem addressed in this study. Chapter three (3) outlines the methodology and procedures used for data collection and analysis. Chapter four (4) presents an analysis of the data and presentation of the results

in graphs and tables. Chapter five (5) provides a summary and discussion of the researcher's findings and the implications for practice. Chapter six (6) concludes and gives necessary recommendations to relevant bodies and for future research on the study topic.

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

Depression has been studied over several decades with its onset, causes and types being center stage of most of these studies.

Mental disorders account for a large proportion of the disease burden in young people in all societies. Most mental disorders begin during youth (12–24 years of age), although they are often first detected later in life (Patel et al 2007).

Depression is a common mental disorder that is characterized by sadness, loss of interest or, pleasure, feelings of guilt or low self – worth, disturbed sleep or feelings of tiredness, and poor concentration. Depression is the leading cause of disability for both males and females. Majority of the affected people do not receive treatment and in some countries it is as low as 1 in 10 (WHO 2012).

Adult depression is typically preceded by youth depression. A study by Hankin 2005 revealed that most individuals experience their first depression sometime during adolescence. In a recent prospective follow-back study, in which an entire birth cohort of individuals were followed for 26 years, the vast majority of adults at age 26 (75%) had already had a depressive disorder in childhood or adolescence; only 25% had experienced the onset of depression in adulthood (ages 21–26).

Kessler and colleagues in 2001 found that most adults with a psychiatric disorder (e.g., anxiety disorder, conduct problems) had experienced symptoms prior to age 14, but the average age at onset for depression was 30.

2.1 Sex Differences

Because girls possess more preexisting risk factors than boys, they are more likely to become depressed in the face of the increased stressors that accompany adolescence (Lyons et al 2006)

A study by Saluja and colleagues in 1996 collected data on some adolescents and found out that eighteen percent (18%) of youths reported symptoms of depression. A higher proportion of females (25%) reported depressive symptoms than males (10%). Prevalence of depressive symptoms increased by age for both males and females.

In Kenya, a study by Khasakhala and others on the prevalence of depressive symptoms among

adolescents in Nairobi (Kenya) public secondary school found that the prevalence of clinically significant depressive symptoms was 26.4%. The occurrence was higher in girls than it was in boys $p<0.001$ (Khasakhala et al, 2012)

A 4 year longitudinal study carried out by Galambos and her colleagues of a total of 1322 participants which comprised of 648 males, 674 females from adolescent's ages 12 to 19 years to investigate gender differences in and risk factors for depressive symptoms and major depressive episodes (MDEs) showed that although there was not a statistically significant increase in depressive symptoms in early adolescence, there was a robust gender difference in the levels of depressive symptoms and the prevalence of MDE (Galambos et al 2004)

2.3 The Ghanaian Situation

In Ghana, a study on Mental Health conducted by the Kintampo Health Research Centre has identified depression as the leading Mental Health Problem in Ghana. The study proved that in Ghana now, about 80% of the population are suffering from different forms of depression (Kintampo Health Research Centre, 2012).

CHAPTER THREE

METHODOLOGY

3.1 Research Methods and Design

The study was a cross-sectional study design, quantitative in nature to explore the prevalence of depressive symptoms among adolescents in Senior High Schools in the Ga West Municipality. A survey was conducted using a structured questionnaire as the tool for data collection. The data collected were analyzed using descriptive statistics, bivariate analysis and multiple regression to explore patterns of association among variables.

3.2 Data Collection Techniques and Tools

Two data collectors were trained on ethical considerations and questionnaire administration. The principal researcher and the two trained data collectors together collected data per senior high school by administering a questionnaire which was adopted from the Center for Epidemiological Studies – Depression Scale (CESD) for screening for depression symptoms among populations. The self-administered questionnaire contained the adopted 20 Likert scale questionnaires on depression symptoms as well as other variables to ascertain risk factors and knowledge of coping and accessing help.

3.3 Study Population

Adolescents between the ages of 10 to 19 years were the main study population. Ga West Municipality has a total population of 219,788 people with a male population of 107,742 and a female population of 112,046 (GSS 2010). The research work was carried out within the Ga West Municipality in the Greater Accra Region. The study area has three (3) Public Senior High

Schools and six (6) Private Senior High Schools. The Ga West Municipality is peri-urban by nature and shares boundaries with Ga East and Accra Metropolitan Assembly to the East,

Akwapem South to the North, Ga South to the South and Ga Central to the North-South (Ghana Statistical Service 2010).

Using the annual growth rate of 3.4% indicated by the 2010 population and housing census in Ghana for the Municipality, an estimated number of adolescents between the ages of 10 and 19 years expected within the municipality in 2016 is a total of 51,373. The study area has both urban and rural communities.

3.4 Sample Size Calculation

Using a 95% confidence interval and a 5% error margin with a 10% non-response rate and employing the sample size formulae using the Roasoft software, the minimum sample size for the study was 420 adolescents aged 10 to 19 years in Senior High School. However, a total of 462 questionnaires were administered to address the potential non-respondent rate with 450 questions retrieved from study participants and all included in the data entry and analysis.

3.5 Sampling Methodology

Simple random sampling technique was used to select study participants. The total number of students were obtained for each study location (Senior High School). This was used to ascertain the proportion of sample to be obtained per school. Using the total population of students in each school random numbers were generated and simple random technique used to select respondents per school. This was done for each school until all respondents were recruited for the study.

Inclusion Criteria

Adolescents who were enrolled in formal school settings were included in the study. People between the ages of 10 to 19 years were the participants of the study.

Exclusion Criteria

Adolescents who were below 18 years whose parents rejected their participation in the study were not allowed to participate.

3.6 Pre-testing of questionnaires

Pre-testing of the questionnaire was conducted using 30 Senior High School students in the Ga South Municipality. The Ga South municipality has similar demographic characteristics as that of Ga West Municipality. There were no changes to the questionnaires after the pretest as respondents were able to understand and answer the questions by themselves.

3.7 Data Handling

The data collected were kept under lock and key and initially entered into Microsoft Excel 2013 on a password protected computer. The dataset will be kept and destroyed two years after the award of the degree and a copy submitted together with this report to the institution awarding the degree.

3.8 Data Analysis

Data was entered using Microsoft Excel 2013 and transferred to Stata 14.0 for analysis. A bivariate analysis of personal, psychological and relationship factors associated with depression was done and a multivariate analysis of risk factors of depression was well as an analysis for places and persons from whom respondents are likely to seek help was also done.

3.9 Ethical Consideration

Ethical clearance was sought from the Ethics Review Board of the Ensign College of Public Health. Permission for the study was granted by the Ghana Education Service of the Ga West Municipality.

Informed Consent

Study participants were informed about the study and given the opportunity to decide their participation or otherwise in the study without any consequences to them. Students who agreed to be part of the study were made to sign a consent form to that effect. Anonymity of respondents was assured as there was no means of identifying students who responded to the questions by name.

Parental Consent

Study participants who were below the age of 18 years for legal consent were given parental consent forms explaining the purpose of the study and confidentiality to be given to their parents or guardians for their agreement to their wards participation in the study. Students whose parents consented were given the students assent forms for their participation to be signed as well.

3.10 Limitations of Study

A section of the population was studied due to time constraints. Not all nine (9) schools within the Municipality participated in the study. A total of seven (7) out of nine (9) schools were selected using a simple random sampling technique. However, one (1) private school declined participation in the exercise. The remaining six schools which included all three (3) public senior high schools and four (4) private schools participated in the study.

The study did not seek to diagnose depression in adolescents clinically. It focused on assessing depressive symptoms that students might have experienced a week prior to the study as outlined by the adopted CESD tool.

3.11 Assumptions

- Students will be truthful in responding to the questionnaires and narrating their experience.
- Students are aware of the experiences that affect their lives.
- Students will feel comfortable to respond to questionnaires in their school setting on issues that affect their lives.
- Prevalence of depressive symptoms is more common in older adolescents than younger adolescents.
- Students are provided guidance and counselling services at school to help them manage challenges they may face.

CHAPTER 4
RESULTS

4.0 INTRODUCTION

This section presents the analysis of results obtained from the study. A total of 450 students participated in the study. The data obtained, which had all necessary information including demographic characteristics and responses to the questionnaires were analyzed for the results. The minimum age of respondents was 13 years and the maximum age was 19 years. The results are organized according to the objectives of the study. Majority of the adolescent participants (88.44%) were between the ages of 16 to 19 years old. The presentation of results are done both descriptively and analytically in the form of tables and graphs or charts.

4.1 Demographic Profile

A total of 450 respondents were studied and among them females constituted the higher proportion (57.7) whilst males formed 42.22%. Their ages range from 13 years to 19 years with the majority (88.44%) of them within the age group of 16-19 years whilst those in 13-15 years only formed 11.56%. With regards to stage at school, the majority of the participants (43.11%) were in the first year of Senior High School (SHS1) whilst those in SHS2 and SHS 3 represented 22.67% and 34.22% respectively. On religious affiliations, almost all the respondents (94.89%0) were Christians with 5.11% Muslims.

Majority of the respondents (78.22%) lived with their parent's while the remaining 21.78% lived with other people such as their sibling (28.57%), uncle or aunty (39.80%) and grandparents
(13.27%). About 18% lived with people other than their blood relatives. Among the 352 (78.22%) who lived with their parents, the majority (65.34%) lived with both parents and the remaining 34.66% lived with a single parent. Respondents who had only 1 or 2 siblings were
23.78% and those 3 or 4 siblings formed 33.78%. In addition, those with 5 or 6 siblings and above 6 siblings represented 30.22% and 10.22% respectively. The remaining 2% had no sibling as at the time of the study. (See Table 1.1 below)

Table 1.1: Demographic profile of respondents

Characteristics	Categories	Frequency (%) N=450
Age	13-15years	52 (11.56)
	16-19 years	398(88.44)
Sex	Female	260 (57.7)
	Male	190 (42.22)
Grade	SHS 1	194 (43.11)
	SHS 2	102 (22.67)
	SHS 3	154 (34.22)
Religion	Christian	427 (94.89)
	Muslim	23 (5.11)
Living with Parent	No	98 (21.78)
	Yes	352 (78.22)
Both Parent	No	122 (34.66)
	Yes	230 (65.34)
Living with People other than parent	Sibling	28 (28.57)
	Uncle/or Aunty	39 (39.80)
	Grandparent	13 (13.27)
	Not a relative	18 (18.37)
Number of Siblings	1-2	107 (23.78)
	3-4	152 (33.78)
	5-6	136 (30.22)
	Above 7	46 (10.22)
	None	9 (2.00)

4.2: Depression symptoms among student

Table 1.2: Description of depressive symptoms among respondents (March 9 to 28th,2017) Frequency (%) N=450

Variables	Rarely or none of the time	Some or a little of the time	Occasionally or a moderate amount of time	All of the time

I was happy.	28 (6.22)	121 (26.89)	172 (38.22)	129 (28.67)
I enjoyed life.	41 (9.11)	163 (36.22)	137 (30.44)	109 (24.22)
I felt that I was just as good or important as other people.	39 (8.72)	81 (18.12)	108 (24.16)	219 (48.99)
I felt hopeful about the future.	27 (6.00)	50 (11.11)	60 (13.33)	69 (69.56)
I did not feel like eating; my appetite was poor.	177(39.42)	168(37.42)	74(16.48)	30(6.68)
I had trouble keeping my mind on what I was doing.	131 (29.11)	190 (42.22)	81 (18.00)	48 (10.67)
I felt fearful.	210(46.67)	135(30.00)	66(14.67)	39(8.67)
I felt that everything I did was a struggle.	149(33.11)	142(31.56)	69(15.33)	90(20.00)
I thought my life had been a failure.	291(64.67)	101(22.44)	35(7.78)	23(5.11)
I felt sad most of the time.	161(35.78)	175(38.89)	72(16.00)	42(9.33)
I felt that people disliked me.	195(43.33)	150(33.33)	61(13.56)	44(9.78)
People were unfriendly.	200(44.64)	147(32.81)	69(15.40)	32(7.14)
I felt lonely.	172(38.31)	146(32.52)	70(15.59)	61(13.13.59)
I felt sad.	171(38.00)	173(38.44)	73(16.22)	33(7.33)
I was bothered by things	188(42.06)	133(29.75)	59(13.20)	67(14.99)
I talked less than usual.	182(40.44)	139(30.89)	66(14.67)	63(14.00)
My sleep was restless.	207(46.00)	144(32.00)	44(9.78)	55(12.22)
I had crying spells.	268(59.56)	102(22.67)	57(12.67)	23(5.11)
I could not “get going”	247(54.89)	139(30.89)	47(10.44)	17(3.78)
I felt depressed.	187(41.65)	151(33.63)	80(17.82)	31(6.90)
I feel that people dislike me	200(44.44)	137(30.44)	67(14.89)	46(10.22)

Table 1.2 above provides the summary of depressive symptoms experienced by respondents in the week before the survey. Respondents were asked a series of questions to determine the presence of depressive

symptoms among them. The different levels of responses were either a respondent has a certain condition rarely (none) of the time or some (little) of the time or occasionally (moderate amount of time) or all of the time.

On whether a respondent was happy, 38.22% indicated that they were occasionally happy whilst 28.67% were happy all the time and 26.89% were some or a little of the time happy. A few (6.22%) indicated that they were rarely or none of the time happy. With regards to whether a respondent enjoyed life, those who indicated they enjoyed life some or little of the time and those who enjoy life occasionally constituted 36.22% and 30.44% respectively. Other 9.11% and 24.22% enjoyed life rarely and all the time respectively. Respondents were again asked about how they feel about themselves, almost 49% thought they felt as good or important as other people whilst 24.16% indicated that they occasionally felt as important as other people and 18.12% some or little of the time felt as important as other people. Only 8.72% of the respondents thought rarely or none of the time felt as good as other people. On whether respondents felt hopeful about the future, the majority (69.56%) indicated that all the time they felt hopeful about the future. Those who occasionally or little of the time felt hopeful formed 13.33% and 11.11% respectively. The remaining few (6.00%) felt they rarely or none of time felt hopeful about the future.

Negative feelings on the part of respondents were also assessed to determine the presence of depressive symptoms. On respondents' eating habits, 39.42% indicated that they rarely or none of the time did not feel like eating or had a poor appetite whiles 37.42% and 16.48% said they some or little of the time and occasionally did not feel like eating respectively. Only few (6.68%) indicated that they did not feel like eating. Respondents were again asked whether they have trouble keeping their minds on what they do. The majority (42.22%) responded that they sometime or little of the time have trouble keeping their minds on what they do. Another 29.11% and 18.00% said they rarely and occasionally respectively have trouble keeping their mind on what they do. The remaining 10.67% had trouble keeping their mind on what they do at all times.

Other negative feelings assessed were whether the participants felt fearful; felt that everything was a struggle; or thought that life had been a failure; or felt sad most of the time; felt that people disliked him or her among others. On issues of friendship and relationship, 44.64% indicated that rarely or none of other people have been unfriendly whiles 32.81% felt people have been unfriendly some or little of the time. Another 15.40% and 7.14% felt occasionally and all the time people had been unfriendly respectively.

4.3 The prevalence of depression among adolescents

Table 3: Prevalence of depressive symptoms among study participants

Level	Frequency	Percentage (%)
No (Low Score)	173	38.44
Yes (High score)	277	61.56*
Total	**450**	**100.00**

The table above shows the overall depressive symptoms level of respondents. Depressive symptoms level was scored using the set of variables presented in table 1.2 above. Respondents were ranked as either having a low score (not having depressive symptoms) or having a high score (having depressive symptoms). Overall, 61.56% were categorized as having depressive symptoms whilst the remaining

38.44% did not have such symptoms.

4.4 Assessment of adolescent risk factors for depression in the Ghanaian context.

Risk factors were determined from the sociodemographic, psychological and relationship factors of respondents. The table below shows the demographic factors of respondents that are associated with depression among the adolescents in Ghana.

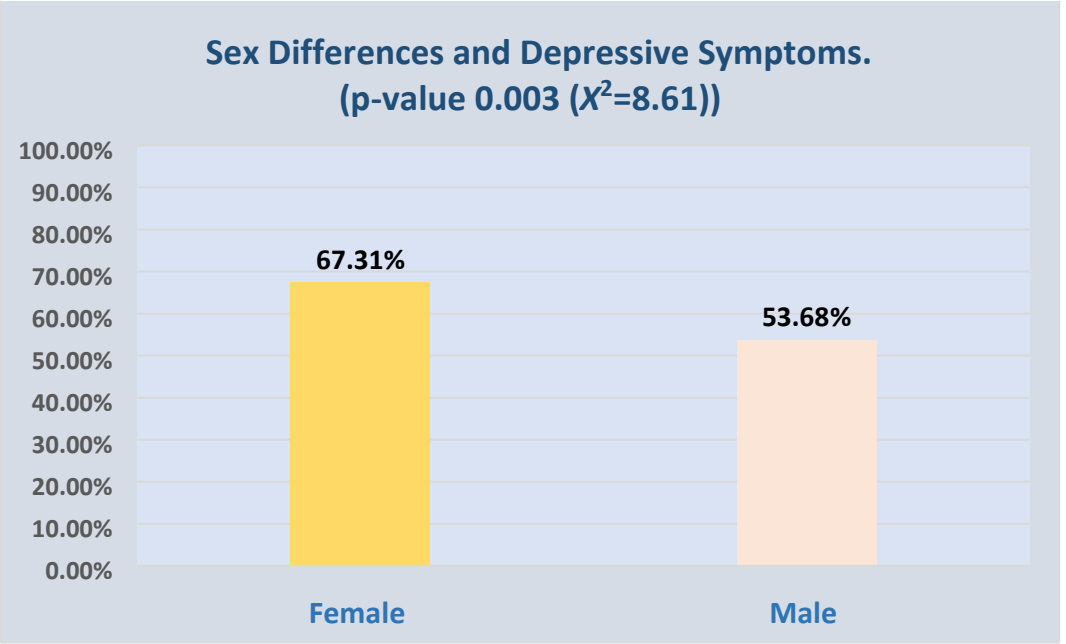
Table 4: Demographic risk factors for depressive symptoms among study participants

		Depressed			
Variables	**Categories**	**Yes**	**No**	***X^2 (df)***	**P-value**
Age	13-15	27(51.92)	25(48.08)		
	16-19	250(62.81)	148(37.19)	2.3052(1)	0.129
Sex	Male	102(53.68)	88(46.32)		
	Female	175(67.31)	85(32.69)	8.6097(1)	0.003*
Grade	SHS 1	123(63.40)	71(36.60)		
	SHS 2	60(58.82)	42(41.18)	0.6186(2)	0.734
	SHS 3	94(61.04)	60(38.96)		
Living with Parent	Yes No	67(68.37)	31(31.63)		
		210(59.66)	142(40.34)	2.4565(1)	0.117
Both Parent	Yes No	79(64.75)	43(35.25)		
		131(56.96)	99(43.04)	2.0139(1)	0.156
Number of	1-4	153(57.09)	115(42.91)		
Siblings	Above	124(68.13)	58(31.87)	5.5849(1)	0.018*
Religion	Muslim	15(65.22)	8(34.78)		
	Christian	262(61.36)	165(38.640	0.1373(1)	0.711

** indicates the measured association is statistically significant at □< 0.05*

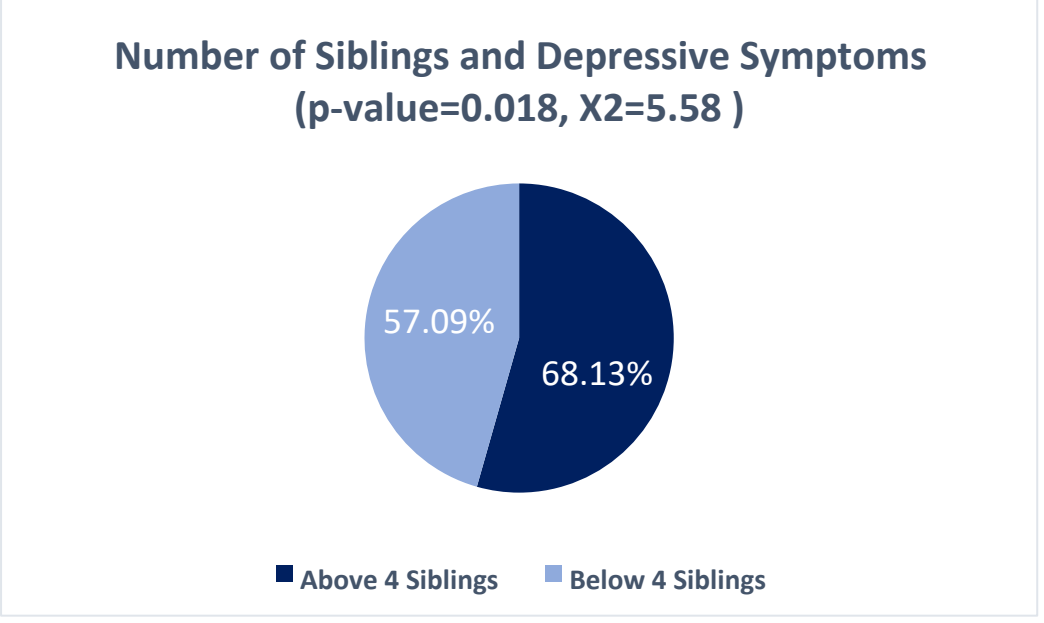
The table above shows demographic factors of respondents that are possible risk factors for depression among respondents. It was observed, that among these demographic variables, only the sex of respondents and the number of siblings were significantly associated with depressive symptoms among the adolescents. Depressive symptoms were high among female adolescents (67.31%) compared to male adolescents (53.68%). Again, sex was significantly associated with depression at p-value 0.003 (X^2=8.61).

Figure 4.1: Respondents' sex and depression symptoms



In addition, depressive symptoms were also found to be higher among adolescents who had siblings above four (68.13%) as compared to those who had less than four siblings (57.09%). The number of siblings of an adolescent was also found to be significantly associated with depressive symptoms. (p-value=0.018, X^2=5.58) at α<0.05, 95% confidence level.

Figure 4.2: Number of siblings of a respondents and depression symptoms



Other factors such as age of the adolescent, children living with both parent or single parents were found to be associated with depressive symptoms, however, such associations were not significant (p-values; 0.129, 0.117 and 0.156 respectively).

Table 5: Bivariate analysis of personal, psychological and relationship factors associated with depressive symptoms

Variables	Categories	Depressed		
		Yes	No	P-Value
Parental care	Rarely or none	16(84.21)	3(15.79) 7(14.89)	
	Some or little	40(85.11)	15(32.61)	<0.001*
	Occasionally	31(67.39)	148(43.79)	
	All of the time	190(56.21)		
Can talk to Parent	Rarely or none	82(77.36)	24(22.64)	
	Some or little	71(65.74)	37(34.26)	<0.001*
	Occasionally	45(60.000	30(40.00)	
	All of the time	79(49.07)	82(50.93)	
My Parent advice	Rarely or none	26(83.87)	5(16.13)	
	Some or little	22(62.86)	13(37.14)	0.034*
	Occasionally	40(65.57)	21(34.43)	
	All of the time	189(58.51)	134(41.49)	
I have friends	Rarely or none	53(73.61)	19(26.39)	
	Some or little	65(69.15)	29(30.85)	<0.001*
	Occasionally	44(70.97)	18(29.03)	
	All of the time	115(51.80)	107(48.20)	
Performing at my best	Rarely or none	13(81.25)	3(18.75)	
	Some or little	50(76.92)	15(23.08)	0.005*
	Occasionally	72(63.16)	42(36.84)	
	All of the time	142(55.91)	112(44.09)	
Pleased with Performance	Rarely or none	45(73.77)	45(73.77)	
	Some or little	93(67.39)	93(67.39)	0.022*
	Occasionally	73(55.73)	73(55.73)	
	All of the time	66(55.46)	66(55.46)	
Hope for future	Rarely or none	9(90.00)	1(10.00)	
	Some or little	21(87.50)	3(12.50)	<0.001*
	Occasionally	27(84.38)	5(15.63)	
	All of the time	220(57.29)	164(42.71)	
Abused by Parent	Rarely or none	213(56.80)	162(43.20)	
	Some or little	35(85.37)	6(14.63)	<0.00*
	Occasionally	10(76.92)	3(23.08)	
	All of the time	19(95.00)	1(5.00)	
Feeling in Control	Rarely or none	63(71.59)	25(28.41)	
	Some or little	66(69.47)	29(30.53)	0.001*
	Occasionally	59(66.29)	30(33.71)	
	All of the time	89(50.00)	89(50.00)	

Feeling Valued	Rarely or none	47(90.38)	5(9.62)	<0.001*
	Some or little	81(75.00)	27(25.00)	
	Occasionally	76(71.70)	30(28.30)	
	All of the time	73(39.67)	111(60.33)	
Think of Harming myself	Rarely or none	166(52.37)	151(47.63)	
	Some or little	55(76.39)	17(23.61)	<0.001*
	Occasionally	31(93.94)	2(6.06)	
	All of the time	25(89.29)	3(10.71)	
Know Ways to cope	Yes No	119(58.33)	85(41.67)	0.201
		158(64.23)	88(35.77)	
Knowledge on where to obtain information	Yes No	127(60.77)	82(39.23)	
		150(62.240	91(37.76)	0.748

** indicates the measured association is statistically significant at □< 0.05*

The above table also provides psychological and relationship factors that are associated with depressive symptoms among adolescents. It was observed that most of the factors are significantly associated with depression at $\alpha<0.05$. Parental care was found to be significantly associated with depressive symptoms (p-value<0.001). Again, there was an association between those who can talk to their parents, had advice from their parents and have friends and depressive symptoms (p-values<0.001, 0.034, and <0.001 respectively).

There was association between adolescents who perform to their best and also pleased with their performance and with depressive symptoms (p-values 0.005 and 0.022 respectively). Depressive symptoms were observed to be higher (81.25%) among adolescent that rarely or none of the time performed to their best. Other variables such as hope for the future, abused by parents, feeling in control and feeling valued were also significantly associated with depression symptoms. On the other hand, knowing how to cope and knowledge on where to obtain information were found not to be significantly associated with depression (p-value=0.201 and 0.748 respectively)

Table 6: Multivariate Analysis of risk factors of depression

Variables	Categories	P-value	OR (95%)	P-Value	AOR (95%)
Sex	Male	Ref	1	Ref	1
	Female	0.0034	1.78(1.20, 2.62)	0.174	1.40(0.86, 2.26)

Number of Siblings	1-4	Ref	1	Ref	1
	Above 4	0.0182	1.61(1.08, 2.39)	0.118	1.47(0.91 2.40)
Parental Care	All of the time	Ref	1	Ref	1
	Occasionally	0.1507	1.61(0.84, 3.10)	0.854	0.94(0.47, 1.88)
	Rarely or none	0.0164	4.15(1.17, 14.70)	0.422	1.63(0.77, 3.47)
	Some or little	0.0002*	4.45(1.91, 10.40)	0.028*	1.27(0.67, 2.38)
Can talk to Parent	All of the time	Ref	1	Ref	1
	Occasionally	0.1181	1.56(0.89, 2.72)	0.855	0.94(0.47, 1.88)
	Rarely or none	<0.001*	3.55(1.99, 6.300	0.203	1.63(0.77, 3.47)
	Some or little	0.0071*	1.991(1.20, 3.32)	0.462	1.27(0.67, 2.38)
My Parent advice	All of the time	Ref	1	Ref	1
	Occasionally	0.3033	1.35(0.761, 2.40)	0.351	0.70(0.33, 1.49)
	Rarely or none	0.0058*	3.69(1.364, 9.97)	0.906	1.08(0.31, 3.76)
	Some or little	0.6203	1.20(0.583, 2.46)	0.068	0.40(0.15, 1.07)
Have friends	All of the time	Ref	1	Ref	1
	Occasionally	0.0073*	2.27(1.23, 4.22)	0.428	1.36(0.63, 2.92)
	Rarely or none	0.0012*	2.260(1.43, 4.72)	0.800	1.04(0.51, 2.37)
	Some or little	0.0045*	2.09(1.24, 3.50)	0.741	0.89(0.46, 1.73)
Felt Value	All of the time	Ref	1	Ref	1
	Occasionally	<0.001*	3.85(2.238, 6.63	<0.001*	3.75(1.99, 7.06)
	Rarely or none	<0.001*	14.30(4.91,	<0.001*	10.10(3.10,
	Some or little	<0.001*	41.63)	<0.001*	32.37)
			4.56(2.60, 7.99)		3.84(1.99, 7.43)
Feel Control	All of the time	Ref	1	Ref	1
	Occasionally	0.0028*	4.23(1.50, 10.80)	0.749	1.12(0.56, 2.21)
	Rarely or none	0.0387*	6.71(0.83,54.23)	0.881	1.05(0.52, 2.13)
	Some or little	0.0035*	5.22(1.51, 18.05)	0.915	1.04(0.53, 2.04)
Hope for future	All of the time	Ref	1	Ref	1
	Occasionally	0.0028*	4.025(1.50,	0.085	2.69(0.87, 8.32)
	Rarely or none	0.0387*	10.80)	0.977	0.96(0.08, 10.82)
	Some or little	0.0035*	6.70(0.83, 54.24)	0.339	1.95(0.49, 7.68)
			5.21(1.51, 18.05)		
Performed at my best	All of the time	Ref	1	Ref	1
	Occasionally	0.1928	1.35(0.86, 2.13)	0.085	1.12(0.61, 2.05)
	Rarely or none	0.0472*	3.41(0.94, 12.43)	0.977	1.40(0.24, 7.87)
	Some or little	0.0020*	2.63(1.40, 4.98)	0.339	1.23(0.54, 2.78)
Please with Performance	All of the time	Ref	1	Ref	1
	Occasionally	0.9667	1.01(0.61, 1.67)	0.725	0.88(0.47, 1.68)
	Rarely or none	0.0171	2.26(1.13, 4.50)	0.708	1.02(0.41, 2.53)
	Some or little	0.0501	1.66(0.99, 2.77)	0.624	1.14(0.60, 2.17)
Harming self	All of the time	Ref	1	Ref	1
	Occasionally	0.5126	1.86(0.28, 12.28)	0.643	1.62(0.22, 12.45)
	Rarely or none	0.0002*	0.13(0.38, 0.46)	0.023*	0.20(0.48, 0.80)
	Some or little	0.1498	0.39(0.10, 1.48)	0.069	0.24(0.52, 1.11)

Abused guidance	by	All of the time	Ref	1	Ref	1
		Occasionally	0.1258	0.18(0.014, 2.18)	0.643	0.20(0.014, 2.93)
		Rarely or none	0.0007*	0.069(0.01, 0.54)	0.023*	0.15(0.16, 1.47)
		Some or little	0.2717	0.31(0.03, 2.86)	0.069	0.42(0.04, 4.99)

** indicates the measured association is statistically significant at $\alpha < 0.05$*

The table above shows a multivariate regression analysis of risk factors that were significantly associated with depressive symptoms at the bivariate analysis stage. It was done to adjust for other confounding variables to depression. After adjusting for sex and the number of sibling of a respondent, it was found that some variables are either more or less likely to lead to depressive symptoms.

It was observed that respondents who had parental care some or little of the time were more likely to report depressive symptoms as compared to those who had parental care all the time (AOR:1.27, 95%CI: 0.67-2.38). This relationship is significant at p-value 0.028. Again, there was a highly likelihood of depressive symptoms among adolescent who rarely or none of the time felt valued. That is, they are 10 times more likely to be depressed compared to those who felt value all the time (AOR: 10.10, 95%CI: 3.10-32.37). There was also a significant association between those who felt like harming themselves and depression symptoms. Adolescent who rarely or none of the time felt like harming themselves were 0.20 (80%) less likely to be report depressive symptoms than those who felt like harming themselves all the time (AOR:0.20, 95%CI:0.48-0.80). Abuse by parents or guardians was also observed to be significantly associated with depressive symptoms and those who rarely or none of the time were abused by parents or guardians were 0.20 or 80% less likely to be have depressive symptoms (AOR: 0.20, 95%CI: 0.16-1.47).

CHAPTER 5
DISCUSSION

5.1 INTRODUCTION

In this Chapter, the findings from the study will be discussed in accordance with the stated research objectives and research questions. The discussions will also be done to compare with other findings from other studies done locally or in the world at large.

5.2 Socio - Demographic Characteristics of Respondents

The analysis of the findings of this research indicated that 88.44% of the respondents were in the age group of 16-19 years old and those below 16 were only 11.56%. The high majority of respondents in the 16-19 years may be influenced by the site of the study, that is among senior high school students. In Ghana, the average age of high school education is mostly from the age 15- years to 19 years, thus majority of the students in SHS are found within this age group (GSS, 2012). This finding also showed that majority (43.11%) of the respondents were in the first years of Senior High School education. This stage (SHS1) is found as the most critical stage of higher education since it is at the time when the adolescent has just been introduced to a new education system which is quite different, complex and more challenging than the junior high school (Asare, Report and Danquah, 2016) . Thus, a high proportion (63.40%) of depressive symptoms were observed among SHS1 students compared with those in SHS 2 and SHS3 (58.82% and 61.04% respectively). Female respondents were higher than Males (57.7% and 42.22% respectively). This study found that depressive symptoms were higher among female adolescent than that of their male counterparts (67.31% and 53% respectively). A study conducted in Canada among adolescents between the ages of 12 to 19 years had higher prevalence among females than male respondents which was 21.4% in females and 10.7% in males (Galambos et al 2004). A longitudinal study conducted by Peterson and colleagues in 1991 revealed that more girls (59%) had the likelihood of depressive symptoms than boys

(40%) because they experience more challenges in adolescence than boys (Petersen et al, 1991). Some qualitative data collected as part of the self-administered questionnaires from respondents to state the challenges that they face as adolescents revealed that most students indicated emotional and sexual desires as their major challenges as adolescents. Some girls indicated the pressure for sexual relations from boys their age or older as well as peer pressure and financial challenges being a problem for them.

The study also found that the majority (78.22) of the respondents were living with their parents and thus only few of the respondents (9%) indicated broken homes was a challenge for them as adolescents.

5.3 The prevalence of depressive symptoms among adolescents

The prevalence of depressive symptoms among the respondents were assessed. A set of conditions adapted from the Center for Epidemiologic Studies Depression Scale (CES-D) was used. Respondents whose score was above 16 was classified as having depressive symptoms whiles those having a lower score was also classified as not having depressive symptoms. The study found the prevalence of depressive symptoms among the study participants to be at 61.56% which is quite threatening considering the recent surge of suicide deaths in Ghana reported by various tertiary institutions and the media. Depression has therefore been found as one of the factors leading to deaths, serious illness and other mental conditions if not properly managed (Saluja, G., at el, 2004) The current prevalence (61.56%) observed under this study relates with the prevalence of clinically significant depressive symptom of 26.4% found by Khasakhala et al (2012) among secondary school students in Nairobi, Kenya.

4.4 Assessment of adolescent risk factors for depressive symptoms in the Ghanaian context.

Risk factors for depressive symptoms can be found from diverse sources, however, this study examined sociodemographic as well as psychological and relationship factors that are likely risk factors for depressive symptoms.

Among the demographic risk factors that were studied, the sex of the adolescent and the numbers of siblings of the adolescents were found to be significantly associated with depression. Thus, more females than males had depressive symptoms and it has a proportion of 67.31% among females and 53.68% among males. Females were also more likely to be depressed than males (AOR: 1.40, 95%CI 0.86-2.26). A similar study done in Ghana by Acquah et al (2014), also found a similar pattern of depression among males and females. Again, in Kenya it was found that more girls than boys were likely to be depressed in a study conducted among secondary school students (Khasakhala *et al.*, 2012).

Another significant factor observed under this study is the number of siblings that an adolescent had. Contrary to what may be generally known, the more number of siblings a respondent had the higher depressive symptoms he or she reported. The study found that among participants who more than four siblings, 68.13% had depressive symptoms compared to those who had less than 4 siblings (57.09%). It can be generally perceived that the more people or siblings an adolescent had the less depressive symptoms he or she may report because there will be other members of the family especially his or her peers around to talk to in case of any trouble or confusing situation. The high level of depression among respondents with more siblings may be partly due to economic reasons rather than others because of competition that may arise over sharing the existing family resources. In Ghana (de-Graft Aikins, 2007) cited economic hardship as a contributing factor to depression and other chronic diseases. In this current study,

respondents whose siblings were more than 4 were more likely to be depressed compared to those whose siblings were less than four (AOR: 1.47, 95%CI: 0.91-2.40)

Other socioeconomic factors such as age of the respondents, living with parents or single parent were associated with depression, however, these associations were not statistically significant in the study.

5.5 Psychological and relationship factors associated with depression

The study also examined other psychological and relationship factors to ascertain their relationship with depression. It was found that parental care and talking to parents had a significant association with depressive status. Thus, those who had parental care "sometimes" or "little of the time" were more likely to be depressed compared to those who had parental care "all the time" (AOR: 1.27, 95%CI: 0.67, 2.38). Similarly, those who rarely or none of the time caould talk to parent were more likely to be depressed compared to those who all the time could talk to their parents (AOR: 1.63, 95%CI: 0.77-3.47). Similar findings were reported by (Huizinga et al. 2005;) Radloff 1977). The findings of this study could mean that students who had less parental care and were unable to talk to their parents had challenges coping with the developmental challenges they experience as adolescents. Social support was found to be a buffer against stressors and thus has a relationship with an individuals' wellbeing. (Cohen et al, 1985)

On positive feelings, the study found respondents who rarely or none of the time felt valued had a higher odds of being depressed compared to those who felt valued all the time (AOR: 10.10, 95%CI:3.10-32.37). Saluja, G. (2004) found similar odds among a study conducted among young adolescent in the United States.

In this study, performance of students in school and their level of satisfaction with their performance were found to have a significant association with depressive symptoms (p-values 0.005 and 0.022 respectively). Depression symptoms were observed to be higher (81.25%) among adolescent that "rarely" or "none of the time" performed to the best of their ability. This could be as a result of the extremely high importance placed on academic performance in Ghana without equal importance and regard being placed on a child's talents or giftedness if it is not related to academics. Findings from a study in Ghana revealed that high demands of academic performance on school children manifest as mental health symptoms of depression and anxiety including substance abuse. (Asare, et al, 2016).

Adolescents who rarely or none of the time felt valued were 10 times more likely to exhibit depressive symptoms as compared to those who felt valued of all the time (AOR: 10.10, 95%CI: 3.10-32.37). It was found in a related study that self-worth was an important cognitive vulnerability to depressive symptoms during adolescence (Burwell et al, 2006).

There was also a significant association between those who felt like harming themselves and depression symptoms. Adolescents who rarely or none of the time felt like harming themselves were 0.20 (80%) less likely to report depressive symptoms than those who felt like harming themselves all the time (AOR:0.20, 95%CI:0.48-0.80). Abuse by guardians or parents was also observed to be significantly associated with depression symptoms and those who rarely or none of the time were abused were 0.20 or 80% less likely to be have depressive symptoms (AOR: 0.20, 95%CI: 0.16-1.47). Knowledge on where to obtain information were found not to be significantly associated with depression (p-value=0.201 and 0.748 respectively). Only 13% of respondents indicated that they access help from counselors and when they had challenges while 22% spoke to their teachers or an elderly person, 29% speak to their siblings or elderly persons and 7% keep to themselves. Students who indicated that they know ways to cope (45%) recounted talking to people to seek advice as their ways of coping with the challenges that they face.

CHAPTER 6

CONCLUSIONS AND RECOMMENDATIONS

Conclusions

This study demonstrated that there were differences in the depressive symptoms that adolescents within the Ga West Municipality face, particularly according to sex and the number of sibling a child had. Thus, more females than males reported depressive symptoms and those who had more siblings reported an increase in depressive symptoms. Other risk factors that had a significant association with depressive symptoms were found to be performance at school, feelings of self-worth or value, parental care or the lack thereof and ability to talk to ones' parents, as well as whether the respondent felt abused or not by his or her parents or guardian.

It can be therefore seen from the study that adolescent girls in Ghana, like other adolescent girls have a higher likelihood of being depressed as compared to their male counterparts. With the recent surge in reports of suicide in schools, it is important that these risk factors are addressed to safe guard the future generation as was said by Dr Brock Chisholm, the first Director-General of the World Health Organization (WHO), that "without mental health there can be no true physical health".

Recommendations

Ministry of Education and Ghana Education Service

The introduction of the School Health Education Programme (SHEP) in schools is commendable however, there must be a strengthened school health system to give equal attention to student's mental health just as is given to physical health in schools. The guidance and counseling units in schools should be made attractive for students' patronage and the guidance and counseling units can initiate activities that are geared towards improving student's mental health even when students are unable to directly patronize these units. Effective coping

mechanisms should be taught as part of SHEP activities to enable adolescents have the ability to cope with their challenges as they grow up.

Public Health and Policy Makers

Resources should be increased to promote and advocate for improved mental health in Ghana and also focus on improving adolescent mental health as studies have shown that the emergence of several diseases in adulthood develop from adolescence.

Parents/Guardians

Parents and guardians of adolescents should improve time spent to know and understand the challenges of their children as they grow up. Parents and guardians should encourage their children to talk about issues that affect them and also support and encourage them in their academic pursuits and challenges that may arise.

Peers

Adolescent peers should be attentive to the needs of their colleagues and endeavor to share their experiences and challenges with each other to improve their mental health. The formation of peer groups to discuss issues concerning them with guidance from an expert or an experienced adult will also serve as a buffer against some challenges that may come as they go through their adolescent years.

Research

More studies need to be done to focus on adolescent depression in Ghana and this should be extended to the general adolescent population in Ghana. Studies can explore on a large scale the tribal differences in Ghana as a factor for adolescent depressive symptoms as well as delve

deeper through the use of a qualitative study into the reasons for girls reporting more depressive symptoms than boys in the Ghanaian context.

Further studies should also be made to explore adolescents' parents' depressive symptoms and its relationship with the adolescents own mental health and wellbeing.

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http://www.raosoft.com/samplesize.html

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APPENDICES

APPENDIX A: QUESTIONAIRE

ENSIGN COLLEGE OF PUBLIC HEALTH – KPONG

TOPIC: ADOLESCENT MENTAL HEALTH STUDY QUESTIONNAIRE

The survey is voluntary and the information that you give will be confidential. The information will be used to prepare reports, but will not include any specific names. There will be no way to identify that you gave this information. Could you please spare some time (about 15minutes) to answer the following questions?

Adolescent Questionnaire (Ages 10 to 19 years)	
Q1	What is your age? (a) 10 -12years (b) 13-15years (c) 16-19 years
Q2	Sex (a) Male (b) Female
Q3	What is your grade (a) SHS1 (b) SHS 2 (c) SHS3
Q4	Do you live with your parents? (a) Yes (b) No
Q5	If **Yes**, do you live with both parents (a) Yes (b)No
Q6	If **No**, who do you live with? (a) Sibling (b) Uncle/Auntie (c)Grandparent (d) Not a relative (e) Other relation (specify) ----------
Q7	What is your religion (a) Christian (b) Muslim (c) Traditional religion (d) Other –Please Specify ……..
Q8	How many siblings do you have (a) 1-2 (b) 2-4 (c) 4 – 6 (d) above 7
The next section of this questionnaire is to understand how you have felt in the past week. Below is a list of some of the ways you may have felt or behaved. Please indicate how often you have felt this way during the Past week by checking the appropriate box for each question	

Q09

PLEASE TICK (√) IN THE APPROPRIATE COLUM/BOX **During the past week….**	**Rarely or none of the time (less than 1 day)**	**Some or a little of the time (1-2 days)**	**Occasionally or a moderate amount of time (3-4 days)**	**All of the time (5-7 days)**
9.1. I was happy.				
9.2. I enjoyed life.				
9.3. I felt that I was just as good or important as other people.				
9.4. I felt hopeful about the future.				
9.5. I did not feel like eating; my appetite was poor.				
9.6. I had trouble keeping my mind on what I was doing.				
9.7. I felt fearful.				
9.8. I felt that everything I did was a struggle.				
9.9. I thought my life had been a failure.				
9.10. I felt sad most of the time.				
9.11. I felt that people disliked me.				
9.12. People were unfriendly.				
9.13 I felt lonely.				
9.14 I felt sad.				
9.15. I was bothered by things that usually do not bother me.				
9.16. I talked less than usual.				
9.17. My sleep was restless.				
9.18. I had crying spells.				
9.19. I could not “get going”				
9.20. I felt depressed.				

9.21. feel that people dislike me				

The following Questions Are on how you relate with you family and friends and how you feel about your future. Please tick the most appropriate response that applies to you for each of the questions.

10 **PLEASE TICK (√) IN THE APPROPRIATE COLUM**	**Rarely or none of the time (less than 1 day)**	**Some or a little of the time (1-2 days)**	**Occasionally or a moderate amount of time (3-4 days)**	**All of the time (5-7 days)**
Q10.1 My parents/guardian care for my needs				
Q10.2 I can talk to my parents/guardian about any issue that bothers me.				
Q10.3 My parents/guardian do advise me				
Q10.4 I have friends that I can talk to				
Q10.5 I feel valued and appreciated by my friends				
Q10.6 I feel in control of my life				
Q10.7 I have hope for the future				
Q10.8 I think of harming myself or leaving this world				
Q10.9 I am performing to the best of my academic ability in school				
Q10.11 I am pleased with my performance at school.				
Q10.12. One or both of my parents/ guardian is unhappy.				
Q10.13 I am abused by my parent or guardian				
Q10.14 I take alcohol or marijuana or other hard drugs. (a) To improve my performance at school (b) For other reasons (please specify) ---------- ---------- ----------				

Q10.15 Please specify the type of hard drugs you take.

(i)----------

(ii) ----------

(iii) ----------

Q16	What are some of the challenges that you face as an adolescent growing up? (i) ---------- (ii) ---------- (iii) ---------- (iv) ---------- (v) ---------- (vi) ----------	
Q17	Do you know of ways to cope with some of the challenges you face as an adolescent? (a) Yes (b) No	
Q18	If 'Yes' please mention what you know. (vii) ---------- (viii) ---------- (ix) ---------- (x) ---------- (xi) ---------- (xii) ----------	
Q19	Do you know of any place where you can go to obtain information or help to cope with some of the challenges you face as an adolescent? (a) Yes (b) No	
Q20	If yes, please mention the name of the place(s). (i) ---------- (ii) ---------- (iii) ----------	

Q21	If No, who do you talk to when you have challenges as an adolescent? (a) My parent/guardian (b) My teacher (c) My friends or classmate (c) My siblings (d) Other relatives/family member (d) An adult who is not my family member (e) My pastor/Imam (f) Other person please specify ----------	

APPENDIX B: STUDENT ASSENT FORM

I am doing a study on depression among adolescents in Senior High Schools in the Ga West Municipality. I am asking you to help because the information you provide will help me to know about what young people are experiencing in Ga West Municipality

If you agree to be in the study, I will give out questionnaires which contain both open and closed ended questions to solicit your views on depression. Your confidentiality is assured since your name will not appear on the questionnaire form.

You can ask questions about this study at any time. If you decide at any time not to finish, you can ask us to stop.

The questions I will ask are only about what you think or know or feel. There are no right or wrong answers because this is not a test.

If you sign this paper, it means that you have read this and that you want to be in the study. If you do not want to be in the study, do not sign this paper. Being in the study is up to you, and no one will be upset if you do not sign this paper or if you change your mind later.

Your signature: _____ Date _____

Your name: _____ Date _____

Signature of investigator obtaining consent: _____ Date _____

Name of investigator obtaining consent: _____ Date _____

APPENDIX C: ADOLESCENT MENTAL HEALTH STUDY – GA WEST MUNICIPALITY

Who to contact

Since s/he is under 18years, we ask him/her to show this to his/her parents or guardians before deciding whether to participate or not. This study has been approved by the Institutional Review Board of Ensign College. If you have any concerns about the conduct of this study, welfare or rights of your ward as a research respondent or if s/he wiling to ask questions, or need further explanations later, you may contact me. Mame Grace Dinu (0208078640) of Ensign College of Public Health, or My supervisor Dr. Juliana Enos through the school phone number (0245762229) You may also contact the Administrator of the Institutional Ethics Committee of the Ensign College of Public Health at on (0245762229).

Thank you.

Do you have any questions?

Part 2. CONSENT DECLARATION

"I have read the information given above, or the information above has been read to me. I have been given a chance to ask questions concerning this study; questions have been answered to my satisfaction. I now voluntarily agree that my ward participate in this study knowing that her confidentiality is assured"

Name of **parent/guardian** _____ Left thumbprint of Respondent

Signature of **parent/guardian** _____

Date: / / 2017

Name of **investigator** _____

Signature of **investigator** _____

Date: / / 2017

APPENDIX D

GHANA EDUCATION SERVICE

In case of reply the number and date of this letter should be quoted

MUNICIPAL EDUCATION OFFICE
GA WEST MUNICIPAL
P. O. BOX AM 80
AMASAMAN
E-mail:gawestmeo@yahoo.com

My Ref No: GES/GWM/P.L./VOL.3/02

Your Ref. No.....

REPUBLIC OF GHANA

20TH FEBRUARY, 2017.

HEADS OF SENIOR HIGH SCHOOLS
PUBLIC AND PRIVATE SCHOOL
GA WEST MUNICIPAL
AMASAMAN.

LETTER OF INTRODUCTION
(MS. MAAME GRACE DINU)

Permission has been granted to MS. MAAME GRACE DINU, a second year student of the Master of Public Health (MPH) degree programme of the Ensign College of Public Health – Kpong to conduct a research in the Public and Private Senior High Schools within the Municipality

Ms. Maame Grace Dinu is conducting a research on adolescents in Senior High Schools. She would therefore like to administer structured questionnaire to students in Senior High Schools within the Ga West Municipal.

You are therefore entreated to give them the necessary co-operation and ensure that the exercise does not unduly affect teaching and learning.

Counting very much on your usual co-operation.

Thank you.

.....
ADDO DANKWA AKUFFO
DIRECTOR OF EDUCATION
GA WEST MUNICIPAL
AMASAMAN.

ENSIGN COLLEGE OF PUBLIC HEALTH - KPONG

APPENDIX: E

OUR REF: ENSIGN/IRB/M2
YOUR REF:
Tel: +233 245762229
Email: irb@ensign.edu.gh
Website: www.ensign.edu.gh

P. O. Box AK 136
Akosombo
Ghana

21st November, 2016.

INSTITUTIONAL REVIEW BOARD SECRETARIAT

Mame Grace Dinu,
Ensign College of Public Health.

Dear Ms Dinu,

OUTCOME OF IRB REVIEW OF YOUR THESIS PROPOSAL

At a meeting of the INSTITUTIONAL REVIEW BOARD (IRB) of Ensign College of Public Health held on 16th and 17th November 2016, your proposal entitled "**Depression among Adolescents in Senior High Schools in the Ga West Municipality** "was considered.

Your proposal has been approved for data collection in the following settings:

1. Complete your title.
2. Obtain permission from Ghana Education Services
3. Refrain from a diagnosis of Depression
4. Stay at the level of aggregate date: No individual level consideration.
5. ~~Finally~~ Obtain expert support.

We wish you all the best.

Sincerely,

Dr (Mrs) Acquaah-Arhin

(Chairperson)

Cc. Dean of Ensign College.

Cc: Ag. Academic Registrar, Ensign College.