FACTORS ASSOCIATED WITH DEPRESSION IN ADOLESCENTS FROM THREE SELECTED HOSPITALS IN RWANDA

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By

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DECLARATION

I UWAMBAJIMANA Jocelyne do here by declare that this dissertation submitted in partial fulfillment of the requirements for the degree of **MASTERS OF SCIENCE** in **NURSING** at the University of Rwanda/College of Medicine and Health Sciences, is my original work and has not previously been submitted elsewhere. Also, I do declare that a complete list of references is provided indicating all the sources of information quoted or cited. This thesis was undertaken under the guidance and supervision of Dr MUKESHIMANA Madeleine and Prof Omolola Irinoye.

Date and signature of the student

Mrs. UWAMBAJIMANA Jocelyne

DEDICATION

I dedicate this project to all adolescents who may find themselves in difficult live situations and my experience depression

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ABSTRACT

Background:

Depression in adolescents is an important public health challenge that requires increased attention because of the observed difficulty in diagnosis as to treat efficiently despite the lifelong consequences. While there are several risk factors not all adolescents develop depression depending on their resilience and how the factors play out. Information is needed on those factors that actively contribute to depression in adolescents in Rwanda.

Aim.The main objective of this study is to document the factors that are associated with occurrence of depression in adolescents from three selected hospitals of Rwanda. Findings provided data on specific psychosocial, environmental and family related factors associated with depression among adolescents in selected hospitals in Rwanda.

Methods: Descriptive design was used. Quantitative approach was used to collect data from adolescents (10years to 19years) diagnosed with depression from three clinical sites. All the 50 adolescents with depression registered between 2015 and 2017 in the three hospitals who met the criteria were purposively selected. Interviewer administered structured questionnaire was used to collect data. Data was analysed using SPSS (IBM) version 20. Results are presented in summary tables and figures using the objectives of the study as guides to analysis and result presentation.

Results:

Findings showed that 30(60%) of the respondents were females. Majority of the respondents (88%) were in middle to late adolescents and 80% were in school and 72% were Christians. High percentages, over 50% subjects gave negative responses in all the test items in the psychosocial factors domain at the micro (personal), mezzo (family, friends) and exo (environmental) levels. High percentages of respondents also had family related factors that were negative and made them highly vulnerable to depression. There were no significant associations with sex and age categories when the psychosocial, environmental and family related factors were considered implying similar influence of all the negative experiences on occurrence of depression in adolescents irrespective of age and sex.

Conclusion:

Depression in adolescents is associated with negative personal psychosocial factors, family related relationship and socio-economic factors and environmental factors complementing one another. Screening for these identified factors will help in early detection of risks, preventive intervention and prompt diagnosis and treatment of depression in adolescents.

Keywords: Adolescents, Depression, Psychosocial factors, Environmental factors, Family related factors.

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LIST OF ACRONYMES AND ABREVIATIONS

1. ADAA: Anxiety and Depression Association of America
2. BC: Before Jesus Christ
3. CMHS: College of Medicine and Health sciences
4. DSM-4: Diagnostic and Statistical Manual Disorder edition four
5. HIV/ AIDS: Human Immune Deficiency Virus/Acquired Immunodeficiency Syndrome
6. ICD-10: International Classification of Depression edition ten
7. NIMH: National Institute of Mental Health
8. PDD: Premenstrual Dysphoric Disorder
9. SAD: Seasonal Affective Disorder
10. UNICEF: United Nation Children's Found
11. UR: University of Rwanda
12. WHO: World Health Organization

LIST OF ANNEXURES

CHAPTER ONE: INTRODUCTION

1.1 Introduction to the Chapter

There is “no health without mental health” (Prince, Patel, Saxena, Maj, Maselko, Phillips, and Rahman; (Prince et al, 2007), (Department of Health, 2011) and mental health is an essential indicator of health by the World Health Organization’s definition of health the significance of mental health and the neglected of this component of health over the years underscores the emergency of the 2013-2020 action plan by WHO for global use (World Health Organization, 2013).Attaining and sustaining mental wellbeing requires understanding the risk, taking action for prevention, prompt diagnosis and management of mental disorders across the life cycle.

Mental disorders according to WHO (2013), are a range of mental and behavioral disorders that fall within the International Statistical Classification of diseases and Related Health problems, Tenth Revision (ICD-10) and they include depression, bipolar affective disorder, schizophrenia, anxiety disorder, dementia, substance abuse disorders, intellectual disabilities, developmental and behavioral disorders (WHO 2013:6). DSM-IV and ICD-10 explained depression as mental problem or mental condition which is characterized by loss of interest of living and loosing hop, lack of energy and accomplishment of activity. (Cesar et al., 2013, p. 5).

The onset of mental, disorder especially depression, could be in childhood and adolescence and the burden would vary. Depression is one of the major mental disorders with high disease burden that could occur at different stages of the life cycle. In childhood depression, may not be diagnosed because it may confuse with developmental stages and change of endocrine system. in adolescence depression has a gender dimension with higher prevalence in female than male and high in adulthood in female than male also(Cesar et al., 2013:11).

According to Naus et al (2015) adolescents have an increased risk of suffering from depression and do not like to consult mental health services which may be the cause of delaying consultation with mental health professionals. Adolescents go to health care provider presenting physical symptoms, which may cause error in making diagnosis, or be confusing during consultation even

if those adolescents are suffering from depression. Also, adolescents may consult health care providers who are not specialist in mental health because of stigma or fear that others may be aware that they have mental problems (Naus et al., 2015). Essentially, adolescents may not even recognise their depressive symptoms as mental disorder.

Risks of depression in all stages of life are related to biological factors, personality characteristics, social conditions, and developmental characteristics but adolescents are more exposed to these factors and other factors such as substance use, early responsibilities and being orphan. In this study the researcher investigated the factors associated with diagnosis of depression among adolescents attending selected hospitals in 2017. In this first chapter the investigator presents the background information on depression worldwide, in Africa and in Rwanda. The nature of problem is stated, the aim, the objectives, significance of the study are presented. The key terms in the study are also operationally defined.

1.2 Background

Depression is a disease that affects mental functioning and causes mood disorder of person. According to Lorenzo et al (2016)depression is a mental disorder characterized by loss of interest of being, mood disorder, bad feeling and everyday misery which is diagnosed as depression if symptoms persist in long period (Lorenzo et al, 2016,p15).

Thomas et al., (2014,p,7) summarized the history of the understanding of depression and observed that depression has being a health issue in the history of human beings. According to them, some referred to depression as melancholia characterized by mental anguish, and distress with dejection, silence, animosity, longing for death, suspicion and weeping making it difficult differentiate the two from each other.

Thomas et al (2014) further observed that generally persons with mental diseases were considered as persons who have problems from spiritual not physical problems, such persons were treated with prayers and were considered capable of contaminating others with their madness. Depression was latter associated with psychological and social factors, as well as some inheritance of unchangeable weakness of temperament (A.Ban, 2014). The causes of depression are not known but genetic, biologic and environmental factors are said to be contributory.

According to Stressors(2000)factors of depression include living with stressors, taking drugs, alcohol and smoking, having chronic diseases and treatment, past bad experience, personality, biological factors that may be related to inheritance from parents. Other factors of associated with depression may be gender (female are more exposed), culture or country (high frequency in America), and social economic status like living in poverty; for being female, in puberty, girls are more exposed to depression because of hormonal factors, menstruation, pregnancy, child birth, social economic statusand menopause are also factors to consider in women.

Precision with diagnosis of depression is based on some on signs and symptoms that meet specific criteria such as discouragement, a person not enjoying his/her usual activities, loss of energy or asthenia, lack of self-esteemand depression may be mild, moderate and severe according (Public & Concern, 2012:1).

According to Harrison (2011) the morbidity and mortality associated with depression is substantial. Approximately 5% of the population are with major depression at any given time, with men experiencing a lifetime risk of 7-12%; and women 20-25%”(Harrisonet al., 2011, p1).Globally,depression is a mental disorder which affects 350 million people of all ages and it is a major cause of disability and suicide also that affect more women than men (WHO,2016).

In sub Saharan Africa, the prevalence of depression showed depressive disorder as 8.6%, major depressive episode 7.6% and dysthymia 2.1% with many risk factors including living conditions, family conflict, stress and psychosocial problems like war, low income, chronic diseases, orphanage, child violence and neglect, loss of food and famine(Kinyanda et al, 2013). The prevalence of depression in Rwanda is 15.5% to 46.4% and 19% of syndrome ofdepression disorder according to Social Psychiatry and Psychiatric Epidemiology (SPPE, 2014) in a study done in the community.

Depression affects young people and adults.The WHO indicated that 10 to 20% of children and adolescents experience mental disorders and this usually start at about age 14years. This observation showed that from early adolescent the risk of mental illness is there. While depression in adolescents is usually said to be difficult to recognize, it has also being documented that two percent of pre-pubertal are suffering from depression. In the United States

the prevalence is 1 percent in preschoolers and 2percent in school-aged children, 5to8% of adolescents (American Academy of Family 2016).

Also, the prevalence depends on the population. The study done by Rey and Bella (2015) on depression in adolescents show that 5% of adolescents suffer from depression and the percentage of new cases is increasing. This study also showed higher prevalence in girls than in boys with record of 12% among 16years old girls and 7% of boys (Rey et al.,2015, p2).

Depression in adolescents in Rwanda seems to be big issue from anecdotal observation of the investigator but there is little empirical evidence to validate the true status of factors associated with depression among adolescents. There is also none to give direction for considering what the possible risk factors and actual factors are as to guide intervention for prevention, early diagnosis, prompt and quality treatment. One available study done showed that the rate of depression among adolescents with HIV is 85% (Patric et al.,2014).

This study collected data on factors associated with occurrence of depression among adolescents hospitalized for depression. Identifying the factors of depression in adolescents will help health care providers in decision making for risk assessment, preventive intervention, early diagnosis and prompt treatment.

1.3 Problem statements

Depression is documented as medical and mental problem which affect all age of life but increases in adolescence (Hirota M.et al , 2016). Identified risk factors include psychosocial factors, family predisposition of depression and environmental factors(Kinyanda *et al.*, 2013).Depression has also being associated with world development, increasing prevalence of medical illness and poverty(Rey et al, 2015).In Rwanda depression is thought to have increased followingthe 1994 genocide because of loss of important many family members to about 30% as reported by (Elbert, 2013). It is also said to have increased after genocide of 1994 because of losing important family members, social economic problems , unwanted pregnancy, and chronic diseaseswith increased risk of suicide19.2% from the study done in Rwanda(Wilson Rubanzana,Bethany L Hedt-Gautier, 2015). This assumption is yet to be empirically validated especially among adolescents. Little is also documented about contributory risk factors to

occurrence of depression among adolescents in Rwanda. This study is investigatingfactors associated with depression in adolescents from three selected hospitals in Rwanda, Remerarukoma District Hospital, Masaka District Hospital and Ndera Neuropsychiatric Hospital in order to have recent information for helping in prevention and providing health support to adolescents with depression

1.4 The aim of the study

The aim of this study is to document the factors associated with depression in adolescents in Rwanda.

1.5.2 Specific objectives

The specific objectives of the study were

1. To identify psychosocial factors associated with depression in adolescents who attend the selected hospitals.

2. To identify environmental factorsassociated with depression in adolescents from selected hospitals.

3. To identify family relatedfactors associated with depression in adolescents whoattend theselected hospitals.

1.6 Research questions

-What are psychosocial factors associated with depression in adolescents in Rwanda?

-What are the environment factors associated with depression in adolescents?

-What are the family related factors associated with depression in adolescents

1.7 Significance of the study

Taking preventive actions that are culturally and environment sensitive and specific by health care providers to reduce adolescent depression requires information about the factors that are identified to actively contribute to the occurrence of depression among this vulnerable group. The evidence from this study will be useful for health care providers to develop programmes plan education, risk assessment, early diagnosis and treatment. Findings from this study will provide the required data and needed evidence to guide intervention for effective, care and support of depression in adolescence. Findings will also serve as reference for other researchers, health workers, policymakers and stakeholders to improve quality of care among children with depression.

1.8 Operational definition of key terms pertinent to the study

Factors associated with depression: these are identifiable personality, psychological, environmental, and familial characteristics, conditions and experiences that the individual has or is exposed to that may be associated with the occurrence of depression. The source of some of these factors are biological, psychological, and environmental in nature (Cacioppo, et al, 2006,p2-3).In this study factors to be included will include demographic characteristics, exposure of an adolescent to certain psychologically and sociologically challenging situations and environment that increases the possibility of an adolescent developing depression as was identified from literature review.

Depression: is a medical illness and serious mood disorder which affect negatively the feeling, thinking and day activities, it causes feelings of sadness, loss of interest in life and activities, emotional and physical problems. Symptoms must be present at least 2 weeks for being diagnosed with depression(Alotaibi, 2015,p3). In this study, all adolescents that met the criteria and have been diagnosed with depression in the selected hospitals are also enlisted as having depression.

Adolescent In this study, the definition of UNICEF and WHO of the age categorization of adolescents will be adopted. The age range of the adolescent may differ from the society to

another. According to United Nations Children's Fund(UNICEF) and World Health Organization(WHO) adolescent is from 10years to19years old (Nations, 2008).

1.9 Structural organization of the study

This report of the investigation is presented in four main parts.The introductory chapter gives the background and the need and the focus of the study. The second chapter covers the review of relevant literature in the context of the theoretical base of the subject matter and the empirical data from previous studies. The theoretical/conceptual framework guiding the conduct of the study is also presented in this chapter. The third part presents the method that will be adopted to collect relevant data with information on the design, the sample, the instrument, process for data collection giving due consideration for ethical requirements and data analysis.

1.10 Conclusion:

It is important to give attention to mental health as a main component of total health and wellbeing of individuals. Different mental disorders affect people across the lifespan and are discernable early in childhood. Depression is one of the major mental disorders that affect a significant portion of every population with higher prevalence among women. Depression also affect adolescents but the diagnosis may not be made quickly and appropriately except extra attention is given to the risk factors which may be biological, psychological, environmental and familial in origin. With the problem of dearth of empirical data on risks factors associated with occurrence of depression among adolescents in Rwanda, health care providers may not be able to engage in evidence based preventive and care to reduce the burden of depression in adolescence. This study is proposed to investigate the biological, psychological and family related risk factors among adolescents with depression in selected hospitals in Rwanda.

CHAPTER TWO: LITERATURE RIVIEW

2.1 Introduction

The purpose of this chapter is to review relevant literature on the variables of interest in the study to gain insight into the theoretical dimensions and the empirical evidence on depression, depression in adolescence and risk factors for depression among adolescents. The meaning of depression, signs and symptoms, diagnosis, prevalence and risk factors in adolescents will be discussed. This information was obtained using search engines such as Google, Google scholars, Hinary, PubMed, Researchgate from the Internet using depression, risk factors of depression and depression in adolescents as key terms. Journals and textbooks on adolescent's mental health and psychiatry were also consulted. The summary of the review covered the meaning and burden of depression considering the magnitude and cost, depression in adolescents, the factors associated with depression generally and with adolescents in particular, theoretical/conceptual framework that was adopted for the study.

2.2 Theoretical Literature

2.2.1 Mental Health Disorders

Mental health is an essential component of the health of an individual (WHO, 2013; Department of Health, 2011; Prince et al, 2007). Many factors determine the mental health and development of mental disorders. The World Health Organization indicated that these factors could be related individual's ability to manage their thoughts, emotions, behaviors and interactions with others as well as other factors that can be social, cultural, economic, political and environmental in nature. National policies, social protection, living standards, working conditions, and community social supports all contribute experiences and responses of an individual (WHO, 2013). Many of the factors that expose individuals to adversity are preventable risk factors to mental disorders. As WHO indicated some individuals and groups may be at higher risks of mental health problems. Such persons would include people exposed to high level of poverty, chronic health conditions, children exposed to maltreatment and neglect, adolescents exposed to substance use, persons that

are overworked and exposed to stress, violence, conflicts, natural disasters or other humanitarian emergencies to mention just a few (WHO, 2013)

Mental disorders are classified into 10 main groups which are: Organic, Mental and behavioral disorders, Schizophrenia, Mood disorders, Neurotic, Behavioral syndromes, Disorders of personality in adult persons, Mental retardation, Behavioral and emotional disorders in childhood and adolescence in ICD-10 (Articles, 2013, p. 8). So, depression is a part of mood disorders where it is called depressive episode. Based on severity of symptoms depressive episode can be in three categories which are mild, moderate and severe(Cesar and Chavoushi, 2013, p. 7).

2.2 Depression-The Meaning and Manifestation

Depression is one of the major mental disorders. The World Health Organization (WHO,2012) indicate that people with depression present with symptoms such as: bad mood, loss of pleasure, no interest in activity, anorexia, anxiety and difficult to be concentrated about something(Marcus, 2012). According to International Classification of Diseases ICD-10, mood disorders are a part of mental and behavioral problems, where depression was called depressive episode or repeated depressive disorder(Cesar and Chavoushi, 2013, p. 7).

When a person has depression, he loses interest of normal functioning which is painful situation for the patient and those who stay there and caring about him or her, so doctors named this crisis depressive disorder or clinical depression. This is a real mental problem not symptoms according to National Institute of Mental Health (NIMH, 2015).

Depression is a common and serious mood disorder caused by many factors that could be genetic and biological, environmental, and psychological in origin that result to change in feeling, thinking and hindering daily activities (Lorenzo-luaces *et al.*, 2016),also characterized depression as a mental condition with severe feelings of hopelessness and inadequacy, loss of energy and interest of living (Lorenzo-luaces *et al.*, 2016).There are many factors associated with depression some are common in all age of life and other are specific to age or gender (Cacioppo *et al.*, 2006).

Major depression is a mood disorder characterized by severe symptoms; feeling of sadness loss of appetite ,loss of hope ,no self-esteem, frustration presented in ability of working, , studying, and enjoying the life stay within a long period , these symptoms may be presented once in life or in many episodes but delay in depression which is called chronic depression that stay until 2 years and above, with major depressed mood but less severe symptoms(Marcus et al.,2012,p1)

Minor depression is a form of depression with few symptoms 1to4 symptoms which take period of less than2 weeks. Psychotic depression is a type of major depressive disorder which is associated with signs of psychosis like negative beliefs or not being aware of reality (delusions), or hearing or seeing things that others cannot hear or see (hallucinations). Postpartum depression is an episode of depression that mother have after delivery caused by change in hormonal regulation and physical changes when she is pregnant, fear of having baby and caring newborn. The mother is wondering many things she is very tired, she may sleep all hours or don't sleep at all, she thinks that her baby may be taken away to. Seasonal affective disorder (SAD),is onset of depression when there is any change of seasons like having depression in months of rain where there is no sun for example and lift during the period of sum. Bipolar disorder is episode of extreme low mood or depression and extreme high mood or mania where people have more energy for doing activities or have in other time became very sad, hopeless and little energy (Harrison et al, 2011).

Clinical depression is also called mood disorder and there are major depression, dysthymia (which stay there for long time but no severe symptoms), and atypical depression. Others include depressive disorder like premenstrual dysphoric disorder (PDD or PMDD) and seasonal affective disorder (SAD). Depression or mood disorder has several subtypes like bipolar disorder or manic-depressive disease and in major or acute depression, five symptoms of depression must be there for a period of 2 weeks at least, with behavior change or mood disorder.Depressed mood or chronic depression, affect people on the rate of 3 - 6% of the general population, and Seasonal affective disorder (SAD) is recognized by episodes of depression which are repeated in every year during any period and end in other one like fall or winter that improve in the spring or summer(Harrison et al, 2011,p9).

Depression affects people in different ways and signs and symptoms of depression present in different manner (Rey, Bella-awusah and Liu, 2015)(Cesar and Chavoushi, 2013, p. 6). The

severity and frequency of symptoms, how long they stay, depend on the individual, age and his or her personality as signs are presented according to the stage of the disease(Alotaibi, 2015, p. 4).

Women with depression may have a good family, good job but do not ever enjoy that and women who have depression they feel so sad, no interest in life and have fear of nothing but men present depression in a different manner with women. While women with depression may feel so sad, men may be very tired, irritable, loose interest in activities that he enjoyed before, would not sleep and would resolve to enjoy drinking alcohol or drugs (Rey, Bella-awusah & Liu, 2015). Men also may become frustrated, discouraged, irritable, angry, and sometimes abusive. Some men may refuse to go at work to prevent that other talk about their depression, or do something without fearing about the consequences. Women like to talk and try suicide but men act suicide and die. Depression in older people is difficult to be diagnosed because of less symptoms like to feel tired, insomnia, irritability and confusion but all of these may be present because of age or other disease like Alzheimer. For old people to have depression, it would mean that such persons were exposed when they were young and having severe disease that disturbed the person would precipitate depression (Harrison et al., 2011).

Children with depression may refuse to go to school claiming to be alone and fear that parents may disappear definitely or die. The prevalence of depression in children is low (less than 1 %) with no sex differences but then rises substantially throughout adolescence (Tharpar et al., 2012). Adolescents are vulnerable to depression and should be considered as an important age category for attention as would be presented in this review subsequently(Petersen *et al.*, 1993, p. 5)

2.2.2 Burden of Depression

According to WHO depression is lead contribution to global burden of disease and by estimation 350millions of people are suffering from depression(Marcus, 2012).The estimation of World Health Organization is that the prevalence rate of depression in adult varies between 10% and 20% depending on situation that they live in by (Kar & Health, 2016p36).

According to(Leadbeater et al., 2004,p1) (Medscape, 2016), major depressive disorder rate is about 15 millions of Americans and 7% of adult population per year. As depression is a disease which may affect everyone at any time, but high rate in age of 49 - 54 years and over 85 age of white men. Also, the rate of suicide is high and men try to mask their depression with consuming alcohol. About 1 - 5% of people are affected by depression and increase because of chronic diseases and all age of life may be affected by depression but adolescents are on the high risk of having depression if one of the parents had or have depression especially if it is the mother the(Ustun et al, 2011,p6).

The prevalence of depression among Indians was between 13 and 25 per cent and for World Health Organization stated that the overall prevalence of depression varies between 10% to 20% according to the culture (Kar & Health, 2016:36)
In sub Saharan Africa the prevalence of depression ranged from 8.6% for depressive disorder, 7.6% for major depressive episode and 2.1% for dysthymia with many risk factors including living condition, family conflict, stress and psychosocial problems like war, low income, chronic diseases, orphanage, child violence and neglect, loss of food and famine(Kinyanda et al, 2013).In Africa depression is higher than in Europe or the United States, 85% or 90million in Africa suffer from depression and the prevalence of depression is twice in women compared to men who suffer from depression Strong Minds (2016).

In Rwanda, the prevalence of depression is 15.5% to 46.4% and 19% of syndrome of depression disorder in the study done in the community according to Social Psychiatry and Psychiatric Epidemiology (SPPE) (2014).Depression may have complications like chronicity and suicide if not treated at time(Rico,2010p2) and in productivity there is risk of poverty because those who are depressed do not have interest in productive activities and condition of living will be critical

because there is no improvement, no education if adolescents refused or didn't achieve their studies (Marcus, 2012).Depression is high in female than in male and the study of(Survey, 2015p37) showed that depression in children and adolescent is 2,8% high in female 3.1% than male 2.5.

2.2.3 Sign and symptoms of depression

The signs and symptoms of depression depend on the type. These could include depressed mood, no feeling of pleasure when client is in period of happiness or interested activities, change of physical appearance like which may be loss or gain in weight. Others include lack of sleep or sleep in every time, involuntary motor movement or delaying, asthenia, having fear everywhere the client is, guilt feelings, loss of concentration, no capacity for taking decision, death thoughts all the time and ideas of suicide (Health Net, 2016).

2.2.4 Depression in adolescents

Adolescence is the stage of life between 10 to 19 According to United Nations Children's Fund(UNICEF) and World Health Organization(WHO) (Nations, 2008). Adolescence is a critical stage of development where depression is raised, especially in post pubertal where there is change in biological and social status and pubertal because of maturity of brain and intelligence.

At this period adolescents begin to know what is going on in development. Girls are more exposed to depression because brain maturity leads to increasing of hormone which causes the stress and also as they become mature they face many issues which may cause depression also.In early adolescence period depression is 5% and increases to 20% in middle adolescence (Survey, 2015). In adolescence depression is favored by being in low income country, middle income country, gender, family predisposition of depression and personality characteristic(Peter et al, 1994).

2.2.5 Factors associated with depression in adolescents

Wang et al (2012) documented some factors associated with depression in adolescents which are personal like having depression or other mental problem, physical disability, personality disorder, no self-confidence, experience of bad events, pessimism, stress management and emotional management. Family factors like lack of family support, poor family, mental problems

in the family, irritability of parents and divorced parents. Social factors which are lack of friend's support, lack of respect, death of lovely person, conflicts in friend's relationship. Environmental factors like staying in hospitalization for long period, quality of house(Wang *et al.*, 2012).

Drug and alcohool use, scholastic behavior and somatic symptoms are risk factors to adolescents as said by (Saluja et al., 2006p1). HIV AIDS is arisk factor of depression because of many orphans after death of their parents and in adolescent age they start to be responsible for their own lives,they loose care and love from parents and they become depressed (Wang et al., 2011p2).

In causes and factors associated with depression Thapar et al (2012) explained that inherited characteristics,personality, hormonal change and temperament may be causes or distal factors of depression. Familial and genetic factors which include having parents who suffered depression, mother with depression in prenatal period or post natal period were also contributory factors. Psychosocial facors associated with depression include stressfull event, untreated depression, family conflict, poverty, chronic diseases , war, being orphan, displacement, physical violence and disturbed relationship with friends or other persons (Thapar et al, 2012).

According to the study done in Uganda (2013) in some districts the results show that environmental or ecological factors such as nature of household, living in urban or village, climate or season and disasters may be contributory to depression. Psychosocial factors associated with depression include stressful living conditions, family conflicts, emotional distress, biological change, physical change, low self-esteem, pessimism, relationship with family, relationship with friends, self-consciousness, educational achievement, marital status employment status of parents, eating disorder, motor developing disorder syndromes, coping skills in stressed condition (Kinyanda et al, 2013p1). Drug abuse, giving birth in stressed condition(postpartum depression),low socio economic income, medical illness(genetic factors), family related factors; history of mental illness or depression in the family, parents who have depression or who had depression in past may be factors of depression also (Kinyanda et al, 2013p1). There are other facctors like family relationship and prenatal behaviors which affect adolescents and lead to development of depression (Rey, Bella-awusah & Liu, 2015)

2.2.6 Presentation of depression in adolescents.

The adolescent years can be confusing because adolescents are forming their own personality and identity, struggling with gender issues, facing sexuality and try to make their decisions for the first time in their lives means that they may have usually bad mood(Galambos, Leadbeater and Barker, 2004, p. 1). Occasional bad moods are to be expected, but depression is different. Adolescents with depression may sulk, get into trouble at school, be negative and irritable, eat more, gain weight and feel misunderstood Anxiety and Depression Association of America ADAA(2016,p3), (Poquiz and Frazer, 2016, p. 2). The adolescent with depression may have disturbed friends' relationship, problems in family relations, failure at school , usually are affected by diseases and delay in hospitalization, behavior change, recurrent depressions, psychosocial problems, drug abuse, and increased antisocial behaviors as they become mature, and may end up with early pregnancies(Cesar et al., 2013, p11).

2.2.7 Diagnosis and Management of Depression in Adolescents

To make diagnosis of depression, the symptoms must be there for two weeks. The signs and symptoms which are present in adolescents include hyper and hypo activity, failing in school, milestones development not in tandem with age, anxiety, attention and concentration problems and impulsivity according to (Koenig *et al.* 2014, p.121).

The duration of symptoms are good guide to determining whether an adolescent has depression or is only experiencing crisis of "being a teenager. The adolescent with depression may also have other disorders like anxiety, eating disorders, or substance abuse. They may also be at higher risk for suicide. Many adolescents don't know where to go for mental health treatment or believe that treatment won't help. Others don't get help because they think depression symptoms may be just part of the typical stress of school or being a teen. Some teens worry what other people will think if they seek mental health care. Depression stay there recurs and continues into adulthood if it is not well treated at time(Naus *et al.*, 2015).

Depression in adolescents is presented differently to adults with behavior change; alcohol abuse, being aggressive, became aggressive in actions and words. Diagnosing depression in adolescents is the same as children and adults except irritability as confirmed in the 4th edition of the *DSM-*

FV-TR). The duration of symptoms of depression in children and adolescents is one year but two years in adults. Hypersomnia is said to increase in depressed adolescents than in children and there may be suicide ideas in adolescents. The cost of depression in adolescents with depression is high because they delay in hospitalization, they use many emergency services compared to children who have mental health problems and children who do not have mental health problem. According to Cesar et al three quarters of adolescents with depression do not receive treatment, in New Zealand and 80% of adolescent with depression do not get treatment (Cesar et al., 2013, p11)

2.3 Empirical Literature

Research reported that nearly 1 in 5 girls of 16-17years present criteria for depression and teenager of 11-17 years with depression was on 7.7% rate according to responses of children themselves and 4.7% after interviewing the parents in the United States. In a similar study in the United States the rate of depression among adolescents between 13 and 18years was reported to be 11.7%and depression is more common among adolescents and affecting children before 18years (Cesar et al., 2013, p11)

Depression is higher in female than in male and the study (Survey, 2015p37) showed that the rate of depression in children was 2.8% and in adolescents was higher in female, 3.1% compared to the rate among the male which was 2.5%. The study done in Canada also reported that boys are not as exposed to depression as girls (Galambos, Leadbeater and Barker, 2004). In the study conducted by Kinyanda et al (2013) in Uganda, findings showed different factors associated with depression like stressed living condition, home violence, or ecological factors, behavior disorders, and developmental disorders. This study also reported that depression in adolescent in Uganda is high(Kinyanda *et al.*, 2013, p. 1).

The other study done in Uganda by reported that depression is frequent in school going between 14-16 years old in association with male, orphanage and alcohol abusing. The same study showed that to having multiple wives is a significant factor associated to depression as well as psychotic problems as co-morbidity(Sserunjogi *et al.*, 2016).

The study done by Kim explain well that female adolescents are more depressed than male, the age which is more affected is 18-19 and they also noted poor social support in adolescents with

depression. Also this study explain how physical factors is important as depression in HIV+ adolescents is 18.9% among 562participants(Kim *et al.*, 2015).

2.4 Critical Review and Research Gap

There is increasing attention to extensive exploration of mental health problems in childhood in many developed countries with some studies emerging from developing countries. Most studies are looking at mental health disorders in children and adolescents together(Cesar et al., 2013, p11); (Survey, 2015p37); (Sserunjogi *et al.*, 2016) but there is increasing need to look more closely to peculiar challenges of depression to adolescents with the observation that depression tend to occur more as children become teenagers and yet they seek care less (Cesar et al., 2013, p11).

There are diverse factors that have been identified as contributory to depression in young people but not all children and adolescents exposed to these conditions develop depression. There is a gap in identifying those factors that are common to those adolescents who ultimately develop depression. There may be differences in who may be more at risk and who ultimately develop depression when gender is considered. While many studies indicated higher rate of depression in females, the study done in Uganda by Sserunjogi reported that male are more affected by depression differently to other research done about depression among adolescents (Sserunjogi *et al.*, 2016). In Rwanda, the psychosocial and environmental conditions that young people are exposed to are also similar but there is yet an empirical report of those factors that are associated with depression among adolescents and this is a gap that needs to be filled to serve as guide to screening and prompt treatment. In Africa generally and in Rwanda, studies in depression among adolescents are just trickling in and identifying those factors that are associated with morbidity from depression would be useful in developing screening tools for early detection of at risk adolescents to depression for early intervention. There is dearth of data about depression in adolescents in Rwanda hence the investigator's interest is assessing those factors associated with diagnosis of depression in adolescents in Rwanda.

2.5 Conceptual framework of the study

The social ecology model was said to have evolved from Kurt Lewin's and Urie Bronfenbrenner's work. The model provides the framework to help in understanding how the individuals and their social environments affect each other mutually across the lifespan. The model draws from the ideas of Kurt Lewin's1935 work, A Dynamic Theory of Personality: Selected Papers andUrieBronfenbrenner's1979 work (Oxford Bibliography Review), Bronfenbrenner was noted to have extended the social ecological perspective to explain the complexity of individuals development evolving within four sub-systems specified as the micro-, meso-, exo-, and macro- and the chrono subsystems, which constitute the settings and life space within which an individual develops. In this model, each of the subsystems influences the individual and the other subsystems. As the individual moves develops over time, the person is influenced by the development and the life course experiences considered as the ontogenic development).

This model infers that and individual's health outcomes are consequent to the interactions with and within the five ecological systems. According to Lakhan and Ekundayo , 2013:104 this model, the ecological model and its components are in use in prevention and treatment of depression in several countries of the world. According to him the component system levels of ecological model include

1. The Micro and the central level of the system which encloses the individual and the person interacts with objects and people in their intimate and immediate world including parents, siblings, spouse, friends, children and significant others with dynamic and active engagement and interactions. "Ecological theory indicates that a positive and supportive functional relationship with Microsystems (e.g. family, peer, parents, teachers, schools) increases chances of healthy social functioning and decreases depressive symptoms, their severity and number of episodes" (Lakhan and Ekúndayò, 2013). In the context of family related factors, positive negative non-supportive relationships between siblings, parents and peers are stressors that can compound biological or physiological related stress like hormonal changes to predispose to

depression in adolescents. Chronic diseases or loss of family members are also causes of stress that increase risk to depression in adolescents.

2. The Mezzo and surrounding systems that serves the micro system formally and informally and these include family/families, group/groups (peers organizations, local facilities and services. Lakhan and Ekundayo (2013) indicated that an individual is at higher risk of developing psychological stress if communication is poor between various Microsystems, disconnection or disruption of the micro- and mezzo systems, creating a social disorientation. This is in relation with depression when the social interaction with surrounding society is disturbed like poor communication and loss of family support which have impact in psycho-social factors associated with depression.
3. The Exo level includes specific social structures and organizations that does not contain individual but affects an individual's immediate environment and their microsystem. While the individual may not play any role in constructing the Exo system, they experience direct impact on their mood and affect. Lakhan and Ekundayo gave example of a sole earner in the family being laid off from their job with their unemployment resulting to direct negative impact on them and their family members. Loss of income creating psychological, social and economic stress to the individual and their family result to stress and prolonged stress poses significant risk of producing mental illness in the individual and their family (Lakhan and Ekúndayò, 2013)
4. Macro level: This covers the larger society and culture in which an individual lives and interacts and cumulative negative events from the policies, rules, regulation all have impact on a person over a lifetime with have far reaching consequences for their mental health. Inappropriate or lack of psychosocial support results to a vulnerable individual developing depression. Within the ecological context and ecological components associated with depression, three major social determinates of health identified include a) socioeconomic status, b) social cohesion and c) negative life events as correlates with depression.

5. Chrono - level deals with agencies, rules, regulations and provision of the State from whom the micro and mezzo seek resources and support. As Lahkan and Ekundayo indicated agencies from this system build capacity, train, advocate and provide services as to ensure accessibility, affordability and provision for quality care.

Adopting the socio-ecological approach enables exploration and focussing at elements at all levels of the systems that can contribute to the occurrence as well as mitigation of the effect of depression.

This study is focussing mainly on elements at the first three levels, the Micro, the Mezzo and Exo levels but all clustered into psychosocial factors, environmental factors, biological factors and family related factors believing that there are sociological factors in the micro system that derives from the mezzo system and there are factors in the mezzo systems that relate to the micro and the exo system as well. This study sought to identify behavioural indicators in these various dimensions that are present in adolescents with depression in Rwanda. Figure I represents some of the behavioural indicators that are in the psychosocial, environmental, biological and family related domains.

2.5.1 Social Ecological Theory of Depression used in Exploring Depression in Adolescents

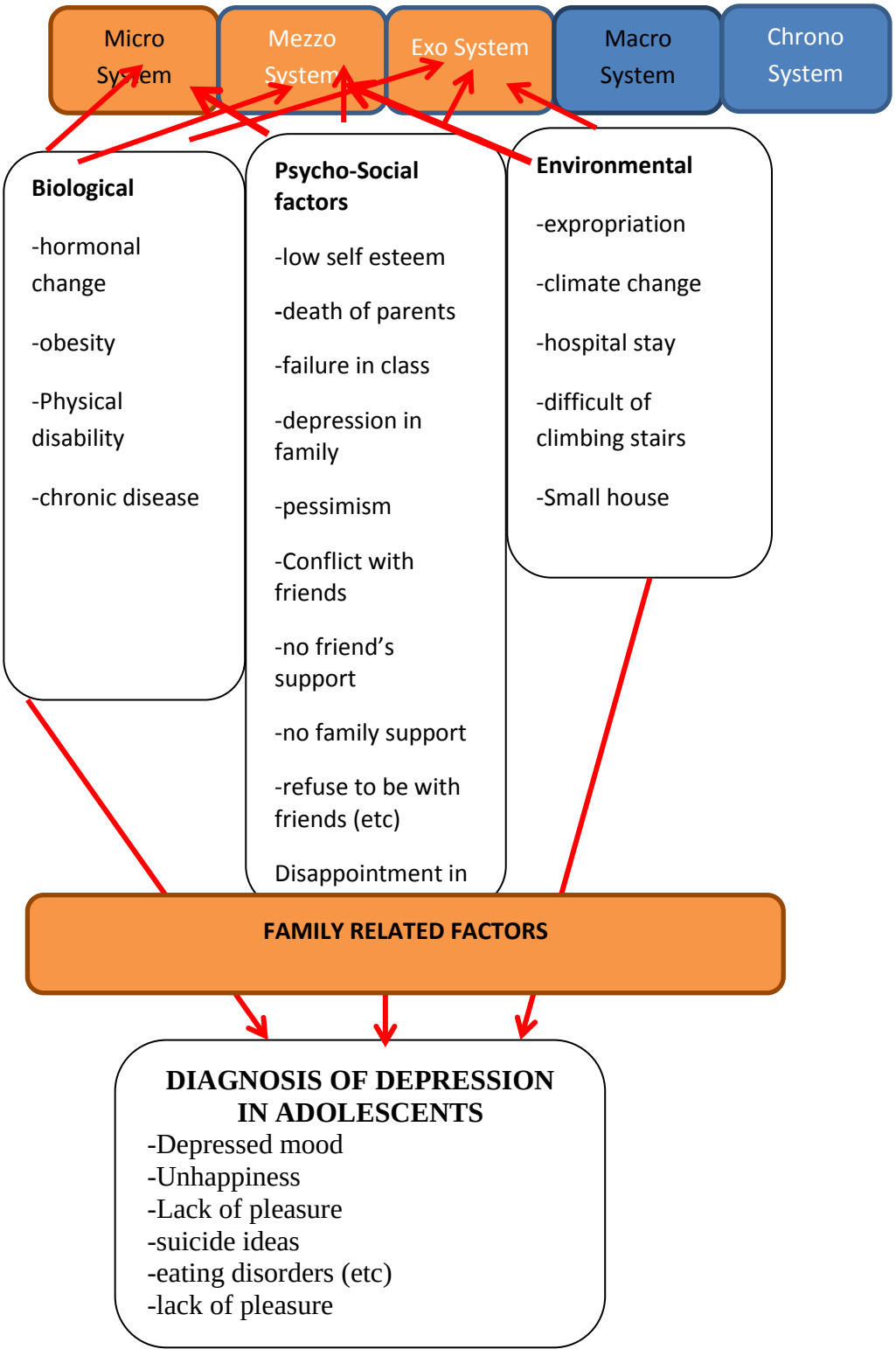

Figure I – Conceptual framework for the study adapted from Lakhan R, Ekúndayò OT. Application of the ecological framework in depression: an approach whose time has come. AP J Psychol Med 2013; 14(2):103-9

In conclusion depression is a big problem for all ages of life which is increasing because of many factors asociated with development, economic depression, conflict and wars, chronic diseases, infectious diseases, changing family structures and functioning, natural disasters. These factors also would increase the prevalance of depression in adolescents except there are specific interventions to screen and manage depression in adolescents efficiently.Exploring the biological, psychosocial, environmental and family related factors associated with depression objectively among adolescents within the context of micro, mexxo, and exo systems Exploring factors that are associated with depression will guide developing focussed screening tools and intervention.

CHAPTER THREE: METHODOLOGY

3.1. Introduction.

This chapter explains the step by step of the process of conducting the study. The research design, the study area, the target population and the sampling techniques for selecting sample for the study are presented. The tool and process of data collection, ethical consideration, plans for data analysis, report and dissemination of reports are also presented. The limitations and challenge faced in the course of collecting data are also presented in this chapter

3.2. Research Design.

Descriptive design was adopted to conduct this study. Descriptive research helps to "document factors, that describe characteristics, behaviors and conditions of individuals and groups" (Portney and Watkins, 2009:301). This design enabled access to responses on the variables from adolescents (and their parents or guardians) with depression in line with the objectives set for the study (Ideas, 2008).

3.3. Approach

Data was gathered adopting the quantitative approach (Jalal Hghighat M. et al, 2015). A structured questionnaire with test items that allow for measurable valid responses was used to collect data from adolescents,

3.4. Study Settings.

The study was conducted in three hospitals in Rwanda. These are in Masaka District hospital, in Kicukiro Distric, Masaka Sector. Remerarukoma District Hospital, in Kamonyi District, Rukoma Sector and Ndera Neuro Psychiatric Hospital in Gasabo Distric,Ndera sector. These are public supported by the government but the first two provide diverse health services including mental health and psychiatric care while Ndera Neuropschiatric Hospital provide care only for clients with mental disorders

3.5. Population.

The target population are adolescents, boys and girls in the range age of 10 and 19 years who are diagnosed with depression (and their parents where necessary) but the accessible population were all adolescents confirmed in their registration files with diagnosis of depression from January 2015 to April 2017 accessed from hospital records of the selected hospitals. The target population of the study was 50 adolescents accessed from the study sites. Information from parents was meant to serve as complimentary data to information provided by adolescents who may not be able to respond to some of the test items.

3.5.1 Inclusion criteria

All adolescents from 10 years to 19 years who werediagnosed of depression registered in the files of the selected hospitals and their parents, who signed assent and consent forms to participate in the study.

3.5.2 Exclusion criteria

-Adolescents aged 10-19 who were not mentally stable and coherent and whom parents do not accept to participate in the study

3.6. Sampling

3.6.1. Sampling strategy

To select the subset of individuals from the population whom they have the same characteristics (Etikan, et al , 2016p1), the investigator selected all adolescents with diagnosis of depression in the 2015 and 2017 records of the hospitals used for the study. Parents and adolescents recruited from the records signed assent and consent forms. For this study, all the sample units that met the criteria were recruited to participate in the study and the non-probability convenience sampling was used to select the adolescents who participated in the study. With this kind of sampling, all readily available subjects who consent were all involved in the study.

3.6.2. Sample size

Determination of sample size focuses on choose representative number of respondents for inclusion in statistical sample or the total number of adolescents on whom the research did (Guetterman, 2015). The researcher used the total number 50 adolescents of population subject to the number of adolescents recorded to have been diagnosed and receiving care in the hospitals.

3.6.3. Sample size calculation

When you have a small number of population in research project there is no need to calculate the sample size. The researcher used all the population who met the criteria, 50 adolescents who were on the sites of data collection because adolescents with depression who consult mental health care provider services are not a large number in Rwanda.

3.7. Data Collection

3.7.1. Data Collection instruments

The researcher used interviewer -administered questionnaires with close ended test items translated from English to Kinyarwanda language as tool of data collection. The Language Center of College of Medicine and Health Sciences helped in the translation of the questionnaire. The questionnaire has four sections. Section A: covered the socio-demographic characteristics of respondents. Section B, covered psychosocial factors. Section C: covered the test items on environmental, socio economic factors and Section D family-related factors with each subcategory identified by numbers. All test items in Sections B to D required two possible responses of "Yes" or "No".

This tool was developed by the researcher assisted by the supervisor based on literature review, conceptual framework, the title of the study, problem statement and specific objectives as guides.

Validity of the Instrument

Validity shows the level or degree to which the instrument measures the specific concept that the researcher wants to study. The content validity of the instrument started with aligning the test items of the instrument with the objectives of the study. The investigator worked with the supervisor and other experts in mental health and psychiatry to ensure that the test items cover the concepts and variables of interest in the research as to ascertain the content validity. The face validity was also assured through the use of simple unambiguous statements. The ease of understanding was verified by adolescents and parents who participate in the pilot testing.

Pilot and Reliability Testing

For this study, the researcher adopted the test-re-test method of reliability testing. The survey instrument was administered to selected 5 adolescents (and their parents) twice over a fortnight interval in order to see how the responses stay stable over time. The results from the two tests was compared using correlation coefficient and a result was 0.98 was deemed adequate to accept the instrument as being reliable. Reliability is based on accuracy of measuring instrument or procedure. It is also a measure of a stability of response in different periods on the same group of

respondents which provide the result of correlation coefficient and results are considered good if they are 0.70 and above (Litwin, 2003). The ease of administration and understanding of the instrument by the respondents was considered during pilot testing and were deem adequate. Two components initially labeled psychological factors and psychosocial factors were merged to one with a new label of psychosocial factors.

3.7.2. Data collection procedure

Following approval of Institutional Review Panel, letters of permission to collect data was taken to the various clinical facilities where respondents are to be accessed for their approval. Data were collected in three weeks, 3 days per week in each of the three hospitals. The researcher collected data herself, administer questionnaires to respondents.

3.8. Data analysis

Analysis of data is a procedure of inspecting, cleaning, transforming, and matching data with goals in order to have meaningful information which will help to make decision about conclusion (bussiness dictionary, 2016) The researcher cleanse, sorted and coded the data before data entry and analysis using the Statistical Package for Social Science (IBM-SPSS version 20) to analyze data. Descriptive statistics such as mean, standard deviation were used for continuous variables, frequency, and percentages for categorical variables. All the factors identified are summarized and comparisons were made considering sex and age of respondents mainly. Results are presented using tables and figures.

3.9. Ethical considerations

The proposal for this study was submitted to the Institutional Review Board of the University of Rwanda College of Medicine and Health Sciences. Permission to collect data was also sought from Hospital administrators, from mental health providers or nurses who work in mental health services and informed consent was taken from parents and adolescents with the diagnosis of depression accessed in the clinical site of the study. Before the commencement of the study, the researcher planed with the members of the health care team for necessary counseling and

psychological and emotional support for any respondents (adolescents and their parents/care givers) who may experience any emotional or psychological distress in the course of filling the questionnaire. The researcher and health care team interviewed adolescents who were mentally stable and fully cooperated.

The researcher respected the human rights and promoted self-determination by giving all information to all respondents before starting the study and the respondents were assured that the shared information would be protected, would not be shared with others and would only be shared anonymously with the health care team who would find the findings useful in planning for better care outcomes. Respondents were interviewed in private room with more protection. Parents of all respondents were required to sign the consent form and all respondents were encouraged to sign the consent and assent form administering the questionnaire to them. Data was coded and was analyzed by researcher with assistance from the supervisor.

3.10. Data management

Data management is activity of collecting data, sharing data, protecting sensitive data, storage or retention of data and policies which guide the treatment of research data and publications (Buys,et al, 2015). The researcher protected data from period of collection using a coding system. Data was stored in a computer protected using password that is only available to the researcher and the supervisor. This status will be sustained until the report is published when the data can be safely disposed off.

3.11. Data Dissemination

Data dissemination is important because it helps in sharing new information and may help in behavior change. The researcher intend to present the findings in conferences and hope to share the findings with to health care providers, policy makers, other researchers, adolescents groups and parents generally (Services, 2013). Findings will also be published in a reputable peer reviewed journal.

3.12. Limitations and challenges

In this study, the method adopted the number of respondents was limited by the nature of the study and total number of adolescents receiving care for depression in the institutions used to access respondents.The sample size was the total number of adolescents with the diagnosis of interest who were also mentally stable to be coherent in responding to the test items and the total number was The researcher also had to spend more time with respondents to get complete data hence the number of days spent collecting data was more than what was initially planned. Generalization of the findings is limited to respondents in the local context of the study.

3.13 Conclusion

This chapter provided detailed presentation of the process that was adopted to select, access the respondents, develop and administer the relevant instrument to collect the needed data. The method adopted in handling and analyzing the data was also presented.

CHAPTER FOUR: RESULTS

4.0 Introduction

This chapter covers the result from the analyzed data. Results are presented in summary tables and illustrations using the objectives of the study as guidelines. The first part covers the socio-demographic features of respondents. The second part presents summary table of responses focusing on psychosocial factors associated with depression in the adolescents in the study with reflection of statistical significant associations of identified variables by gender. The third, fourth and fifth parts covered the environmental factors, and family related factors associated with depression in adolescents respectively.

4.1 Socio-demographic Characteristics of Respondents

Fifty respondents, 20 males (40%) and 30 females (60) in the three stages of adolescence were involved in the study. Total number in the family of respondents ranged from a minimum 0, Maximum8, Mean of 5. The number of siblings of respondents also ranged from minimum 2, maximum 8, Mean 5± 9. Adolescents who were not in school were 9(18%), 20 (40%) were in primary school, 21 (42%) were in secondary school.. Thirty six (72%) were Christians, 7(14%) were Muslims, 3(6%) practiced traditional religion and 4 (8%) had no religion.

Table 4.1.1 presents the summary of data of other socio-demographic characteristics of respondents.

Table 4.1.1 Socio-demographic characteristics of respondents.

Socio-demographic characteristics	**Frequency (%)**
Age Categories in years (Minimum-10, Maxmum -19, Mean - 15, SD 9±20)	
Early adolescent (10-14)	6(12)
Middle adolescent (15-17)	44(88)
Residence by Province	
Kigali (urban)	20(40)
Eastern	6(12)
Western	4(8)
North	3(6)
South	17(34)
Occupation	
Student	27(54)
Trading	7(14)
Artisan	11(22)
No occupation	5(10)
Distance from home to Hospital in Kilometers (KM) (Minimum – less than 5km, Maximum - 10 Km, Mean – 8km±4	
Under 5km	20(40)
Above 5km	25(50)
Do not walk	5(10)
The income	
Up to 50 thousand RWfrancs	4(8)
No income	17(34)
Under 50 thousand francs	29(58)

Table 4.1.1 showed that majority (88%) of the respondents were in middle and late adolescence. Respondents with secondary and primary education were in the majority (42% and 40% respectively). Respondents were mainly from Kigali Urban (20-40%) and the Southern Province (17 – 34%).

4.2 Diagnostic and Treatment Characteristics of Respondents

Table 4.2 1: History of Diagnosis and Treatment of Respondents

First consultation was in 2015 for 12 adolescents (24%), 2016 for 21 adolescents (42%) and 2017 for 15 adolescents

Period of treatment	
1month	7(14)
3months	10(20)
6months	10(20)
9months	9(18)
12months	2(4)
13months	12(24)
Other Co-morbidity (HIV)	14 (28)

Table 4.2.1 showed that 28% of respondents have been receiving treatment for about or a little over one year. Period of care for 72% of respondents ranged from one to nine months.

4.3 Distribution of Respondents by the Various Factors Associated with Depression in Adolescents with reference to Gender/Sex.

Tables 4.3.1 to 4.3.4 present the summaries of distribution of respondents by the test items under the psychosocial, environmental, and familial factors considering the gender of respondents.

Table 4.3.1 : Distribution of Respondents by Sex in the Psycho-social Factors test items

Test Items in the Psychosocial Domain		**Male (n=20) (N=50 (%)**	**Female (n=30) (N=50 (%)**	**X^2**
I am in relationship with a boy or girl of	yes	3(6.0)	5(10.0)	0.025
I like and feel good about my self	yes	2(4.0)	1(2.0)	0.946
I am HIV+ and on treatment	yes	8(16.0)	6(12.0)	
I do not hope for good life in my future	yes	19(38.0)	28(56.0)	0.059
I have been hospitalized for long time	yes	9(18.0)	16(32.0)	0.333
I am in relationship with a girl/boy	same age	2(4.0)	0(0.0)	
	older	1(2.0)	5(10.0)	4.365
I do not have a good social relationship	yes	17(34.0)	24(48.0)	
I experienced failure at school in last year	Yes	12(24.0)	16(32.0)	1.550
I enjoy warmth, acceptance of my parents	yes	5(10.0)	3(6.0)	2.009
I experience hostility with my parents	yes	3(6.0)	3(6.0)	
My parents are too controlling	yes	10(20.0)	17(34.0)	0.215
My father beat my mother usually	yes	7(14.0)	15(30.0)	1.096
I have a good relationship with my parents	yes	2(4.0)	2(4.0)	
I have a good relationship with siblings	yes	7(14.0)	8(16.0)	
I have experienced sexual violence	yes	5(10.0)	17(34.0)	4.884
I have experience the war during my past	yes	12(24.0)	15(30.0)	
Colleagues laugh when I am revising	Yes	13(26.0)	17(34.0)	1.597
I experience failure to manage my stress	Yes	20(40.0)	29(58.0)	0.680
Most of the time I am irritable	Yes	19(38.0)	23(26.0)	3.001
Which kind of physical disability do you	deaf	1(2.0)	3(6.0)	

Test Items in the Psychosocial Domain		**Male (n=20) (N=50 (%)**	**Female (n=30) (N=50 (%)**	**X^2**
have	Dumb	1(2.0)	4(8.2)	4.592
	blind	1(2.0)	3(6.1)	
	lower limb	0 (0.0)	3(6.1)	
I sometimes have eating disorder	Yes	18(36.0)	26(52.0)	0.126
In this year family member died	Yes	13(26.0)	11(22.0)	3.860
I am not happy to see my father is jobless	Yes	15(30.0)	18(36.0)	1.203
The income of my parents is not sufficient	Yes	19(38.0)	27(54.0)	0.408
I live with	Parents	7(14.0)	3(6.0)	
	one parent	6(12.0)	11(22.0)	
	Siblings	3(6.0)	3(6.0)	
	family	4(8.0)	6(12)	8.824
	Alone	0	5(10.0)	
	Other	0	2(4.0)	
I have conflict with my parents	Usually	6(12.0)	15(30.0)	
	Some time	5(10.0)	9(18.0)	3.750
	Most of the time	9(18.0)	6(12.0)	
I am in conflict with my friends	Usually	6(12.0)	7(14.0)	
	Some time	10(20.0)	16(32.0)	0.291
	Most of the time	4(8.0)	7(14.0)	
I didn't perform well at school in national examination	Yes	11(22.0)	15(30.0)	1.236
	no study	5(10.0)	5(10.0)	
When I received my result of HIV+ I didn't accept it	Yes	8(16.0)	6(12.0)	2.902
	no HIV	10(20.0)	22(44.0)	
In last year I experienced many negative events	disease	4(8.2)	8(16.3)	
	death	8(16.3)	6(12.2)	

Test Items in the Psychosocial Domain		Male (n=20) (N=50 (%)	Female (n=30) (N=50 (%)	X^2
	Failure	2(4.1)	8(16.3)	3.625
	Other	5(10.2)	8(16.3)	
My friends do not help me	Yes	19(48.0)	27(54.0)	0.408
My parents do not care aboutme	Yes	18(36.0)	30(60.0)	3.125
I was made seriously angry by a break in relationship with my boyfriend/girlfriend	Yes	6(12.0)	8(16.0)	0.298
I am orphan	both parents	5(10.0)	10(20.0)	
	one parent	3(6.0)	4(8.0)	
	divorced	3(6.0)	12(24.0)	7.430
	live together	9(18.0)	4(8.0)	

*Statistically Significant at p= 0.05. This table showed high level of psychosocial distress with self and in relationships with friends and family. Majority of respondents gave affirmative "Yes" to all the negative test items. Only 3(6%) expressing feelings being good about themselves

Table 4.3.2 : Distribution of Respondents by Sex in the Environmental Factors Domain (N=50)

Environmental Factors		Male (n=20) N=50(%)	Female (n=30) N=50(%)	X^2
I live in big house where I have a room	yes	6(12.0)	2(4.0)	4.861
Do you live in urban or village	urban	8(16.0)	14(28.0)	
	village	12(24.0)	16(32.0)	0.216
How big is your house	small	12(24.0)	28(56.0)	
	big	8(16.0)	2(4.0)	8.333
Do you have difficulty for climbing stairs	yes	7(14.0)	11(22.0)	0.014

How do you feel when it is cold	good	6(12.0)	9(18.8)	0.000
How frequently do you have respiratory problems when climate change	sometimes	9(18.0)	14(28.0)	
	usually	7(14.0)	11(22.0)	0.091
	every time	4(8.0)	5(10.0)	
I feel uncomfortable when it is raining	yes	18(36.0)	23(46.0)	1.445
I have seen volcanic eruption/ and our materials were destroyed there	yes	7(14.0)	6(12.0)	1.403
I have experienced the rain which destroyed houses and killed some people	yes	16(32.0)	25(50.0)	.090

*Statistically Significant at 0.05.

Majority (42 – 84%) of respondents had challenges with personal space living in small houses with little privacy in living arrangement and the have negative responses to climate change especially with raining season.

Table 4.3.3: Distribution of Respondents by Sex in the Family Related Factors test items (N=50)

Family Related Factors		**Male n=20 N=50 (%)**	**Female n=30 N=50(%)**
Other person in my family who had depression	Parents	5(10.0)	13(26)
	family related	7(14.0)	5(10.0)
	no one	8(16.0)	12(24.0)
Family member who had mental disorders	mother	4(8.0)	5(10.0)
	family related	4(8.0)	13(26.0)
	no one	12(24.0)	12(24.0)
Other mental disorders in my family	psychosis	4(8.2)	3(6.1)
	anxiety	4(8.2)	11(22.4)
	PTSD	1(2.0)	5(10.2)
Chronic disease in my family	diabetes	3(6.1)	4(8.2)
	asthma	3(6.1)	5(10.2)
	HIV	2(4.1)	3(6.1)
	other	0 (0.0)	3(6.1)
My parents are usually irritable	yes	16(32.0)	26(52.0)
Father is irritable when he has drunk alcohol	yes	13(26.0)	25(50.0)
My siblings are irritable	yes	13(26.0)	16(32.0)

Table 4.3.3 showed that there are familial tendencies to depression and other mental health disorders with majority of respondents. The test items on family relationships also reflected high level of irritability within family functioning for parents and siblings of respondents.

4.4 Distribution of Respondents by the Various Factors Associated with Depression among Adolescents with reference to Developmental Age Categories

The various factors, psychosocial, environmental, and family related were analyzed by two age categories of 10-14 for early adolescents and 15-19 for middle-late adolescents. These are presented in Tables 4.4.1 to 4.4.3

Table 4.4.1 Distribution of Respondents by Age categories and the Psycho-social Factors (N=50)

Psychosocial Factors	**Response**	**Age Category 1**		**Age Category 2**	
		10-14 (n=6)		**15-19(n=44)**	
			n(%)		**n(%)**
I am in relationship with boy/ girl	Yes	0	0	8	18.1
I like and feel good about my self	Yes	0	0	3	6.8
I am HIV+ and on treatment	Yes	2	33.3	12	27.2
I do not hope for good life	Yes	5	83.3	42	95.4
Both my parents are died in last	Yes	1	16.6	8	18.1
I have been hospitalized	Yes	3	50	22	50
I have bad social relationship	Yes	4	66.6	37	84.0
I experience failure at school	Yes	1	16.6	27	61.3
I enjoy warmth from my parents	Yes	0	0	8	18.1
I experience hostility in parents	Yes	0	0	6	13.6
My parents are too controlling	Yes	3	50	24	54.5
My father beat my mater usually	Yes	3	50	19	43.1
I have a good relationship with my parents	Yes	0	0	4	9.0
I have a good relationship with siblings	Yes	3	50	12	27.2
I experienced sexual violence	Yes	1	16.6	21	47.7
I have experience the war	Yes	2	33.3	25	56.8

Psychosocial Factors	Response	Age Category 1		Age Category 2	
		10-14 (n=6)		15-19(n=44)	
			n(%)		n(%)
colleagues laugh in revising	Yes	2	33.3	28	63.6
I failure to manage my stress	Yes	6	100	43	97.7
Most of the time I am irritable	Yes	6	100	36	81.8
I sometimes have eating disorder	Yes	5	83.3	39	88.6
Death of family member	Yes	1	16.6	23	52.2
I am unhappy with jobless father	Yes	3	50	30	68.1
Our income is not sufficient	Yes	6	100	40	90.9
I live with	Parents	3	50	7	15.9
	one parent	1	16.6	16	36.3
	siblings	1	16.6	5	11.3
	family	1	16.6	9	20.4
	alone	0	0	5	11.3
	other	0	0	2	4.5
I have conflict with my parents	usually	3	50	18	40.9
	some time	0	0	14	31.8
	mostly of	3	50	12	27.2
I am in conflict with my friends	usually	4	66.6	9	20.4
	some time	1	16.6	25	56.8
	mostly	1	16.6	10	22.7
I didn't perform well at school	Yes	1	16.6	25	56.8
I did not accept results of HIV+	Yes	2	33.3	12	27.2
In last year i experienced many negative events	disease	1	16.6	11	25
	death	2	33.3	12	27.2
	failure	1	16.6	9	20.4
	others	2	33.3	11	25
My friends do not help me	Yes	6	100	40	90.9

Psychosocial Factors	**Response**	**Age Category 1**		**Age Category 2**	
		10-14 (n=6)		**15-19(n=44)**	
			n(%)		**n(%)**
My parents do not care about me	Yes	6	100	42	95.4
I was made seriously angry by a break in my relationship	Yes	0	0	14	31.8
I am orphan	parents	1	16.6	14	31.8
	one parent	1	16.6	6	13.6
	divorced	2	33.3	13	29.5
	live together	2	33.3	11	25

Table 4.4.1 showed that respondents in the early stage of adolescence were few (6, 12%). However, high percentages of the respondents responded in the affirmative to almost all the negative statements and gave negative responses to the test items that were supposed to be reflecting positive psychosocial disposition.

Table 4.4.2 Distribution of Respondents by Age categories and the Environmental Factors (N=50)

Environmental Related Factors	Responses	Age Category 1 10-14 (n=6)		Age Category 2 15-19(n=44)		Total (N%)
		n(%)		n(%)		
I live in big house where I have room	Yes	0	0	8	13.33	
Do you live in urban or village	Urban	2	33.33	20	45.4	44
	Village	4	66.66	24	54.5	56
How big is your house	Small	5	83.33	35	79.5	80
	Big	1	16.66	9	20.4	20

Do you have difficulty for stairs	Yes	0	0	18	40.9	32
How do you feel when it is cold	Good	2	33.33	13	29.5	30
How many times did you had respiratory problems when climate change	Sometimes	5	83.33	18	40.9	36
	Usually	0		18	40.9	66
	Every time	1	16.66	8	18.1	18
I feel bad when it is period of raining	Yes	5	83.33	36	81.8	82
I have seen volcanic problems	Yes	1	16.66	12	27.2	26
I have experienced the rain problems	Yes	5		36		

Table 4.4.3 Distribution of Respondents by Age categories and the Family Related Factors (N=50)

Family Related Factors	Responses	Age Category 1 10-14 (n=6)		Age Category 2 15-19 (n=44)		Total (N%)
		n(%)		n(%)		
Other person who had (depression)	Parents	2	33.3	16	36.3	18(36)
	Family	1	16.6	11	25	12(24)
Family member with other mental	Mother	1	16.6	8	18.1	8(16
	Family	1	16.6	16	36.3	17(34
	No one	4	66.6	20	45.4	24(56
Other mental disease in my family	Psychosis	1	16.6	6	13.6	7(14
	Anxiety	0	0	15	34.0	14(28
	PTSD	1	16.6	5	11.3	6(12
Family members with Chronic disease	Diabetes	0	0	7	15.9	7(14
	Asthma	1	16.6	7	17.9	7(14
	Other	0	0	3	6.8	3(6
My parents are usually irritable	Yes	6	100	36	81.8	42(84
Father is irritable when he has drunk alcohol	yes	6	100	32	72.7	37(74
My siblings are irritable	yes	5	83.3	24	54.5	28(56

CHAPTER FIVE: DISCUSSION

5.1 Introduction

Findings from the study are discussed in the context of the parameters used in the analysis. The discussion covers observations from the socio demographic characteristics of respondents, the psychosocial, environmental, familial factors observed to be associated with depression among the respondents using their sex and age as personal variables used in the vicariate analysis.

Socio-Demographic Characteristics of Respondents as Factors of Reference in Depression in Adolescents

There is increasing attention to depression in adolescents – (Cesar et al., 2013, p11); (Survey, 2015p37); (Sserunjogi et al., 2016) with due consideration for the peculiarity of the adolescent child. Findings from this study showed that more females were receiving treatment for depression from the clinical sites of study. This observations support earlier studies (Survey, 2015p37), (Kim *et al.*, 2015), (Hirota, Milavi and Mcnicholas, 2016) that indicated higher prevalence of depression in females compared to males. While the effect of hormonal changes as such may be related to mood changes and pathology needs to be given close watch among adolescents transiting from puberty contrary findings in the Uganda study by (Sserunjogi *et al.*, 2016) with more males with depression along other factors such as alcohol use, loss of parents, living in large families makes it important to pay attention to depressive symptoms in both males and female adolescents. There is also a need to provide more support to girls as they transit from puberty to full adolescence to reduce stress that may be related to biological changes associated with the transition. Such support will also help to detect adolescents with early depressive symptoms. When risks to depression and actual depression is detected early and managed effectively in adolescents, the prevalence in adulthood will reduce. This observation gives support to paying more attention to those factors that may be biological, (sex/gender related) and other socio-ecological factors that negatively contribute to health and wellbeing of all adolescents but with more attention to female adolescents especially as such may be related to relationships in the homes and in intimate relationships.

While there are few respondents in this study in early adolescents, depression among adolescents

in Rwanda seemed to be higher in middle to late adolescents. This finding is similar to the findings in the Uganda study(Sserunjogi *et al.*, 2016),(Survey, 2015). There is high need to sensitize parents and health care providers about possibilities of depressive symptoms in adolescence to remove assumptions of change in behaviour to transition through adolescence to adulthood especially when other negative psychosocial, environmental and familial factors are present.

In this study, higher percentage of respondents were students (54%)compared to artisans and those not in any job. The challenges of schooling as related to school work, failure, negative responses from colleagues and from school work were also seen demonstrated among respondents. Little was seen in literature with regards to school work, school physical and psychosocial environment and depression among adolescents pointing to the need for further exploration of the roles of the school environment to occurrence, early detection and management of depressive symptoms among adolescents.

Psychosocial Factors Associated with Depression among Respondents

Findings from this study showed high association of depression to psychosocial factors in all areas of personal (micro system), family and friends (mezzo system) and (environmental (exo systems) conditions (Lakhan & Ekúndayò, 2013). High percentages of respondents had low self-esteem and were almost in a state of hopelessness. There were high percentages of respondents who responded in the affirmative in all the negative statements and very high percentages who also responded negatively to the positive test items. The psychosocial factors are unfavorable to most adolescents with regards to self, friends, family (parents and siblings) in this study. Ill health, especially being HIV positive and sexual violence constitute additional burdens in addition to family induced psychosocial factors to adolescents in this study. These are in line with previous observations (Kinyanda *et al.*, 2013). Findings from this study are in agreement with theoretical ideas of the ecological theory of depression with elements in the personal, family, friends, school and other social environment related factors (Lakhan& Ekúndayò, 2013).

Very high percentage of adolescents with low family income is associated with depression and high number in families is all also associated with low quality and poor psychosocial responses from the respondents in this study. These findings are similar to what obtained in Uganda

(Kinyanda *et al.*, 2013). Poor socio-economic family status, poor living environment increase stress and irritability and contribute to family dysfunction that all contribute to depression in adolescence.

Environmental Factors Associated with Depression among Respondents

Findings from this study showed climate related influence on respondents as most of them had negative responses to change in the weather. From the basis of family socio-economic status, adolescents in the study also had low access to personal spaces and privacy which would also contribute to experiences of more irritability as depicted under family related factors.

Family Related Factors Associated with Depression among Respondents

Findings from this study showed high level of contributory factors to depression from the nature of family composition, family living environment and family relationships with negative responses to all the statements that have things to do with the family among respondents. Family dysfunction is a major challenge to the wellbeing of adolescents. Familial tendency to depression and other mental disorders increase the risks of adolescents to depression. Irritable family members, (parents, siblings) and alcoholism are major challenges pointing to the need for family focused support and care in the context of management of depression in adolescents. High burden of other chronic diseases make demands on family resources that could further challenge relationships among family members. Mental problems in the family52%, and chronic diseases 50% are silithly high in Rwanda (Of *et al.*, 2013).

CHAPTER SIX: CONCLUSIONS AND RECOMMENDATIONS

6.1 Conclusion

In concluding this study, despite the low number of respondents in this study, depression in adolescents as documented from three hospital admissions is associated with high level of negative psychosocial, environmental and family related factors in Rwanda. Adolescents in schools are more affected, family history; personal, familial and environmental factors are all complementary to the occurrence of depression in adolescents in Rwanda. Screening opportunities for early detection of depressive symptoms, counseling, social support to families of low-social status would be most desirable to reduce the burden of depression in adolescents in Rwanda.

6.2 Recommendations

Nursing Education

1. The knowledge of the risk for depression, the diagnostic cues and management need to be incorporated into teachings on adolescents health and nursing students, some of whom may also be adolescents must be assisted to manage depressive symptoms

Nursing Practice

1. There is an urgent need for screening of adolescents, especially in schools for risk status for depression for early detection of depressive symptoms, counseling, support and referral for care
2. Social interventions are needed to support family quality relationship and functioning
3. Counseling and Support services are needed to target adolescents and families who have familial tendencies for mental disorders in schools and at the community levels.
4. Advocacy, and mass education through presentations about depression, signs and symptoms, management and complications need to be ongoing in society
5. Adolescentsfriendly services to encourage consultation of mental health care providers when there is any problem without shame or fear should be provided.

Nursing research

1. Future research studies to focus on screening of in-school and out-of school adolescents to determine the prevalence of depressive symptoms, associated factors and interventions that would reduce the burden of depression in adolescence.

REFFERENCES

BIBRIOGRAPHY

A.Ban, T. (2014) ‘From melanchoria to depression a history of diagnosis and treatment Thomas A . Ban’, pp. 1–55.

Alotaibi, T. (2015) ‘Combating anxiety and depression among school children and adolescents through student counselling in Saudi Arabia’, *Procedia - Social and Behavioral Sciences*. Elsevier B.V., 205(May), pp. 18–29. doi: 10.1016/j.sbspro.2015.09.006.

Anxiety and Depression Amercan Association (2016) ‘Major depression Bipolar disorder’.

Articles, W. (2013) *Classifications of Mental Disorders*.

Buys, C. M., Shaw, P. L. and Shaw, P. L. (2015) ‘Data Management Practices Across an Institution : Survey and Report Data Management Practices Across an Institution : Survey and Report’, 3(2), pp. 0–24.

Cacioppo, J. T., Hughes, M. E., Waite, L. J., Hawkley, L. C. and Thisted, R. A. (2006) ‘Loneliness as a Specific Risk Factor for Depressive Symptoms : Cross-Sectional and Longitudinal Analyses’, 21(1), pp. 140–151. doi: 10.1037/0882-7974.21.1.140.

Cesar, B. J. and Chavoushi, F. (2013) ‘Priority Medicines for Europe and the World “ A Public Health Approach to Innovation ” Update on 2004 Background Paper Written by Eduardo Sabaté Background Paper 6 . 15 Depression’, (April).

Elbert, H. R. and T. (2013) ‘Rwanda – lasting imprints of a genocide trauma, mental health and psychosocial conditions in survivors, former prisoners and their children’.

Etikan, I., Musa, S. A. and Alkassim, R. S. (2016) ‘Comparison of Convenience Sampling and Purposive Sampling’, 5(1), pp. 1–4. doi: 10.11648/j.ajtas.20160501.11.

Galambos, N. L., Leadbeater, B. J. and Barker, E. T. (2004) ‘Gender differences in and risk factors for depression in adolescence : A 4-year longitudinal study’, 28(1), pp. 16–25. doi: 10.1080/01650250344000235.

Guetterman, T. C. (2015) ‘Descriptions of Sampling Practices Within Five Approaches to Qualitative Research in Education and the Health Sciences’, 16(2).

Harrison, R. Van and Amy L Tremper Issues, M. (2011) ‘Key points’, *UMHS Depression guide line*, p. 23.

Health Net (2016) *National Medical Policy*.

Hirota, T., Milavi, G. and Mcnicholas, F. (2016) ‘Depression in Children and Adolescents’, pp. 309–324. doi: 10.1016/B978-0-12-802456-0.00010-8.

Ideas, K. E. Y. (2008) ‘Chapter 4 nonexperimental quantitative research’, pp. 59–77.

Kar, N. and Health, N. (2016) ‘Worldwide Prevalence of Depression in Elderly.’, (January 2011).

Kim, M. H., Mazenga, A. C., Yu, X., Devandra, A., Nguyen, C., Ahmed, S., Kazembe, P. N. and Sharp, C. (2015) ‘Factors associated with depression among adolescents living with HIV in Malawi’, *BMC Psychiatry*. BMC Psychiatry, pp. 1–12. doi: 10.1186/s12888-015-0649-9.

Kinyanda, E., Kizza, R., Abbo, C., Ndyanabangi, S. and Levin, J. (2013) ‘Prevalence and risk factors of depression in childhood and adolescence as seen in 4 districts of north-eastern Uganda’, pp. 1–10.

Lakhan, R. and Ekúndayò, O. T. (2013) ‘Application of the ecological framework in depression : an approach whose time has come’, 14(December).

Lorenzo-luaces, L., Horwitz, A. V, Wakefield, J. C. and Lorenzo-luaces, L. (2016) ‘History of Depression History of Depression Oxford Handbooks Online History of Depression’, (April). doi: 10.1093/oxfordhb/9780199973965.013.2.

Marcus, M. (2012) ‘DEPRESSION’, pp. 6–8.

Nations, T. U. (2008) ‘DEFINITION OF YOUTH’, pp. 2007–2009.

Naus, W., Sharpe, A. L., Kelly, H., Kobor, P., Sroufe, G. E. and Talbot, C. (2015) ‘in the FY 2015 Budget’, pp. 225–232.

Of, O., Of, E., Of, O., In, A., Of, O., In, A. and In, H. (2013) ‘CHAPTER 09 DEPRESSION’, pp. 1–40.

Peter M. Lewinsohn, Paul Rohde, I. H. G. (1994) ‘Adolescents psychopathology - psychosocial rosk factors for depression.pdf’.

Petersen, A. C., Compas, B. E., Brooks-gunn, J., Stemmler, M., Ey, S. and Grant, K. E. (1993) ‘Depression in Adolescence’.

Poquiz, J. L. and Frazer, A. L. (2016) ‘Depression in Children and Adolescents’, pp. 1–5.

Rey, J. M., Bella-awusah, T. T. and Liu, J. (2015) ‘DEPRESSION IN CHILDREN AND 2015 Edition’, pp. 1–36.

Rico, P. (2010) ‘Center for Disease Control- National Depression Screening Day’.

Saluja, G., Iachan, R., Scheidt, P. C., Overpeck, M. D., Sun, W. and Giedd, J. N. (2006)

‘Prevalence of and Risk Factors for Depressive Symptoms Among Young Adolescents’, 158, pp. 760–765.

Services, H. (no date) ‘Data Dissemination’.

Sserunjogi, J. N., Rukundo, G. Z., Ovuga, E., Kiwuwa, S. M. and Musisi, S. (2016) ‘Prevalence and factors associated with depression symptoms among school ‐ going adolescents in Central Uganda’, *Child and Adolescent Psychiatry and Mental Health*. BioMed Central, pp. 4–11. doi: 10.1186/s13034-016-0133-4.

Stressors, L. (2000) ‘What causes depression ?’, pp. 2–3.

Survey, A. (2015) *The Mental Health of Children and Adolescents*.

Thapar Anita, S. C. (2012) ‘Depression in adolescence’, 379(9820), pp. 1056–1067. doi: 10.1016/S0140-6736(11)60871-4.Depression.

‘The comparison qualitative and quantitative research 1’ (2015), 5, pp. 1111–1117.

Ustun, T. B., Health, W. and Who, O. (2011) ‘The epidemiology of major depressive episodes : results from the International Consortium of Psychiatric Epidemiology (ICPE) Surveys’, 12(1), p. 10.

Wang, B., Li, X., Barnett, D., Zhao, G., Zhao, J. and Stanton, B. (2012) ‘Social Science & Medicine Risk and protective factors for depression symptoms among children affected by HIV / AIDS in rural China : A structural equation modeling analysis’, *Social Science & Medicine*. Elsevier Ltd, 74(9), pp. 1435–1443. doi: 10.1016/j.socscimed.2012.01.007.

Wilson Rubanzana,Bethany L Hedt-Gautier, J. N. and M. D. F. (2015) ‘genocide and risk of suicide in Rwanda’.

Prince, M., Patel, V.,Saxena S., Maj, M., Maselko, J., Phillips, M.R., and Rahman, A., (2007). No Health Without Mental Health. The Lancet, 370 (9590:859-877). DOI:http://dx.doi.ord/10.1016/S0140-6736(07)61238-0.

Department of Health (2011) No health without mental health *accessed from*https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/213761/dh_124058.pdf on 08 Jan 2017

World Health Organization (2013) Comprehensive Mental Health Action Plan 2013-2020 accessed from http://www.who.int/mental_health/action_plan_2013/en/*accessed on* 08 January 2017

APPENDIX: 1Tool

Instructions to the Interviewer

Section A

Dermographic

1.Age last birthday……

2.Sex : Male…….Female.....

3.Educational statuts :

(a) No western education _____ (b) Primary School Completed ____ (c) Secondary School Completed _____ (d) Vocational training _____ (indicate type of vocation)

4.Residence

Province……

District ……

Sector…….

Cell…….

Village……

5.Religion: Christianity ___ Islam ____ Traditional _____ Please, specify denomination: e.g Catholic, Methodist _____

6.Occupation: Student ____ trading _____ Artisan _____

7. Job related questions

What do you do?.....

How long is from home to your work?.....

How much do you gain monthly? …

8.Number of persons in the family _____ No of siblings by Sex Male ____ Female _____

9.Number among the sibling _____

10.When was the first time you came to the hospital for the health problem that brought you to this hospital?

11.How long have you been receiving treatment for the problem that brought you here? Indicate number of weeks, months or years? _____

Please, respond yes or no to the following:

12.I am in a relationship (romantic love affair) with a man _____, please indicate the Age __

13.I am in a relationship (romantic love affair) with a woman _____, please indicate the Age ___

Section B

Psychosocial factors:

Now let us talk about you and other things. Please, tick YES for which of the statement applies to you and NO for those that do not apply to you.

SN	Statement	Yes	No	Additional information
1.	I like and feel good about myself			
2	I am HIV+ and I take the second line of ARV			
3	I do not hope for having good life in my future			
4	Both my parents died in last month by traffic accident			
5	I have been hospitalized for long time before I have			

	depression.			
6	I am in a relationship (romantic love affair) with a man			Please indicate age of the person
7	I am in a relationship (romantic love affair) with a woman			
8	I do not have a good interpersonal relationship with friends			
9	I failure at school in last year			
10	I enjoy high level of warmth and acceptance from my parents			
11	I experience high level of hostility with my parents			
12	My parents are too controlling			
13	My father beat my Mather usually			
14	I will say I have a very good, friendly and open interpersonal relationship with my parents			
15	I will say I have a very good, friendly and open interpersonal relationship with my siblings			

Psychological factors:

1. I haveexperienced sexual violence many times in my life
2. I have experience the war during may past
3. My colleagues laugh at me when I am revising my lessons
4. I failure to manage my stress when I face with many responsibilities
5. Most of the time I am irritable.
6. Which kind of physical disability do you have?.....
7. I sometimes have eating disorder
8. In this year, …. family members died (indicate number of died persons).

9. I am not happy to see my father without job

10. The income of my parents is not sufficient.

Social factors:

1. I live with: a. Aunt……. b. Uncle…… c. Grandmother……. d. Grandfather……. e. Sister…… f. Brother……. g. Alone……

2. I have conflict with my parents: a. usually?..... b. Sometimes……. c. Most of the time

3. I am in conflict with my friends: a. usually..... b. Sometimes……. c. Most of the time

4. I didn't perform well at school in National examination

5. When I received my result of HIV+ I didn't accept it

6. In last year I experienced many negative events: being HIV positive, death of my parents and failure in class

7. My friends do not help me when is needed

8. My parents do not have time to care about me

9. About my parents: both died

One died

Divorced

10. I didn't accept to be separated with my boy/girl friend

Section C

Environmental and economic factors

House related question

1.I live in big house where I have a room to myself enough private space.....

2. Do you live in urban or village?.....

3. How big is your house?.....

4. Do you have difficulty for climbing stairs?.....

Climate related

1. How do you fill when it is cold?.....

2. How many times did you had respiratory problems when climate change....

3.I do not fill comfortable when it is period of raining.

Disasters related information

1.I have seen volcanic eruption and our materials was destroyed there

2.I have experienced the rain which destroyed houses and killed some people

Section D

Family related factors associated with depression

1.Other person who had experienced the same disease as this I have in the family: 1. my Mather……., 2. my father……, 3 my Aunt……, 4. My Uncle…….,5. Grandmother……., 6. Grandfather……, 7. No one…….

2. Persons in the family who had other mental disease: 1. my Mather……., 2. my father……, 3 my Aunt……, 4. My Uncle…….,5. Grandmother……., 6. Grandfather……, 7. No one…….

3.Which kind of other mental problems do you have in family?.....

4. Which chronic family medical disease are in your family?.....

5. Other disease of father

6. Other disease of mother

7. My parents are usually irritable, angry, hash, in bad mood and anxious

8. My father is mostly irritable when he has drunk alcohol

9. My siblings are hash irritable and anxious

APPENDIX: 2 CONSENT FORM FOR PARTTICIPATION IN RESEARCH

TO ASSESS RISK FACTORS OF DEPRESSION IN ADOLESCENT IN 3 SELECTED HOSPITALS.

I……father/mother/guardi an of……age of 12 to 14 hereby consent to participate in research as parent/guardian of ASSESSMENT OF RISK FACTORS OF DEPRESSION IN ADOLESCENT in responding to all questions which will be asked .After having enough information about this research; details and purpose of the study, how to respond to questions and gating explanation about ethical consideration on my child ,about freedom in responding ,about my confidentiality as the information will be published and after being aware that it is acceptable to withdraw if no interested , I agree to participate and provide the information needed.

SIGNATURE OF PARTICIPANT

……Names……..Date……

SIGNATURE OF RESEARCHER

……Names……Date……

APPENDIX: 3 ASSENT FORM

TO ASSESS RISK FACTORS OF DEPRESSION IN ADOLESCENT IN 3 SELECTED HOSPITALS.

I……Age 15 to 19years I hereby consent to participate in research OF ASSESSMENT OF RISK FACTORS OF DEPRESSION IN ADOLESCENT in responding to all questions which will be asked. After having enough information about this research; details and purpose of the study, how to respond to questions and gating explanation about ethical consideration, about freedom in responding, about my confidentiality as the information will be published and after being aware that it is acceptable to withdraw if no interested, I agree to participate and provide the information needed.

SIGNATURE OF PARTICIPANT

……Names……..Date……

……..

SIGNATURE OF RESEARCHER

……Names……Date…

APPENDIX: 4 INFORMATION LETTER

My name is UWAMBAJIMANA Jocelyne, registered nurse, student in Rwanda University College of Medicine and Health Sciences Kigali Campus (UR CMHS), In Master's Program Paediatric Track.

Dear respondent,

I am UWAMBAJIMANA Jocelyne from CMHS conducting this study on FACTORS ASSOCIATED WITH DEPRESSION IN ADOLESCENTS to provide information to help care providers in taking decision to improve care for young people like you. I am requesting that you participate in this study. All the information you provide will be treated as confidential and will only be used for this study. Your identity will be protected.

I……..agree to participate in the study

APPENDIX5: Ethical clearance

UNIVERSITY OF RWANDA

COLLEGE OF MEDICINE AND HEALTH SCIENCES

CMHS INSTITUTIONAL REVIEW BOARD (IRB)

Kigali, 22/02/2017
Ref: CMHS/IRB/**161**/2017

UWAMBAJIMANA Jocelyne
School of Nursing and Midwifery, CMHS, UR

Dear UWAMBAJIMANA Jocelyne

RE: ETHICAL CLEARANCE

Reference is made to your application for ethical clearance for the study entitled ***"Assessment Of factors Associated With Depression In Adolescents From three Selected Hospital In Rwanda".***

Having reviewed your protocol and found it satisfying the ethical requirements, your study is hereby granted ethical clearance. The ethical clearance is valid for one year starting from the date it is issued and shall be renewed on request. You will be required to submit the progress report and any major changes made in the proposal during the implementation stage. In addition, at the end, the IRB shall need to be given the final report of your study.

We wish you success in this important study.

for Professor Kato J. NJUNWA
Chairperson Institutional Review Board,
College of Medicine and Health Sciences, UR

Cc:
- Principal College of Medicine and Health Sciences, UR
- University Director of Research and Postgraduate studies, UR

APPENDIX6: To whom

UNIVERSITY OF RWANDA

COLLEGE OF MEDICINE AND HEALTH SCIENCES

SCHOOL OF NURSING AND MIDWIFERY

Kigali, on 28 / 02 /2017

Ref. No: ...../ UR-CMHS/SoNM/17

TO WHOM IT MAY CONCERN

Dear Sir/Madam,

Re: Request to collect data

Referring to the above subject, I am requesting for permission for **UWAMBAJIMANA Jocelyne**, a final year student in the Masters of Science in Nursing at the University of Rwanda/College of Medicine and Health Sciences to collect data for her research dissertation entitled **FACTORS ASSOCIATED WITH DEPRESSION IN ADOLESCENTS FROM THREE SELECTED HOSPITALS IN RWANDA**

This exercise that is going to take a period of 6 weeks starting from 1st March 2017 to 12th April 2017 will be done at **REMERA RUKOMA DISTRICT HOSPITAL, MASAKA DISTRICT HOSPITAL AND NDERA NEUROPSYCHIATRIC HOSPITAL**

We are looking forward for your usual cooperation.

Sincerely,

Dr. Donatilla MUKAMANA, RN, PhD
Dean, School of Nursing and Midwifery
College of Medicine and Health Sciences

Email: schoolofnursingandmidwifery@ur.ac.rw, P.O.Box: 3286 Kigali-Rwanda, Website: www.ur.ac.rw

APPENDIX7: Permission of collecting data in Remera Rukoma Hospital

EGLISE PRESBTERIENNE AU RWANDA

HOPITAL REMERA RUKOMA

BP 201 KIGALI

Rukoma, on 8 March 2017

To UWAMBAJIMANA Jocelyne

RE: Acceptance for permission to collect data

I am pleased to inform you that your request for permission to collect data for your research dissertation entitled "**Factors associated with depression in adolescents from three selected hospitals in Rwanda**" in Remera Rukoma hospital has been accepted .

Thank you for your time to choose this hospital,

Yours Sincerely,

Dr JARIBU Théogène

Director of Remera Rukoma Hospital

P.o

Dr. ESANGELA Paul

Medical Director

APPENDIX8: Permission of collecting data in Ndera Hospital

NEURO-PSYCHIATRIC HOSPITAL CARAES NDERA
BROTHERS OF CHARITY
P.O. Box: 423 Kigali - Rwanda; Tel: +250 788 827 364 / +250 781 447 928
Website: www.caraesnderahospital.rw E - mail : ndera.hospital@moh.gov.rw

Ndera, March 15, 2017

UWAMBAJIMANA Jocelyne
Masters of Science in Nursing
COLLEGE OF MEDICINE AND HEALTH SCIENCES

Dear,

RE: Permission to conduct a research

The reference is made to your letter of March 2nd, 2017 related to the above subject; I am pleased to inform you that your request has been granted. Therefore, you are allowed to conduct your research in Ndera Neuropsychiatric Hospital, which topic is entitled ***"Factors associated with depression in adolescents from three selected hospital in Rwanda"***.

I wish you all the best.

Brother Charles NKUBILI
Director General

Cc :

Mr. Ndayisenga Eraste, Vice Director of Nursing

APPENDIX9: Permission of collecting data in Masaka Hospital

REPUBLIC OF RWANDA

March, 7th 2017

Ref.222/MSK/ DH/ 2017

KICUKIRO DISTRICT

MASAKA HOSPITAL

PO.BOX: 3472 KIGALI

E-mail: masaka.hospital@moh.gov.rw

UWAMBAJIMANA Jocelyne

UR-CMHS/So NM

MASTER'S OF SCIENCE IN NURSING

0784230386

Re: Permission to collect data

Dear Madam,

Referring to your letter written on 2th March 2017 requesting to collect data for your research dissertation entitled **"Factors associated with depression in adolescents from three selected hospitals in Rwanda"** in Masaka District Hospital, I would like to inform you that your request is accepted and you will collect data in a period of six week starting from 09h March 2017 to 21stApril 2017.

Yours sincerely,

Dr. Marcel UWIZEYE

Acting Director of Masaka District Hospital.