PREVALENCE OF DEPRESSION AND ASSOCIATED FACTORS AMONG 5TH YEAR MEDICAL STUDENTS IN KAMPALA INTERNATIONAL UNIVERSITY IN BUSHENYI, UGANDA.

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BMS/0093/133/DU

RESEARCH DISSERTATION SUBMITTED TO KIU IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD OF BACHELORS DEGREE OF MEDICINE AND

SURGERY OF KAMPALA INTERNATIONAL UNIVERSITY

SUPERVISOR

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NOVEMBER, 2018

DECLARATION

I**, RUHANGAYEBARE ANTHONY** hereby declare that I am the original author of this study dissertation and that this dissertation has never been submitted to the Research Ethics Committee of any institution before.

Date: _____ Signature: _____

Registration number; BMS/0093/133/DU

APPROVAL:

This research dissertation is being submitted to Kampala International University Western Campus with the approval of my supervisor.

Signature_____Date: _____

Name of supervisor: Dr. Jimmy Ben Forry

DEDICATION.

I dedicate this research work to my parents: Mr. Twesigye Geoffrey and Mrs. Twesigye Imeldah, my classmates on which this study was carried out on, my sisters, my friends and mostly to all people battling with depression

ACKNOWLEDGEMENTS.

First and foremost, my gratitude goes to my supervisor Dr. Jimmy Ben Forry for his scholarly guidance without which, the completion of this research work would not have been possible.

I wish also to extend my gratitude to my dear parents Mr & Mrs. Twesigye fortheir parental love, care and financial support throughout my academic struggle more especially during this research project. Without them, I would not have made it to this level.

I also thank my colleagues Mr.Mubiru Abdul, Mr. Nkonge Suleiman, Mr.Gumoshabe Tarasis for their time and support during data collection and analysis .Their hardwork and support made this research project enjoyable and a success.

TABLE OF CONTENTS.

KEY DEFINITIONS;

Depression:is a mental disorder characterized by loss of interest and pleasure (anhedonia), decreased energy (anergy), feelings of guilt or low self-worth, disturbed sleep and/ or appetite, and poor concentration (Marcus M et al,2012).

Medical student: a person who is studying medicine at a university (Oxford Advanced Learners Dictionary, 2010)**.** For this particular study, Medical student refers to any person doing medicine and surgery course at a bachelor's level.

Health:a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity (W.H.O, 1946)

LIST OF ABBREVIATIONS &ACRONYMS:

WHO: World Health Organization.

KIUTH: Kampala International University Teaching Hospital.

IREC: Institutional Research Ethics Committee.

DSM IV: Diagnostic and Statistical Manual of Mental Disorders IV

ABSTRACT

Introduction

The primary aim of medical training programmes is to produce knowledgeable, skillful, competent and professional graduates who will render comprehensive healthcare services within their communities. This is achieved through a variety of methods, including lectures, tutorials, experiential learning placements, apprenticeships and mentoring.

Unfortunately, most medical programmes are overloaded with facts, and the students inevitably spend many hours a day trying to achieve the expected academic outcomes. Therefore, these programmes may have unintended negative consequences with respect to students' personal mental and physical health. It has also been postulated that burnout in newly graduated doctors and older physicians has its origins in medical school.

In addition to coping with stressors in daily life, medical students have to deal with stressors specific to their studies and their learning environment. These include problems relating to academic pressure, social and financial issues viz. career choices, information and input overload, financial issues, inter-personal issues at the institution or within the family and lack of leisure time. A high prevalence of stress has been recorded in medical students internationally andit occurs from the start of the students' traininguntil their graduation. High levels of stress and burnout has resulted to medical students developing mental health issues among which is depression. However, the level of depression amongst medical students in East Africa, Uganda and Kampala International University medical school in particular is not well studied which prompted the researcher to assess the level of depression and associated factors amongst the medical students of the above mentioned medical school.

Objectives: This study aims to determine the level of depression and associated factors among fifth year medical students of Kampala International University western campus

Methodology: A quantitative cross-sectional research approach was used at Jinja regional referral hospital found in Jinja district Uganda where the fifth year medical students were placed for their final clinical attachment during the time of the study. Data was collected through self-administered questionnaires analyzed using charts, graphs and tables.

Results: Out of the 69 respondents, 54 (78.3%) were male and 15 (21.7%) were female, 62 (89.9%) were of the age group 21-25, 5 (7.2%) were 26-30 years, 2(2.9%) were between 31-35 years and none (0%) were above 35 years. 27(39.1%) were single, 39(56.5%) were dating and 3(4.3%) were married. 66(95.7%) were sponsored whereas 3(4.3%) were self sponsored for tuition. 16(23.2%) were depressed that is had borderline clinical depression to extreme depression implying that the prevalence of depression was at **23.2%.** 32 (46.4%) were normal whereas 21 (30.4%) had mild mood disturbance, 6 (8.7%) had borderline clinical depression, 7

(10.1%) had moderate depression, 3 (4.3%) had severe depression and none (0%) had extreme depression. And most of them that were affected was during their 3rd year of study 18 (48.6%).

Conclusion: The results indicated that 23.2% of the students were depressed at one point of their medical school and most of them was during their 3rd year of study but however, the majority were normal (46.4%) and some with mild mood disturbances (30.4%) which is also considered normal and there was no relationship between depression and age, sex, relationship status and source of income for tuition.

CHAPTER ONE

INTRODUCTION

Introduction

Depression is a mental disorder characterized by loss of interest and pleasure (anhedonia), decreased energy (anergy), feelings of guilt or low self-worth, disturbed sleep and/ or appetite, and poor concentration (Marcus M et al,2012). The term "depression" is ambiguous. It is often used to denote this syndrome but may refer to other mood disorders or to lower mood states thus lacking clinical significance therefore depression is clinically termed as Major depressive disorder. Major depressive disorder is a disabling condition that adversely affects a person's family, work or school life, sleeping and eating habits, and general health. Depression falls under the widespectrum of mood disorders which are the term designating a group of diagnoses in the Diagnostic and Statistical Manual of Mental Disorders (DSM IV TR) classification system where a disturbance in the person's mood is hypothesized to be the main underlying feature (Sadock, 2002). Depression is a major cause of morbidity worldwide (World Health Organisation, 2001). Lifetime prevalence varies widely, In most countries the number of people who would suffer from depression during their lives falls within an 8–12% range (Andrade L,2003).

A person having a major depressive episode usually exhibits a very low mood, which pervades all aspects of life, and an inability to experience pleasure in activities that were formerly enjoyed. Depressed people may be preoccupied with, or ruminate over, thoughts and feelings of worthlessness, inappropriate guilt or regret, helplessness, hopelessness, and self-hatred which has been reported as the main cause of suicide. In severe cases, depressed people may have symptoms of psychosis. These symptoms include delusions or, less commonly, hallucinations, usually unpleasant (Delgado PL et al,2009).

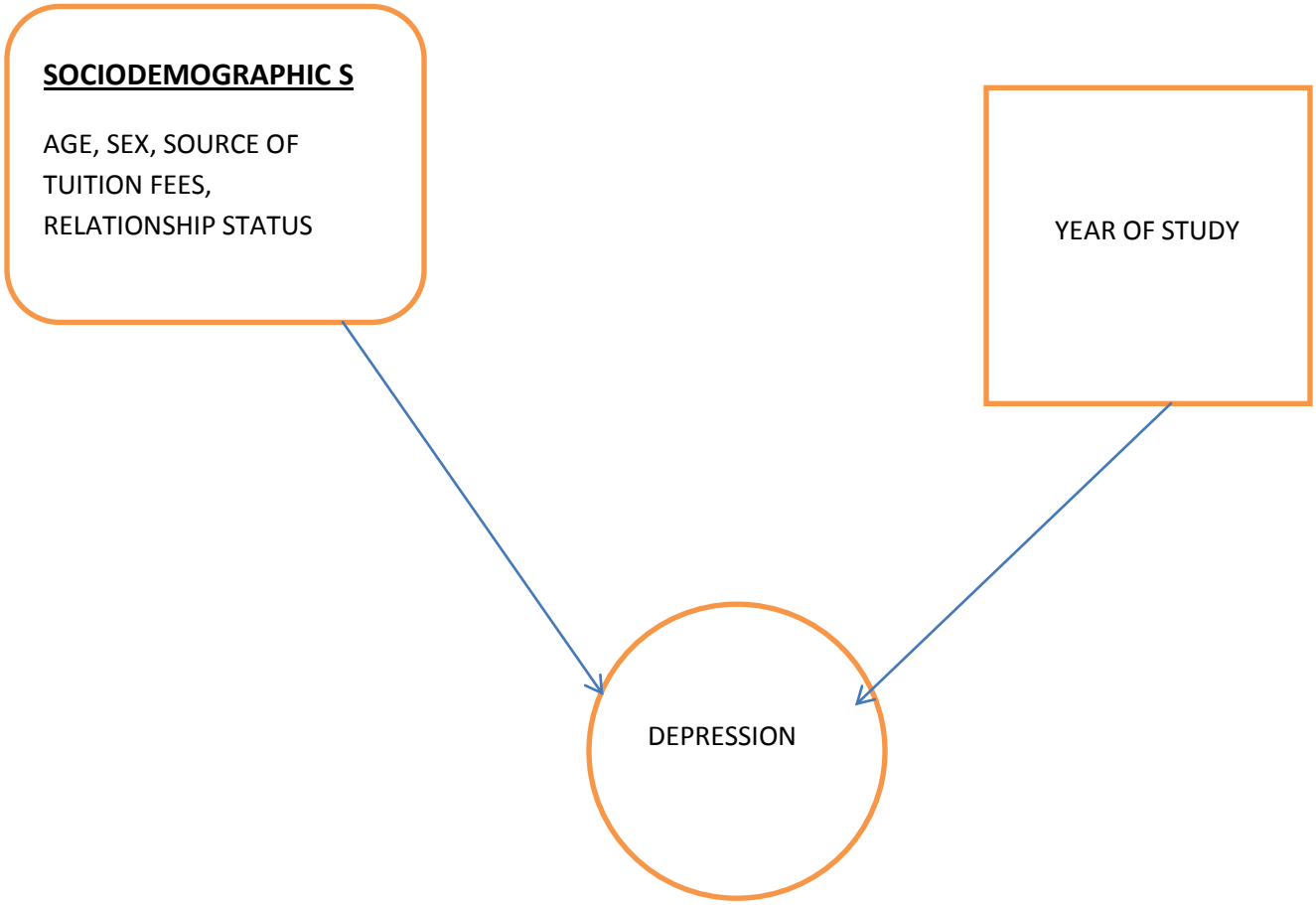
It is proposed that an interaction between biological, psychological, and social factors all play a role in causing depression in a genetically predisposed person (Caspi A et al, 2003).

Under biological, it is hypothesized that depression arises when low serotonin levels promote low levels of norepinephrine, another monoamine neurotransmitter (Shah N et al , 1999) which is responsible for the clinical presentation and forms the basis for the pharmacological management.

Psychologically, various aspects of personality and its development appear to be integral to the occurrence and persistence of depression, with negative emotionality as a common precursor in addition to low self-esteem (Morris BH et al, 2009).

The relationship between stressful life events and social support has also been implicated; the lack of social support may increase the likelihood that life stress will lead to depression, or the absence of social support may constitute a form of strain that leads to depression directly (Vilhjalmsson R. 1993) There is evidence that neighborhood social disorder, for example, due to crime or illicit drugs, is a risk factor, and that a high neighborhood socioeconomic status, with better amenities, is a protective factor (Kim D, 2008). Adverse conditions at work, particularly demanding jobs with little scope for decision-making, are associated with depression. Medical school comes with its challenges like course works, assignments, too much workload amongst others and with addition of pre existing challenges like financial hardships, relationship challenges amongst others which can also predispose to depression and this formed the basis for this study.

1.2:CONCEPTUAL FRAMEWORK



1.3 PROBLEM STATEMENT

Worldwide, the global prevalence of depression amongst medical students stands at 28.0% representing almost 1/3 amongst medical students globally(Puthran R et al,2016) which is higher when compared to the general population(Dyrbye LN et al,2006, Bramness JG et al, 1991). Many factors are responsible for this higher prevalence including the daily life stressors and specific learning environment stressors eg courseworks, large work load, tests among others (Naidoo S. et al, 2014) and such stressors lead to depression in students with inability to cope up and this is worse in medical school where the demands are even much higher compared to other non- medical school students. However not enough information is available of the prevalence of depressive symptoms amongst medical students so as possible interventions can be done to avoid the outcomes of depression such as substance abuse and suicidal ideations.

1.4 OBJECTIVES

1.4.1 General study objectives

To determine the level of depression and the factors associated among 5th year medical students of Kampala International University.

1.4.2 Specific objectives

1. To determine the prevalence of depressive symptoms
2. To determine associated factors
3. To determine the year of study of depressive symptoms

1.5 SCOPE OF THE STUDY

1.5.1 Geographical scope

The study will be carried out in Eastern Uganda, Jinja district, jinja municipality at Kampala International Hospital teaching site, Jinja regional referral hospital

1.5.2 Study area

the study will include final year medical students in their final semester at Kampala International University teaching site at Jinja Regional Referral Hospital

Content scope

This study will assess the prevalence of depressive symptoms, academic year in which the symptoms occurred and associated factors like age, sex, relationship status and source of tuition amongst the final year medical students of Kampala International University medical school.

Time scope

The study will run for one month of August 2018

Respondent scope

The study will include the population of medical students in their final semester of fifth year offering bachelors of medicine and surgery, both males and females

Significance of the study

1. The study will help estimate the prevalence of depression amongst medical students
2. The study will help identify which year of study is associated with the most depressive symptoms
3. The study will help identify different factors associated with depressive symptoms like sex, age, relationship status and source of tuition.
4. This information will be used by the university administration to develop interventions to help medical students not develop depression like psychosocial training on how to handle stress amongst others for the year with the most depressive symptoms, reinforcement or encouragement of protective factors for example if more students who were depressed were not in relationships, the students can be encouraged to be in relationships since it is protective.
5. The research results from this study will be available for other scholars for academic purposes and further research on the topic.

CHAPTER TWO

LITERATURE REVIEW

Depression is a mental disorder characterized by loss of interest and pleasure (anhedonia), decreased energy (anergy), feelings of guilt or low self-worth, disturbed sleep and/ or appetite, and poor concentration (Marcus M et al,2012). It is a significant contributor to the global burden of disease and affects all countries in the world and has a global prevalence of depressive episode of 3.2% and is the leading cause of disability worldwide in terms of total years lost due to disability (Moussavi S et al, 2007).

Worldwide, the global prevalence of depression amongst medical students stands at 28.0% representing almost 1/3 amongst medical students globally(Puthran R et al,2016) which is higher when compared to the general population(Dyrbye LN et al,2006, Bramness JG et al, 1991).

Many factors are responsible for this higher prevalence including the daily life stressors and specific learning environment stressors eg courseworks, large work load, tests among others (Naidoo S. et al, 2014) and such stressors lead to depression in students with inability to cope up and this is worse in medical school where the demands are even much higher compared to other non- medical school students. With the inability to cope up with the stress due to the demands of medical school for example regular pressure with overwork of academic burden and examination brings various changes in their daily routine such as lack of sleep, irregular diet, smoking and substance abuse in order to cope with stress. (Salam A. et al,2013; Sahraian A.et al 2010) and these can be related to depression.
Such depression is associated with higher suicide rates and this could be the reason for higher suicide rates in medical professionals than the general population (Frank E et al, 2000). A study by Puthran R. et al in 2016 put the overall mean suicide ideation amongst medical students at 5.8% in their study where they were comparing prevalence of depression amongst medical students in year one and year five (Puthran R et al, 2016).

However, a study done at The federal university of SaO Paulo, Brazil (Nogueira Martins et al,2004) which showed a depression rate at 44% indicated a suicidal behavior rate of 18%

and also related depression to 4.5% of suspension from studies. This shows why depression should be taken seriously.

A study conducted in Italy found that depression was associated with poor performance in class (Bonstanci M. et al, 2005) which is another reason why depression should be of great concern amongst students and mostly medical students.

Generally estimates of the prevalence of depression or depressive symptoms among students vary across studies from 1.4%to 73.5%,(Prinz P, Hertrich K et al 2012, Supe AN, 1998) and those of suicidal ideation vary from4.9% to 35.6%(Ahmed I, Banu H et al 2009, Ahmed SA, Omar QH,2016).

In Africa, a few studies have been done on depressive symptoms amongst medical students and studies are not any different from the rest of the world for example in Ibadan, Nigeria a study showed a prevalence of 12% of clinical students being affected (Omokhodion FO et al,2003)

In East African medical schools and Uganda in particular, a few studies have been carried out and among them was at Makerere university which found the prevalence of depression at 16.2%(Ovuga et al,2006). However no studies have been conducted at Kampala International University medical school.

Many factors have been associated to the high rates of depression and depressive symptoms some of which include family problems, financial hardships, difficulties in relationships ,fear of examinations among others but however, a study by Nalugya (Nalugya J., 2004) indicated a high rate of mental disorders (21%), mainly depression and anxiety disorders, among secondary school students in Mukono district, Central Uganda, suggesting that students joining Makerere University might have carried their mental health conditions from earlier years thus also contributing to the problem.

This study will try to assess the prevalence of depressive symptoms and its associated factors and academic year of the symptoms in Kampala International University medical school fifth year students offering bachelors of medicine and surgery

CHAPTER 3

METHODOLOGY

3.0Research design

The study was a cross-sectional type descriptive in nature using questionnaires with closed-ended questions that were availed to respondents. It used a quantitative research approach to determine prevalence of depression amongst the medical students and associated factors.

3.1 Study population.

The study included 5th year medical students of all genders doing an undergraduate bachelors degree of medicine and surgery.

3.1.1 Inclusion Criteria

The study included medical students doing undergraduate bachelors degree of medicine and surgery who were having clinical placements at Jinja regional referral hospital at the time of the study.

3.1.2 Exclusion Criteria

The undergraduate Students of bachelors of medicine and surgery of KIU practicing in other satellite hospitals during the period of study were not included in this study.

3.2Sample Size.

The sample size was determined using the Cochran Formula. Calculation was as follows:

$$\text{Sample size } (n) = \frac{Z^2 * (p) * (1-p)}{C^2}$$

Where;

Z=z value (1.96 for 95% confidence level)

P= maximum confidence interval , expressed as a decimal.

C=confidence interval (0.05).(Cochran ,1963).

In this study p=0.6[Nanfuka Naava, Rehma.2005]

$(n)=1.96^2 *(0.6)*(1-0.6)$

0.05^2

N=69.

3.3. Sampling procedure.

Sampling is the process of choosing the units of the target population which are to be included in the study (Sarantakos, 1998). The respondents were selected randomly to administer the questionnaires.

3.4. Data collection methods.

While undertaking this research, the researcher used questionnaires for data collection .the choice of this method was determined and was interpreted by the nature of data collected, the time available as well as by the objectives of the study.

3.5.1. Questionnaires.

A questionnaire is a research instrument consisting of a series of questions and other prompts for the purpose of gathering information from respondents. It is also a carefully designed instrument for collecting data in accordance with the specifications of the research objectives, questions and hypotheses (Amin, 2005).

Amin further argues that this data collection method is less expensive compared to other methods. The researcher therefore used this method since it increases the chances of getting valid information that is filled at the respondent's convenience. This tool will be used to collect data from medical students in fifth year at Jinja regional referral hospital teaching site

The researcher used questionnaires with close - ended questions from the Becks Depression Inventory (BDI) modified with the year of symptoms. By use of the questionnaires, data was offered by respondents with limited interference on the part of the researcher. Questionnaires were used because they were cheap to administer to respondents scattered over a large area and quick in collecting information, within a short space of time. For better collection of the data, the designed questionnaires were distributed to the selected respondents to tick the best alternatives

of their choice hence reduce, uncalled for vague responses, given its close-ended set up of questions. All the respondents were asked the same questions.

3.5.1 Validity of instruments.

In order to test and improve on the validity of the questionnaire, the researcher availed the first draft to colleagues pursuing rather similar investigations, as that of the researcher. The colleagues looked at the items and checked on the language clarity, relevancy and comprehensiveness of content and length of the questionnaire. Scrutinized and developed under close guidance of the supervisor, with whom, the researcher made a number of adjustments in respect to various comments made and advice given. The instruments were then piloted on an appropriate population of 10 respondents selected randomly from target population.

3.5.3 Reliability of instruments.

Reliability was ensured by testing the questionnaire on 10 participants from the target population. The questionnaires were given to the participants to give comments on the clarity of the questions and give necessary corrections on the questionnaire.

3.6. Ethical considerations.

Ethics according to Oxford Advanced Dictionary (2000) are symptoms of moral principles or rules of behavior that govern a persons' behavior. Ethics are meant to ensure rights and welfare of persons and communities that are subject to scientific study**.** A letter of introduction from the Department of clinical medicine and dentistry through research and ethical Committee KIU western campus was submitted to the teaching site administrator and relevant authorities at JRRH for clearance to conduct the research on the students in the above mentioned teaching hospital. The purpose of the study was clearly explained to the respondents in order for them to be conversant with it and provide the required data. The researcher will ensure utmost confidentiality regarding the discloser of respondents' identity without their informed-consent.

3.7. Process of data collection.

Having sought and obtained ethical approval, the researcher visited the hospital and introduced the questionnaires to respondents that were used to collect data on the medical students. The researcher had two (2) research assistants that helped him in data collection.

3.8. Data analysis.

Data was collected, tallied and analyzed with the aid of a Statistical Package for Social Sciences (SPSS, version 17). Descriptive and inferential statistics was used to analyze the data. The results

were presented in tables as percentages, means and standard deviation. Chi-square was used to determine the association between depression and related factorsat 0.05 level of significance.

CHAPTER 4

RESULTS

Sample size= 69

DEMOGRAPHY

1.sex

Female	15
Male	54

2.Age group

21-25	26-30	31-35	>35
62	5	2	0

3.Relationship status

Single	dating	Married
27	39	3

4. source of tuition

Sponsored	Self
66	3

RESULTS

NORMAL

Total= 32

Female	male
10	22

21-25	26-30	31-35	>35
28	4	0	0

Single	dating	married
6	24	2

Self	sponsored
1	31

MILD MOOD DISTURBANCE

Total=21

Male	female
19	2

21-25	26-30	31-35	>35
20	0	1	0

Single	dating	married
17	4	0

Self	sponsored
0	21

1st year	2nd year	3rd year	4th year	5th year
2	6	11	1	1

BORDERLINE CLINICAL DEPRESSION

Total; 6

Male	Female
6	0

21-25	26-30	31-35	>35
5	0	1	0

Single	dating	Married
1	5	0

Self	Sponsored
0	6

1st year	2nd year	3rd year	4th year	5th year
0	1	4	1	0

MODERATE DEPRESSION

Total= 7

Male	Female
5	2

21-25	26-30	31-35	>35
6	1	0	0

Single	dating	Married
2	4	1

Self	Sponsored
1	6

1st year	2nd year	3rd year	4th year	5th year
0	2	3	1	1

SEVERE DEPRESSION

Total; 3

Male	Female
2	1

21-25	26-30	31-35	>35
3	0	0	0

Single	dating	Married
1	2	0

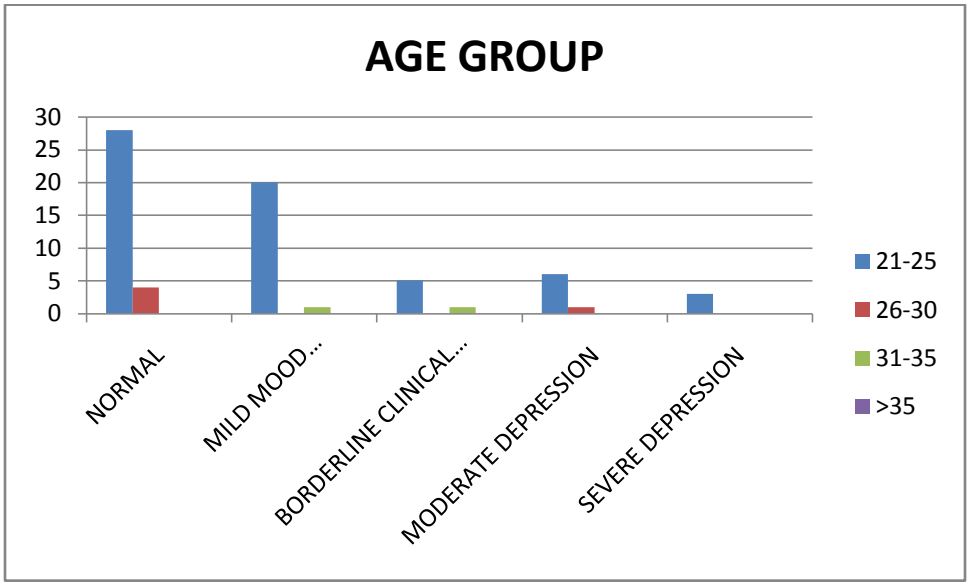
Self	Sponsored
0	3

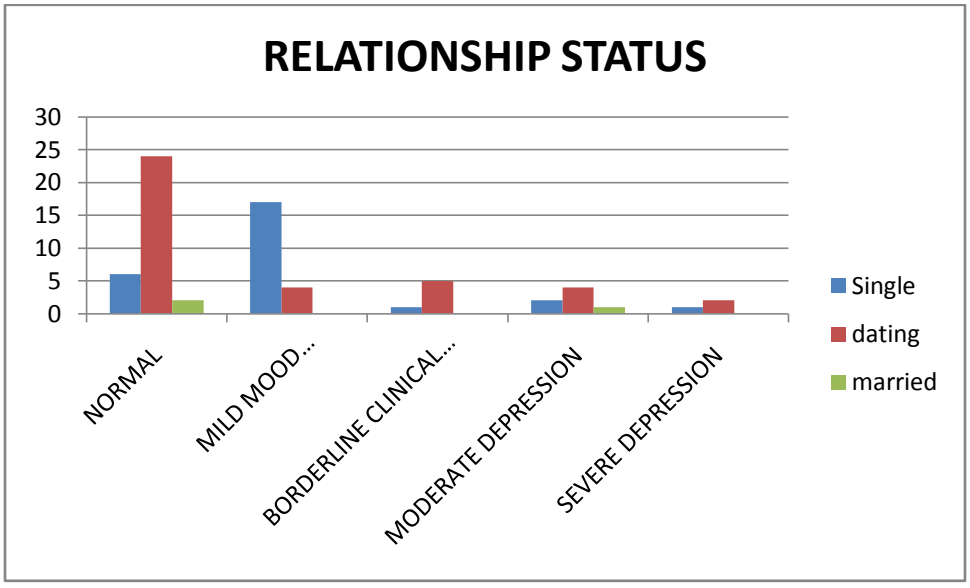
1st year	2nd year	3rd year	4th year	5th year
0	2	0	1	0

EXTREME DEPRESSION

Total; 0

GRAPHS


AGE GROUP
30
25
20
15
10
5
0
NORMAL
MILD MOOD...
BORDERLINE CLINICAL...
MODERATE DEPRESSION
SEVERE DEPRESSION
21-25
26-30
31-35
>35


RELATIONSHIP STATUS
30
25
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15
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NORMAL
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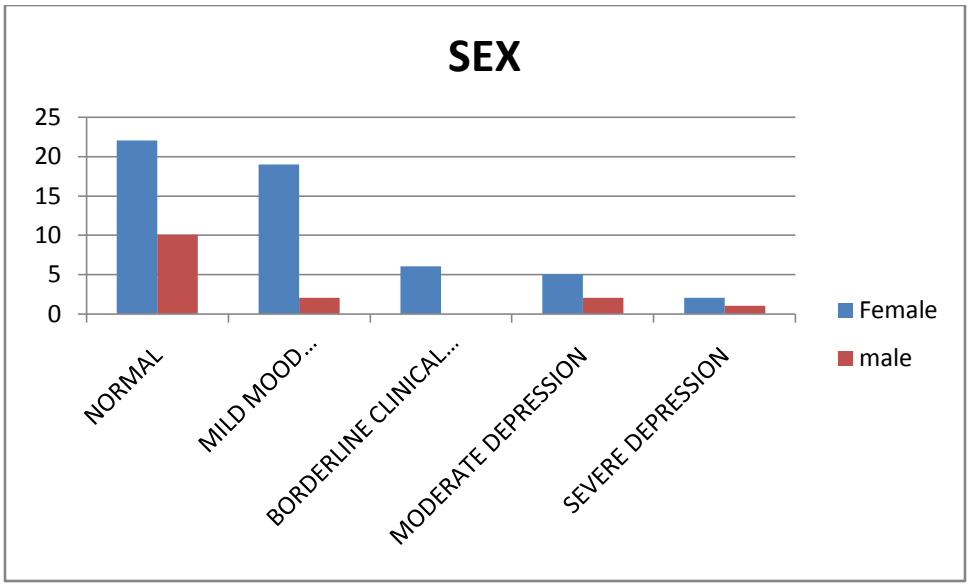
BORDERLINE CLINICAL...
MODERATE DEPRESSION
SEVERE DEPRESSION
Single
dating
married


SEX
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NORMAL
MILD MOOD...
BORDERLINE CLINICAL...
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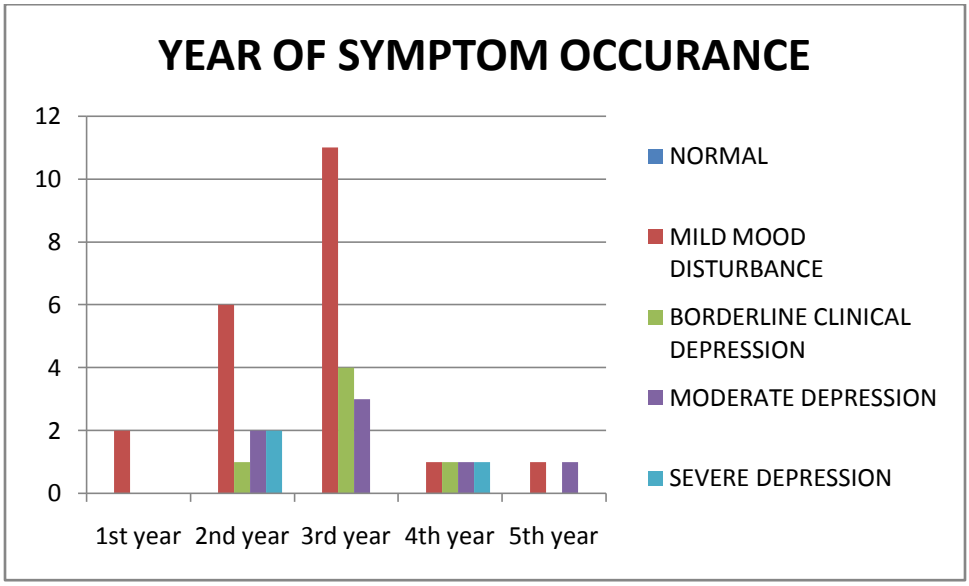
SEVERE DEPRESSION
Female
male


YEAR OF SYMPTOM OCCURANCE
12
10
8
6
4
2
0
1st year
2nd year
3rd year
4th year
5th year
NORMAL
MILD MOOD DISTURBANCE
BORDERLINE CLINICAL DEPRESSION
MODERATE DEPRESSION
SEVERE DEPRESSION

CHAPTER FIVE

DISCUSSION , LIMITATIONS, CONCLUSION & RECOMMENDATIONSFROM RESEARCH FINDINGS

INTRODUCTION

This chapter presents the summary and discussion of the findings from the study which was to assess the prevalence of depression and related factors amongst 5th year medical students of Kampala International University in Bushenyi district, Uganda . Whereas the findings for this study have been outlined in the previous chapter, limitations of the study and recommendations are outlined in this chapter. The objectives of the study were:

1. To determine the prevalence of depression
2. To determine associated factors
3. To determine the year of study of depressive symptoms

SUMMARY AND INTERPRETATION OF THE FINDINGS.

5.2.1: BIODATA OF MEDICAL STUDENTS.

Out of 69 respondents, 54(78.3%) were male while 15(21.7%) were female. Medical students between the ages 21-25 years were largest with 62 respondents (89.9%), 5 respondents (7.2%) were between 26-30years and 2 participants (2.9%) were between the ages 31-35 years while none of the correspondents was above 35 years of age. 27 respondents (39.1%) were single, 39 (56.5%) who were the majority were dating while 3 (4.3%) were married. The majority of the respondents 66 (95.7%) were sponsored while 3 (4.3%) were self sponsored.

5.2.2: PREVALENCE OF DEPRESSION AND ASSOCIATED FACTORS

Out of the respondents 16(23.2%) were depressed despite having varying degrees of depression implying that the prevalence of depression was at **23.2%.** 32 (46.4%) were normal whereas 21 (30.4%) had mild mood disturbance, 6 (8.7%) had borderline clinical depression, 7 (10.1%) had moderate depression, 3 (4.3%) had severe depression and none (0%) had extreme depression. Out of the number of the respondents that had clinical depression, the study found out that their was no significant relationship between depression and sex, age group, relationship status and source of income. The study also found out that most of the respondents that were affected was during their 3rd year of study 18 (48.6%). This prevalence is similar though slightly higher to the study from Ibadan, Nigeria that indicated 21% of clinical students having depression (Omokhodion FO et al, 2003), In an investigation carried out in students in Turkey, Bostanci et al (2005) reported aprevalence rate of 32.1% for depression and from Sao Paulo, Brazil,

Nogueira-Martins et al (2004) reported a depression rate of 44% which are higher than the the one from this study

5.3 LIMITATIONS OF THE STUDY.

The study used a self-administered questionnaire to assess the prevalence of depressive symptoms among the medical students and there is a possibility that the responses given may not provide a true picture as it was self-reporting; this would have been different if they had been observed during their course of study. The study was based on recall of occurrence of symptoms in previous years of study which is not reliable as forgetting of the past is common and this could have affected the results. It was also carried out on a small study population of fifth year medical students which can't be used as the true depression picture of the entire university. Also limitations from the BDI, the method used in the studyin that scores can be easily exaggerated or minimized by the person completing them.

5.4 RECOMMENDATIONS & SUGGESTIONS.

Following this study the researcher recommend the following suggestions;

- modifying the curriculum to achieve a balance between the content and time distribution mostly from 2nd to 3rd year of medical school.
- a more student-friendly campus, teaching and assessing methods, establishing a student counseling center in the campus with qualified and experienced staff,
- improving the facilities for extracurricular activities in the campus to reduce psychological stress, and strengthening and activating a tutorial system in the colleges.
- It is also necessary to undertake further study focusing on academic issues to identify the specific factors associated with stress among medical students.

5.5 CONCLUSION.

- The results showed that 23.2% of the respondents had depression of varying severities. With the introduction of a modified curriculum to achieve a balance between the content and time distribution providing a more student-friendly campus, teaching and assessing methods, establishing a student counseling center in the campus with qualified and experienced staff, improving the facilities for extracurricular activities in the campus to

reduce psychological stress, and strengthening and activating a tutorial system in the colleges could help reduce the high depression prevalence rate.

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APPENDIX

APPENDIX A: Informed consent

CONSENT FORM

ID-NO ☐ ☐ ☐

Consent to Participate in INTERVIEW

Greetings! My name is **Ruhangayebare Anthony**and I am working on this research project with the objective of assessing the prevalence of depression and associated factors among 5th year medical students in KIU in Bushenyi district, Uganda.

Purpose of the study

The study is intended to collect information about medical students' occurrence of depression symptoms and related factors in KIU in Bushenyi district in Uganda. Findings from the study will help the principal investigator to write a dissertation which is a partial fulfillment of Bachelor's Degree in Medicine and Surgery for academic year 2013/2018.

What Participation Involves

If you agree to participate in the study, you will be required to answer questions in this questionnaire .Do not hesitate because in this interview there is no RIGHT or WRONG answers.

Confidentiality All collected information will be entered into computers with only the study identification number. Confidentiality will be provided and unauthorized persons will have no access to the data collected.

Rights to Withdraw and Alternatives

Participation in this study is completely your choice. You can stop participating in this study at any time, even if you have already given your consent. Refusal to participate or withdrawal from the study will not involve penalty or loss of any benefits to which you are otherwise entitled.

Benefits.

If you agree to take part in this study,

- You will assist university management in identifying factors contributing to depression amongst medical students at the University.

- This information will be used to develop improvement plans for correcting identified gaps in attempt to reduce on depression, efficient prevention, identification and handling of affected students in medical school environment.
- The study will influence the development of institutional guidelines for proper medical training without mental health compromise which may lead to reduction in depression rates.
- The results from this study will be available for scholars for academic purposes and further research on the topic.

Who to contact

If you ever have questions about this study, you may contact the study Coordinator or the Principal Investigator: **RUHANGAYEBARE ANTHONY, Kampala International University Western campus P.O. BOX 71 BUSHENYI (0701735611/0784474724)**

` .

Do you agree?

Participant agrees…… Participant does not agree ……

I _____have read/listened the contents in this form. My questions have been answered. I agree to participate in this study.

Signature of participant _____

Signature of witness (if mother/caretaker cannot read) _____

Signature of research assistant_____

Date of signed consent_____

APPENDIX B: QUESTIONNAIRE

Questionnaire on knowledge, attitude and practices of medical students on medical waste in KIUTH.

Date of data collection: _____

Section A –**Biodata.**

Tick in the relevant box.

1. Gender.

Male	Female

2. Age.

21-25yrs	26-30yrs	31-35yrs	>35yrs

3. Relationship status

single	dating	Married

4. Source of tuition income

self	Sponsor/ parent

Beck's Depression Inventory

This depression inventory can be self-scored. The scoring scale is at the end of the questionnaire.

1.

0 I do not feel sad.

1 I feel sad

2 I am sad all the time and I can't snap out of it.

3 I am so sad and unhappy that I can't stand it.

1st yr	2nd yr	3rd yr	4th yr	5th yr

2.

0 I am not particularly discouraged about the future.

1 I feel discouraged about the future.

2 I feel I have nothing to look forward to.

3 I feel the future is hopeless and that things cannot improve.

1st yr	2nd yr	3rd yr	4th yr	5th yr

3.

0 I do not feel like a failure.

1 I feel I have failed more than the average person.

2 As I look back on my life, all I can see is a lot of failures.

3 I feel I am a complete failure as a person.

1st yr	2nd yr	3rd yr	4th yr	5th yr

4.

0 I get as much satisfaction out of things as I used to.

1 I don't enjoy things the way I used to.

2 I don't get real satisfaction out of anything anymore.

3 I am dissatisfied or bored with everything.

1st yr	2nd yr	3rd yr	4th yr	5th yr

5.

0I don't feel particularly guilty

1 I feel guilty a good part of the time.

2 I feel quite guilty most of the time.

3 I feel guilty all of the time.

1st yr	2nd yr	3rd yr	4th yr	5th yr

6.

0 I don't feel I am being punished.
1 I feel I may be punished.
2 I expect to be punished.
3 I feel I am being punished.

1st yr	2nd yr	3rd yr	4th yr	5th yr

4

7.

0 I don't feel disappointed in myself.
1 I am disappointed in myself.
2 I am disgusted with myself.
3 I hate myself.

1st yr	2nd yr	3rd yr	4th yr	5th yr

8.

0 I don't feel I am any worse than anybody else.
1 I am critical of myself for my weaknesses or mistakes.
2 I blame myself all the time for my faults.
3 I blame myself for everything bad that happens.

1st yr	2nd yr	3rd yr	4th yr	5th yr

9.

0 I don't have any thoughts of killing myself.
1 I have thoughts of killing myself, but I would not carry them out.
3 I would like to kill myself.
4 I would kill myself if I had the chance.

1st yr	2nd yr	3rd yr	4th yr	5th yr

10.

0 I don't cry any more than usual.
1 I cry more now than I used to.
2 I cry all the time now.
3 I used to be able to cry, but now I can't cry even though I want to.

1st yr	2nd yr	3rd yr	4th yr	5th yr

11.

0 I am no more irritated by things than I ever was.
1 I am slightly more irritated now than usual.
2 I am quite annoyed or irritated a good deal of the time.
3 I feel irritated all the time.

1st yr	2nd yr	3rd yr	4th yr	5th yr

12.

0I have not lost interest in other people.
1 I am less interested in other people than I used to be.
2 I have lost most of my interest in other people.
3 I have lost all of my interest in other people.

1st yr	2nd yr	3rd yr	4th yr	5th yr

13.

0 I make decisions about as well as I ever could.
1 I put off making decisions more than I used to.
2 I have greater difficulty in making decisions more than I used to.
3 I can't make decisions at all anymore.

1st yr	2nd yr	3rd yr	4th yr	5th yr

14.

0 I don't feel that I look any worse than I used to.
1 I am worried that I am looking old or unattractive.
2 I feel there are permanent changes in my appearance that make me look Unattractive
3 I believe that I look ugly.

1st yr	2nd yr	3rd yr	4th yr	5th yr

15.

0 I can work about as well as before.

1 It takes an extra effort to get started at doing something.

2 I have to push myself very hard to do anything.

3 I can't do any work at all.

1st yr	2nd yr	3rd yr	4th yr	5th yr

16.

0 I can sleep as well as usual.

1 I don't sleep as well as I used to.

2 I wake up 1-2 hours earlier than usual and find it hard to get back to sleep.

3 I wake up several hours earlier than I used to and cannot get back to sleep.

1st yr	2nd yr	3rd yr	4th yr	5th yr

17.

0 I don't get more tired than usual.

1 I get tired more easily than I used to.

2 I get tired from doing almost anything.

3 I am too tired to do anything.

1st yr	2nd yr	3rd yr	4th yr	5th yr

18.

0 My appetite is no worse than usual.

1 My appetite is not as good as it used to be.

2 My appetite is much worse now.

3 I have no appetite at all anymore.

1st yr	2nd yr	3rd yr	4th yr	5th yr

19.

0 I haven't lost much weight, if any, lately.

1 I have lost more than five pounds.

2 I have lost more than ten pounds.

3 I have lost more than fifteen pounds.

1st yr	2nd yr	3rd yr	4th yr	5th yr

20.

0 I am no more worried about my health than usual.

1 I am worried about physical problems like aches, pains, upset stomach, or constipation.

2 I am very worried about physical problems and it's hard to think of much else.

3 I am so worried about my physical problems that I cannot think of anything else.

1st yr	2nd yr	3rd yr	4th yr	5th yr

21.

0 I have not noticed any recent change in my interest in sex.

1 I am less interested in sex than I used to be.

2 I have almost no interest in sex.

3 I have lost interest in sex completely

1st yr	2nd yr	3rd yr	4th yr	5th yr

INTERPRETING THE BECK DEPRESSION INVENTORY

Now that you have completed the questionnaire, add up the score for each of the twenty-one questions by counting the number to the right of each question you marked. The highest possible total for the whole test would be sixty-three. This would mean you circled number three on all twenty-one questions. Since the lowest possible score for each question is zero, the lowest possible score for the test would be zero. This would mean you circles zero on each question. You can evaluate your depression according to the Table below.

Total Score_____Levels of Depression

1-10_____These ups and downs are considered normal
11-16_____ Mild mood disturbance
17-20_____Borderline clinical depression
21-30_____Moderate depression
31-40_____Severe depression
over 40_____Extreme depression

APPENDIX C: Budget

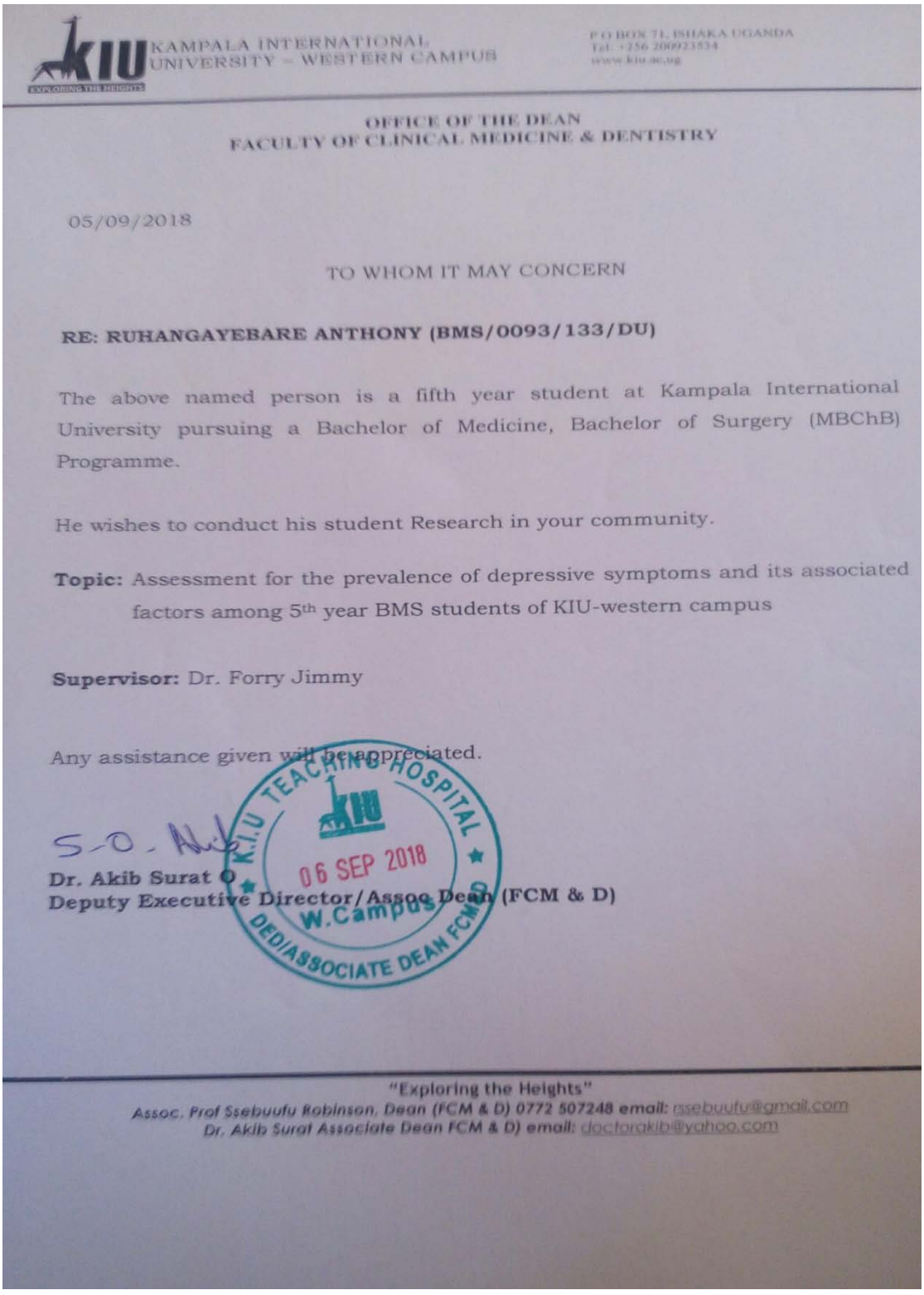
A PROPOSED BUDGET FOR IMPLEMENTATION OF THE PROPOSED STUDY:

S/No	ITEM	QUANTITY	UNIT COST(Ushs)	AMMOUNT(Ushs)
1	Stationery		50,000	50,000
2	Printing		500	150,000
3	Binding	4	2,500	10,000
4	Allowance to the data collection officers	4	10,000	40,000
5	data analysis	1	100,000	100,000
6	Others		100,000	100,000
	TOTAL			**450,000=**

Researcher's Signature: _____

APPENDIX E: MAP OF UGANDA SHOWING DIFFERENT REGIONS.

APPENDIX E: INTRODUCTORY LETTER



KAMPALA INTERNATIONAL UNIVERSITY – WESTERN CAMPUS

EXPLORING THE HEIGHTS

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OFFICE OF THE DEAN
FACULTY OF CLINICAL MEDICINE & DENTISTRY

05/09/2018

TO WHOM IT MAY CONCERN

RE: RUHANGAYEBARE ANTHONY (BMS/0093/133/DU)

The above named person is a fifth year student at Kampala International University pursuing a Bachelor of Medicine, Bachelor of Surgery (MBChB) Programme.

He wishes to conduct his student Research in your community.

Topic: Assessment for the prevalence of depressive symptoms and its associated factors among 5th year BMS students of KIU-western campus

Supervisor: Dr. Forry Jimmy

Any assistance given will be appreciated.

S.O. Akib

Dr. Akib Surat O
Deputy Executive Director/Assoc Dean (FCM & D)

K.I.U TEACHING HOSPITAL
06 SEP 2018
W.Campus
DED/ASSOCIATE DEAN FCM&D

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