RISK FACTORS AND RESILIENCE FOR DEPRESSIVE ILLNESS AMONG CHILDREN HOSPITALISED IN KENYATTA NATIONAL HOSPITAL, KENYA

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A Project submitted in partial fulfillment for the award of degree of Master of Medicine (Psychiatry).

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DECLARATION

I declare that this project is the result of my own work and that it has not been submitted either wholly or in part to this or any other university for the award of any degree.

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Signed……Date……

DECLARATION BY THE SUPERVISORS

This project is being submitted for the award of the Master of Medicine in psychiatry with my approval as the appointed supervisor.

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ACKNOWLEDGEMENT

I wish to express my sincere gratitude to all lecturers in the department of psychiatry and more so to my supervisors Dr. Manasi and Dr. Kamau who guided me during the development of the concept of my research.

DEDICATION

I dedicate this research to the Almighty God and my loving family for their support during this enduring moment.

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LIST OF ABBREVIATIONS

APA	American Psychiatric Association
BDI	Beck Depression Inventory
CDI	Child Depression Inventory
CYRM	Child and Youth Resilience Measure
DALY	Disability Adjusted Life Years
DSM	Diagnostic and Statistical Manual of Mental disorders
DSM- IV	Diagnostic and Statistical Manual of Mental Disorders, 4th Edition
DSM- 5	Diagnostic and Statistical Manual of Mental Disorders, 5th Edition
GBD	Global Burden of Disease
HIV	Human Immunodeficiency Virus
ICD	International Classification of Diseases
KNH	Kenyatta National Hospital
MDD	Major Depressive Disorder
PTSD	Post-traumatic stress disorder
PCIT	Parent Child Interaction Therapy
SPSS	Statistical Package for Social Sciences
UoN	University of Nairobi
WHO	World Health Organization
YLD	Years Lived with Disability

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OPERATIONAL DEFINITION

Caregiver: A sick child's carer. This may be the parent, grandparent, significant family member, child care provider or early childhood teacher. In this study, in the event that such a close person is not available at the time of study, the ward nurse shall be requested to step in. The caregiver is the child's legal representative in the study.

ABSTRACT

Depression is a common (prevalence 12.9%), debilitating disease and the 3rd major contributor to Global Burden of disease, with greater incidence (41.3 to 63%) in children with physical illness. Various factors are associated with depression in the physically sick child, and they exert their influence at three levels which are personal biological, relational (family and friends), and contextual domains. In employing holistic approach to disease management, studies in Kenya have demonstrated prevalence and to some extend risk factors in childhood depression. However, they were not able to show resilience associations in these children. This study sought to fill this gap which is needed in formulation of effective interventions to reduce the disease burden. Factors that correlate with childhood depression, whether positively or negatively were studied at the Kenyatta National Hospital. The study made use of descriptive cross-sectional design, targeting 80 children. Data was collected using a researcher designed questionnaire, assessing socio-demographic characteristics, self- administered Child Depression Inventory to assess for depressive illness and Child and Youth Resilience Measure that assessed the capital within the child's reach that can build their protection against depression. The data was analyzed using the Statistical Package for Social Sciences and presented in tables and figures. The proportion of depression among hospitalized children was high, at 30.8%, with a high resilience capital at 83%, and resilience correlated inversely with depression. The older the child and the longer the illness duration, the higher the depression scores. There are many resilience factors available for children. However, there are gaps in employing more holistic approach in diagnostics to capture this illness as well as providing ideal hospital and community environment for children.

Findings from the study are useful for KNH and Kenya to improve child mental programs in the hospital as well as the community

CHAPTER ONE: INTRODUCTION

1.1 Depression Definitions

Depression is an overwhelming state of enduring sadness and loss of interest in activities which were previously enjoyed, for two weeks or more, accompanied by reduced ability to manage daily activities. There are two widely used classification systems for depressive disorders as well other psychiatric disorders, namely the International Classification of Diseases (ICD) which WHO adopted, and the Diagnostic and Statistical Manual of Mental disorders (DSM) that is a publication of the American Psychiatric Association (APA 2012).

DSM 5 symptoms of depression in children include sad, irritable or cranky mood and noticeably reduced interest in activities most of the day, together with significant weight or appetite change or failure to make adequate weight gains, sleep disturbance, sense of guilt or worthlessness, psycho-motor agitation, fatigue or decreased energy, in-attention and repeated thoughts of death. The child's capacity to function in one or more areas of their life is thereby affected. The different types differ in the duration, timing and presumed cause, and include disruptive mood dysregulation illness, major depressive disorder (MDD), persistent depressive disorder (dysthymia), premenstrual dysphoric illness, drug induced depressive disorder, depressive disorders due to other medical conditions; other specified depressive disorders and non-specified depressive illnesses.
Depression is usually rated mild, moderate or severe on the basis of the count and severity of symptoms identified.
A medically ill child is more stressed and as WHO emphasizes childhood experiences impact and mold the growing brain of a child that in effect provides a foundation for their mental health. Disruptions to a child's development through vulnerabilities or risk factors can negatively affect their ability to learn and relate with others leading to poor health outcomes in childhood and throughout the life course. Risk factors in this study refer to variables that associate positively with increased occurrence of depression. On the other hand, resilience, which in this study is defined as stable mental and physical wellbeing in

spite of the harms of early adversity (Traub & Boynton-Jarrett, 2017), is the valuable capacity to adapt and keep up with stress and difficult occurrences, and therefore can conversely avoid and combat stress and construct a flourishing childhood full of prospering people.

1.2 Risk and Causal Factors

There are many factors that pose causative effect on depression, and the Bio-psycho-social Model and the Diathesis-Stress Theory, describe this causation as a complex interaction (WHO, 2012a), (Hayden et al., 2014) of numerous organic, mental and social variables. They associate with one another, but are nevertheless influenced by a person's special sensitivities, indicating that individuals have distinctive levels of affectability (diatheses) for developing depression (Nemade, 2019b). In essence, a person's sensitivities must associate with unpleasant social, psychological or biological life events, for depression to result, implying that less natural stretch is adequate to produce illness when a child has greater sensitivity, and vice versa. DSM5 (American Psychiatric Association, 2013) emphasizes genetic and physiological, temperament, environmental factors and course modifiers as main risk factors for depression.

1.2.1 Genetics

It is known that depression runs in families, and depressed people have first degree family members at a 2-4 fold higher risk (American Psychiatric Association, 2013) than general population, with more predisposition 76% in monozygotic twins. Depression, like other diseases including diabetes and hypertension are affected by numerous as opposed to a single gene, qualities that make children more powerless to depressive effects when they meet certain environmental pushes (Harrington, n.d.), (Chmura Kraemer, Stice, Kazdin, Offord, & Kupfer, 2001). Just as they increase the relative risk for early occurrence and getting recurrent forms of depression (Weder et al., 2014), genes also play a role in gender differences, as more women are affected (WHO, 2012a).

1.2.2 Physiological

Low mood has been connected to derangements in the brain, particularly with the neurotransmitters serotonin, nor-epinephrine, and dopamine, being the chemicals that assist our bodies to recognize and react to unpleasant circumstances. Analysts suggest that children who are defenseless to sadness may have a nor-epinephrinergic framework that doesn't handle the impacts of stress very satisfactorily (Hayden et al., 2014). Hormonal imbalances and compromised immune system also make a child vulnerable to depression, as well as pollution in the environment. More determinants include lack of work out, poor sleep and lack of recreational activities

1.2.3 Psychological

Cognitive behavioral theorists (Beck, 2008) note that self-devaluating or negative attachment cognitive styles are a primary cause of depressive symptoms and Beck describes three fundamental dysfunctional convictions (or "schemas") that rule a depressed person's thoughts: I am faulty or deficient, all of my affairs end up unsuccessful and the future is doomed. These form the negative cognitive triad that may be accompanied by faulty information processing. Consequently, difficult temperament like neuroticism (negative affectivity) is a recipe for depression (American Psychiatric Association, 2013). Research indicates that events inside a person, such as recognitions, desires, values, demeanors, assessment of self and others and fears do influence behavior. Hammen (2018) echoed Beck on risks of depression.

1.2.4 Environmental Causes

Synthetic chemicals, hereditarily altered foods, and mechanical by-products are chemical causes, while noise, electrical pollutants and natural calamities, are non-chemical sources of environmental stress. Social and relationship influences like chronic domestic or school stressors (divorce, violence, poor performance), the loss of a loved one, or traumatic experiences such as abuse, neglect and rape, poverty, unsafe home/neighborhood and social isolation (WHO, 2018) can trigger depression. WHO calls them adverse life events, and points out that such experiences early in life are avoidable causations for depression.

1.2.5 Course Modifiers

These are factors that augment the onset and course of a depressive illness. Mental disorders like borderline personality disorders and anxiety, longstanding physical illness such as cancers, diabetes mellitus, cardiovascular disease, morbid obesity among others, as well as substance use/abuse (WHO, 2018) and milestones such as puberty are positively associated. Depression and physical disease influence each other such that one can lead to the other.

In a nutshell, apart from individual factors, societal forces like national policies, social protection, economic factors, learning conditions, and social supports also define a child's mental health outcomes (Engle, Castle, & Menon, 1996). Since depression is acquired, behavioral therapists recommend that it can similarly be unlearned. Environmental stressors and little individual abilities (Nemade, 2019a) in combination cause depression, since the environmental challenges lead a child to receive less positive reinforcement, therefore failure to adapt to the absence of positive fortifications is presumed to result in depression.

1.3 Resilience/ Protective Factors

It is agreeable that some people immediately arise and clean off following an adversity, irrespective of prevailing distress. Now this is called resilience. In general, resilience refers to specific variables which lessen the risk for psychopathology, and it is a dynamic process comprising of positive adaptation during significant adversity.

There is no clear agreed upon definition of resilience due to variations in the socio-cultural and historical scenarios but, researchers generally agree that a difficult occurrence and subsequent overcoming of its damaging effects is required to qualify resilience.

The Theoretical Framework of Resilience, which is a transactional model arises from focus on the interrelation of an individual, exposure to adversity, and contextual factors (Windle, Bennett, & Noyes, 2011). This model accounts for an individual's resources in

relation to the demands of his environment. Resilience within a transactional model results when environmental and biological risk and resilience factors interact and lead to varying degrees of susceptibility to psychopathology. The Protective Model explains that each additional resilience factor further weakens the relationship between adversity and negative outcomes, and individual protective factors can strengthen the buffering effects of other factors (Hollister-Wagner et al., 2001).

1.3.1 Components of Resilience

No sole set of elements of flexibility is established. However, this collection of features can offer a valuable guide: Optimism – hopefulness about the future even in the face of adversity, Altruism – selfless concern for others, Moral Compass – strong objective judgment about right and wrong, Faith and Spirituality – sense of being connected to a higher being, Humor – causing amusement, Having a Role Model – a person to look up to or emulate, Social Supports – view of being cared for, Facing Fear – willingness to confront unpleasant feelings, Meaning or Purpose in Life – a satisfying mission in life and Training – developing knowledge and skills that assist in competencies.

With these elements, a child is able to control their response to both inner and outer stretches for existence, growth and advancement.

In the book **The Resilience Factor** (Reivich & Shatte, 2002), a lack of resilience is characterized by emotions like anger, sadness, guilt, uncertainty and embarrassment, which are natural in life they are not proportionate to the happenings. These can impact on one's motivation, cognition, and emotional stability, and ultimately lead to hopelessness or negativity.

1.3.2 Nurturing Resilience

Resilience is not necessarily inborn. Fortunately, it can be created with time and resources. A collective devotion to the resilience wealth available for the children will help to alleviate stress and guarantee a thriving childhood (Day, 2017).

Family, friends, and school mates as well as other acquaintances provide social support networks of care, a shoulder, affection, guidance, fun and other types of physical and psychological help in the event of adversity. The strength of one's resiliencies is consistent with how well and closely knit they are to the other members of that network. Resilience factors tend to be profiled into three levels as 1. Personal, like age, sex, competences, 2.Relational, like closeness to family and friends, and 3.Contextual like social-economical support.

Guardians are ordinarily basic in connection to family components and by default also blend the child with community elements. As Masten & Barnes (2018), says, the child's building blocks for the future are the competencies they gain in early stages, meaning that resources are vital in psychological wellbeing (Vranceanu, Hobfoll, & Johnson, 2007).

1.3.3 Resilience Scales

The resilience scales arise from different theories, due to the varied need of resilience framework for each child group, as one measure may apply better to one setting than another.

1.4 Synopsis

A summary of both causative and preventive correlates of depression in children is given by WHO secretariat (WHO, 2012b) as follows:

Table 1:

Determinants of Depression in Children

Domain	**Risk Factors**	**Resilience Elements**
Personal features	Poor self-esteem Negative cognitions Communication difficulties Physical illness, substance use	Self- confidence Adaptability Communication competences Physical Wellbeing
Relational or Social conditions	Isolation Neglect, family unrest violent/abusive residence Poverty Schooling Difficulties	Care from family & friends Dependable parenting Safe residence Economic empowerment Scholastic performance
Environmental/ contextual factors	Inaccessible basic amenities Discrimination Social inequalities Exposure to disaster	Accessible basic amenities Social justice and integration Social equality Safe neighborhood

In the spirit of a holistic approach (Hayden et al., 2014), depression may better be handled with unity of sectors to subdue its very complex nature. Workable societal efforts to reduce depressive states comprise community prevention and institution-based schemes to foster positive competences in the minors (Purper-Ouakil, Michel, &

Mouren-Siméoni, 2002), while clinician-based family approaches aim at improving children's perception of their ill health in addition to empowering caregivers to notice and nature their child's resilience. Mastery of positive cognition and social connectivity are the heart of these interventions.

1.5 Problem Statement

Going by WHO standards, providing child mental health services is the "right thing to do" (Eggertson, 2005). However, according to investigations globally and in Kenya the occurrence of depressive illness in the children is apparent, with minimal detection (Ndetei, Khasakhala, Mutiso, & Mbwayo, 2009) and little focus on their management (Kamau, Omigbodun, Bella-Awusah, & Adedokun, 2017). This has resulted in poor health outcomes in childhood and throughout the life course.

This study sets out to explore both positive (protective) and negative (risk factors) childhood depression correlates, which will hopefully assist in formulating cost effective interventions to reduce its burden.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

In this section the focus is on the prevalence and burden, risk factors in general, risk factors specific to the physically ill child and resilience factors for depression in children.

2.2 Burden of depression

Depression is one of the commonest mental disorder in the world, accounting for more than 322 million people of all ages (WHO, 2018). It is the foremost source of dysfunction as based on Years Lived with Disability (YLDs) and the third major component of the general global burden of disease (Marcus et al., n.d.). It was ranked 4th in 1990, and come 2020, depressive burden is forecasted to hold second place in the ratings of Disability Adjusted Life Years (DALY), indicating a sustained effect over time.

Depression morbidity is presumed to be on the rise globally, a concern that saw the World Health Assembly pass a determination in May 2013 towards an inclusive, harmonized reaction to mental problems by each country. On the contrary, Costello et al., (2006), points out that simultaneous evaluation rather than retrospective study indicates no increase in childhood prevalence over time. Instead, the perceived 'epidemic' may be arising from an increasing awareness of this disorder that was long under-diagnosed by clinicians, as echoed by Ndetei et al., (2009).

Due to its chronic course (WHO, 2018), depression has both individual and societal impacts, including disability and premature deaths, high costs to the family, as well as to society and poor sequel adulthood.

A meta-analysis conducted recently on presence of depressive disorders across two decades in 30 countries from Africa, Australia, Europe, North America and South America in (Lim et al., 2018), revealed a collective point (12.9%), one-year (7.2%) and lifetime (10.8%) occurrence that emphasize the burden. This high prevalence was also

noted among school children in China (13.2%) using CDI, in a study that sought to promote mental health (Stewart & Sun, 2012).

Regional studies resonate with those overseas as observed in a study conducted among children and adolescents in communities of North-Eastern Uganda, which established a prevalence of 8.6% using a structured instrument based on DSM IV criteria (Kinyanda, Kizza, Abbo, Ndyanabangi, & Levin, 2013). In Kenya recently, depressive disorders were found at 13.9%, (Kamau et al., 2017), only second to Substance abuse disorders at 30.1% , using the Kiddie-schedule for affective disorders and schizophrenia-present and lifetime (KSADS-PL), in children with mental illness and their caregivers who presented to the child and adolescent outpatient department at a major referral hospital in Nairobi. Coupled with findings of 43.7% anxiety and depression (Ndetei et al., 2008), among children in various public secondary schools in Nairobi, using DSM-IV-based instruments and 26.4% in another setting (Ndetei, Khasakhala, Mutiso, & Mbwayo, 2010), it is agreeable that depression is alarmingly prevalent among children in Kenya.
The worst outcome of depression is suicide (WHO, 2018), to which 800 000 people are lost every year worldwide. Suicide was a notable correlate in the Ugandan study (Kinyanda et al., 2013), echoing a Kenyan study (Ndetei et al., 2008). A study specifically seeking to find out suicidality among patients hospitalized in general hospitals (Ndetei et al., 2010) revealed 10.5% occurrence on BDI-II.

2.3 Risk Factors Associated with Depression

2.3.1 Demographics

2.3.1.1 Age

In children levels of depression are presumed to rise with age, showing exponential increase at puberty. An age correlation was noted in children and adolescents in Kenyan schools (Ndetei et al., 2008) while association with puberty was found in hospitalized children by Esmaeeli et al., (2014).

2.3.1.2 Gender

WHO and DSM 5 both agree that sex influences depression experience. In the meta-analysis of studies in 30 countries (Lim et al., 2018) there was higher aggregate prevalence rates in females (14.4%) compared to the average aggregate (12.9%). Looking at parents' response to a child's poor conduct, the father's impact was notable only in boys, and the male's dangerous actions were credited largely to fixed factors , while parents anticipated to change the factors ascribed to the girl's dangerous conduct (Morrongiello & Hogg, 2004). There was however no significant difference among boys (OR = 2.10 CI 95% 1.56-2.83) and girls (OR = 2.11 CI 95% in a study (Hysing, Elgen, Gillberg, Lie, & Lundervold, 2007) that examined emotional disturbances in school children with a chronic illness. This may imply that social amenities help to harmonize children's cognition.

Locally, variations in gender were also identified among school children (Ndetei et al., 2008).

2.3.2 Parenting

As explained in the social and relational level of mental health correlates, parents play a key role in a child's life. Hanington, Ramchandani, & Stein, (2010) found that rises in parent's depressive symptoms were more pronounced in children whose low mood symptoms had also increased. In Kenya, adolescents who sensed a mother's estrangement ($p<0.001$) with no psychological connection ($p<0.001$), and lack of a father's psychological connection ($p<0.001$) with non- protective behavior, as well as perceived maladaptive parental behaviors scored higher for depression.

2.3.3 Living conditions

Homes characterized by domestic violence, poverty and uncertainty result more in depressive states. This was exemplified by a result that countries with a medium human development index (HDI) reported more depression (29.2%) than aggregate (12.9%) in the met-analysis of 30 countries (Lim et al., 2018). Kinyanda et al., (2013) also found types of living arrangements and fights at home contributing significantly to depression scores.

2.3.4 Schooling

Not attending school or poor performance as well as lack of stimulation point to incompetence which is a risk factor for depression. The schooling circumstances have been noted to influence mood in children. There was positive impact of boarding school ($p=0.01$) on depressive symptoms found among adolescents in Kenya (Khasakhala, Ndetei, Mathai, & Harder, 2013) .

2.4 Depression in the Chronic Physically Ill Child

2.4.1 Physical Health and Depression

Body wellness is a valuable platform for psychological wellness and children who are unhealthy in their bodies are more prone to experiencing depression (Nemade, 2019b). There were notably very high rates of depressive illness (63%)(Esmaeeli et al., 2014) and 41.3% detected using the CDI in pediatric patients aged averagely 11 years (Ndetei et al., (2009), showing an obvious correlation of physical illness and depression.

2.4.2 Chronic illness with depression

More specifically, chronic conditions have proved in many studies to be recipe for depression and this was characteristic in Esmaeeli's study among cancer and chronic kidney disease (Esmaeeli et al., 2014) patients. Kamau, J. (2012, thesis) also found correlation among children and adolescents living with HIV in a low economic urban setting in Kenya in which there was 17.8% major depression. This is obviously more than rates in the general population (5.6%). Contradicting results were reported by Arabiat, Elliott, & Draper, (2012), in Jordan who collated the presence of depressive symptoms in pediatric patients with cancer and other chronic illness as well as healthy children using the Arabic version of CDI. No distinction in CDI scores stood out between the 3 groups, while 20.68% of children with depressive morbidity had cancer. This contradicts with most studies (Hysing et al., 2007), (Glazebrook, Hollis, Heussler, Goodman, & Coates, 2003).

Nevertheless, more studies emphasize the effects of chronic physical illness like renal disease on hemodialysis (Bakr et al., 2007) with insistence that this cluster of morbidity

was better clarified by the challenges of enduring with chronic kidney failure as opposed to biological reasons.

2.4.3 Hospital stay

It is postulated that long hospital stays impact negatively on a child's mental health. With the average stay in hospital of 8 days, Esmaeeli et al., (2014) found that children who stayed longer developed more depressive symptoms. From these appalling reports, recommendations for more practical plans to improve the care for hospitalized children's mental health were made. Local findings by Ndetei et al., (2009), echoed Esmaeeli, proposing strategies like engaging professional child mental practitioners and training the existing pediatric consultants.

2.5 Resilience and Protective Factors

2.5.1 Resilience with Depression

In Primary Schools in China, a health improvement strategy was employed to foster protection from depressive symptoms which were at 13.2% with CDI. Resilience related negatively with depression since the subclinical depressive symptoms were significantly lowered (Stewart & Sun, 2012). This provided training and health authorities, school employees and analysts with expanded view of the relevance of mental wellbeing and therefore guidance in framing helpful programs to address psychological issues of the children.

2.5.2 Relational factors

Lenze, Pautsch, & Luby, (2011) capitalized on protective factors harnessed from the pivotal parent-child relationship, and formulated an Emotional Development (ED) module with Parent Child Interaction Therapy (PCIT). In result, there was notable reduction in depression severity scores (1.28), and even externalizing and internalizing symptoms. PCIT-ED evidently promises treatment for young children with depression. Similarly, in a study that validated the CYRM-28 in South African school children

(Govender, Cowden, Asante, George, & Reardon, 2017), perception of greater parental monitoring registered resilience.

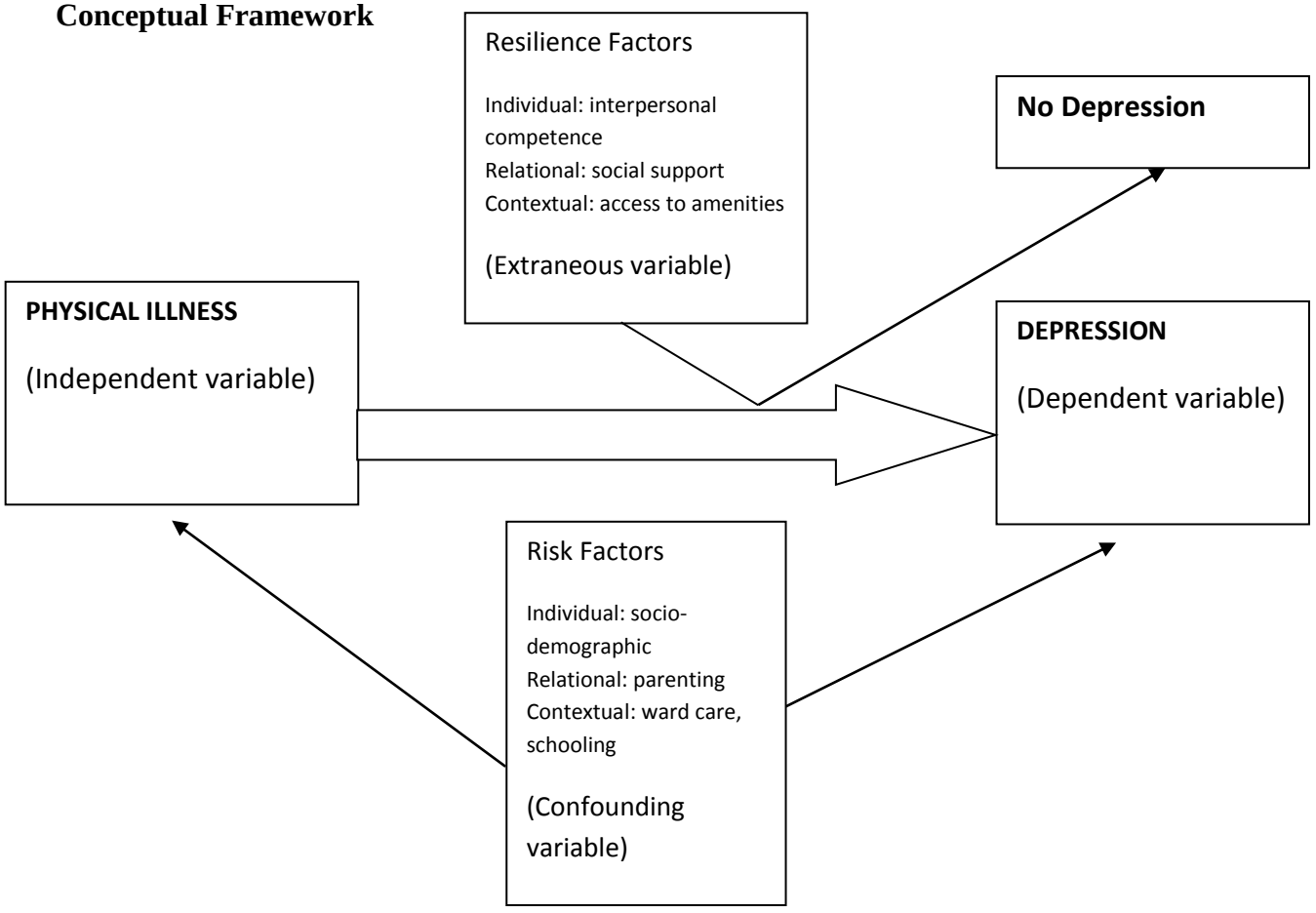
2.5.3 Environment and social factors

The South African study also revealed more resilience in children who felt more connected at school (Govender et al., 2017) and perception of less risk for sexual harm fostered resilience in HIV children in South Africa and thus lowered their depression index. Scholastic achievement(WHO, 2012a) is listed as a resilience factor. Surprisingly, developmental disorder syndromes were found to be protective against depression (Kinyanda et al., 2013) in Ugandan community children who hail from a region perceived to be socio-economically marginalized. Whether this was a psychological dampening to cope with trauma may have to be looked into.

2.6 Conceptual Framework

Figure 1

Conceptual Framework



The above conceptual design shows the relationship between independent variable (physical illness in a child), confounding variables (risk factors), extraneous variables (protective factors), and dependent variable (depression).

The independent variable is the medical illness, which may predispose a child to acquiring depression, the dependent variable. Extraneous variables are the factors that protect (resilience) against depression while confounding variables are risk factors that accelerate development of depressive morbidity in a child.

2.7 Justification

Depression leads in morbidity amongst mental illnesses in the world, with a lifetime prevalence of10.8%. In the medically ill children rates of up to 41.3% in Kenya have been recorded. It is the foremost source of dysfunction as based on Years Lived with Disability (YLDs) and the third major component of the general global burden of disease (Marcus et al., n.d., 2017) with a traceable sustained effect over time.

WHO suggests that providing child mental health services is the "right thing to do" (Eggertson, 2005). In employing holistic approach (Hayden et al., 2014) to disease management, research in Kenya has demonstrated prevalence and to some extend risk factors in childhood depression (Ndetei et al, 2009, Kamau et al, 2017). However, they were not able to show resilience associations in these children. This study seeks to fill this gap which is needed in formulation of effective interventions to reduce the disease burden.

As the study seeks to establish the correlates unique to the physically sick children in KNH the mine of information obtained add to the body of knowledge on prevalence and risk factors for depression as well as establish knowledge on resilience among physically ill children in Kenya. The outcome will also serve as backdrop information for subsequent researches on depression in children.

2.8 Research Questions

1. What are the resilience factors for children with physical illness in pediatric wards in KNH?
2. What risk factors are traceable among depressed children on the wards?

2.9 Hypothesis

Null hypothesis (H_0)**:** Socio-demographic components have no remarkable influence on depression among children hospitalised at KNH

Alternate hypothesis (H_A)**:** Socio-demographic components have a remarkable influence on depression among children hospitalised at KNH

2.10 Objectives

2.10.1 Broad Objective

To determine the risk and protective factors for depression in the physically ill children in KNH.

2.10.2 Specific Objectives

1. To find prevalence of depression in the physically ill children in KNH
2. To find the resilience measure of the physically ill children in KNH
3. To determine risk factors for depression among physically ill children in KNH
4. To determine resilience factors against depression for physically ill children.

CHAPTER THREE: METHODOLOGY

3.1 Study Design

The study made use of a descriptive cross-sectional design aimed at determining the protective and risk factors for depressive illness among pediatric patients admitted at the Kenyatta National Hospital.

3.2 Study Area

The research was carried out in KNH located in Nairobi county, the smallest of the 47 counties in Kenya, conterminous with the capital city, which is a metropolitan area. The hospital is the greatest referral and training facility in the country. Its bed capacity is 1,800 patients and it hosts 50 inpatient wards and 22 outpatient clinics with 24 operating theatres and Accident and Emergency Department. There are 5 paediatric wards with about 32 beds each. The children allowed on the wards are up to 13 years of age, after which they are transferred to adult wards. The facility offers clinical experience to undergraduate and postgraduate Medical trainees from the University of Nairobi (UON), student Nurses, Occupational therapist, and psychologists. It has a mental outpatient unit for adults and children. Child clinic runs on Mondays while youth and adolescent clinic runs on Tuesdays. For any patient needing mental review the doctor on the ward sends a consult to the mental department where a registrar or psychiatrist then visits the patient on the ward.

3.3 Study Population

3.3.1 Target group

The primary study participants were children admitted on the paediatric wards, aged 7 to 13 years, who were required to give assent then complete the Child Depression Inventory tool and the YCRM tool. Their caregivers, either a relative or ward nurse in case the relative was not readily available participated by giving consent for their child to participate in the study as well as to receive relevant interventions when need be, and filling the socio-demographic questionnaire. The caregiver also supervised and monitored

the safety of the child, as well as assessed and communicated the child's emotional distress.

3.3.2 Inclusion Criteria

The patients to participate in the study are

- Children ages 7 to 13 years. The CDI tool is designed to apply only to children aged 7 to 17 years (Kovacs, 2015), hence the lower limit in this study. For the upper limit which is 13 years, children are hosted on pediatric wards in KNH till 13 years of age, beyond which they are transferred to the adult wards.
- The patients whose caregivers sign the consent form, hence allowing their participation in the study.
- Children who give assent, by affirmative response.

3.3.3 Exclusion Criteria

The children to exclude will be

- Patients who have been physically ill for less than 2 weeks. According to DSM 5, for a child to be diagnosed with depression they should have experienced the relevant symptoms for at least 2 weeks. Since depression is the dependent variable in the study, it is important to observe the duration criteria to avoid false positives.
- Children who are too sick to participate. In effort to minimize risk of harm to the children the very sick will be excluded since the physical state makes them obviously more irritable and distressed.

3.4 Sample Size Determination

Cochran formula (Cochran, W.G., 1977) was used to get the sample size.

$$n_o = \frac{Z^2 p q}{e^2}$$

Where,

n_o is the number of subjects,

Z the abscissa of the ordinary bend that cuts off an area α at the tails (1-α; equals the desired confidence interval,

p is the extend of depression in medically ill children,

q is 1-p, and

e the level of accuracy.

This formula was chosen for calculation of the sample size as the p was known from a previous study with prevalence of depressive symptoms among children in hospital at 41.3% (Ndetei et al., 2009).l

Using the formula, and a 0.05 precision level,

$$n_0 = \frac{1.96^2 * 0.41 * 0.59}{(0.05)^2}$$

Total = 372

Tailoring sample to the specific population which is less than 10,000, since less than half of the children are expected to meet the inclusion criteria,

$$na = \frac{nr}{1 + \frac{(nr-1)}{N}}$$

Where na = modified sample size

nr = baseline sample size

N = number of children on wards

$$Na = \frac{372}{1 + \frac{(372-1)}{96}}$$

Total = 76.48, rounded to 77 children

3.5 Sampling Procedure

Study Participants were recruited from pediatric patients hospitalized at KNH, which was picked by judgmental sampling, for being the principal national referral hospital in the country, it is located in the country's capital city which is a cosmopolitan region and it was the site with most depressed children in a study by Ndetei et al. (2009).

Since there are different pediatric wards, which are four general wards and one cancer ward, the sample was stratified into wards to create subsamples. Consecutive sampling was used to pick children until saturation of up to 16 per ward. Samples from each ward were then summed up to make a whole unit (16 x 5= 80).

3.6 Data Collection Instruments

3.6.1 Researcher designed Socio-demographic Questionnaire, SDQ

A semi-structured researcher designed questionnaire was used to collect data. This sought information on demographics like the patient's age, sex, religion, as well as individual, family and context factors like schooling and ward care education level, substance use and the prevailing physical illness. This was provided by the caregiver and patient files. Data from this tool was analyzed against data from CDI to answer research question one and comparison to data from CYRM to answer research question two.

3.6.2 Child Depression Inventory, CDI-2

3.6.2.1 Description

The CDI short form is an assessment tool developed by Mary Kovacs (Kovacs, 2015) and has been designed to measure depressive symptoms for children aged7 to 17 years. Its 12 components measure depressive features like low mood, pleasure experience, biological changes and relational conduct. Each item on CDI allows a child's best response out of three. 0 indicates no symptom, 1 relates to mild symptoms, and 2, to the pronounced symptoms. CDI's reading level is at the first grade, which is the most minimal rating depression in children. Language challenges were minimized by availing a Kiswahili version. Calculation of Factor scores was done by addition of the points for each item. The sum and factor scores were then adapted to T scores on the profile form, whose mean is 50. Scores below 60 fall in Average or lower range (no depression), scores of 60 to 64 fall in High Average (mild depression), scores of 65 to 69 fall in Elevated range (moderate depression), and scores of 70 and above fall in Very Elevated (severe depression) range.

3.6.2.2 Reliability

The unwavering quality of inner consistency has been found to be great (Kovacs, 2015). Coefficients range from 0.71 to 0.89 based on the test population. Although test-retest quality relationships are shown to be satisfactory, the profile of sadness may alter with time, so relating to the mean is achieved by follow-up assessments. This findings were validated through a systematic assessment (Saylor, Finch, Spirito, & Bennett, 1984).

3.6.2.3 Validity

Several research studies have shown support for the CDI as evaluating relevant domains, for descriptive as well as inferential uses for identifying depressive symptoms in children. Njeri (Kagotho, 2016) validated the CDI-short form in Kenya and concluded that it takes half the time to administer compared to long form, psychometric properties are comparable, although CDI-27 has consistently higher alpha estimates, and it is robust to linguistic differences.

For best results children themselves are interviewed, since they uniquely report vital cognitions of depressive states (Harrington, n.d.). Moretti, Fine, Haley, & Marriage,

(1985) concurs by stating that children have ability to produce a dependable assessment of their own depressive symptoms. Information from this tool will be analyzed against data from SDQ to address research question two.

3.6.3 Resilience Tool, CYRM-12

3.6.3.1 Description

The Child and Youth Resilience Measure (CYRM) is an assessment of the capital within one's reach that can build their adaptability (Liebenberg, Joubert, Health, & Foucault, n.d. 2017). In this study where a child has exposure to significant adversity (physical illness), resilience is both the capacity to navigate their way to the psychological, social, cultural, and physical resources that sustain their well-being, and their capacity individually and collectively to negotiate for these resources to be provided in culturally meaningful ways.

It is a 12 point self-administered tool tailored for children. Each point is responded to with a No which scores 0, Sometimes which scores 1 or Yes which scores 2. To arrive at the total CYRM score, the SUM (1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12) is noted, with a possible maximum score of 24. More scores relate to better capacity of resilience.

3.6.3.3 Validity

It was validated in South Africa among school children (Govender et al., 2017).

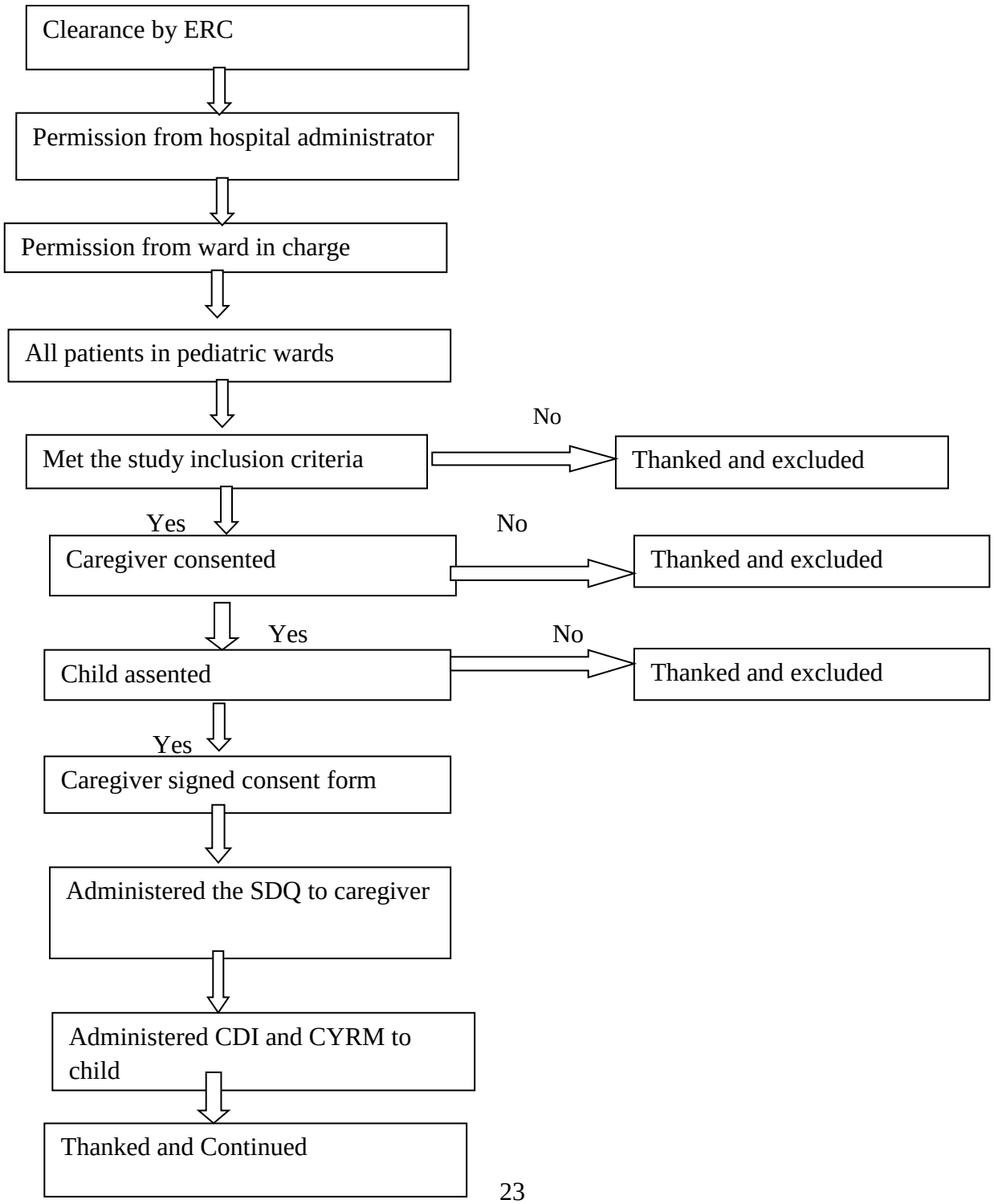
3.6.3.4 Utility

Analysis of data from this tool against information from SDQ addressed research question one.

3.7 Procedure for Data collection

Figure 2:

Recruitment and Data Collection Procedure Flowchart



As depicted in the chart above, after getting authority from ERC to carry out the study, permission was sought from KNH hospital administrator by meeting them to explain the study as well as presenting the letter from ERC, then from the Nurse in charge of each of the five wards. The Doctors (Registrars and Medical officers) and the nurses present on the ward during the data collection were also informed about the study.

After the ward rounds the ward nurse assisted in identifying patients that met the inclusion criteria. Their caregivers were directed to a different room individually where the researcher introduced herself and explained the study and its purpose and any associated ethical concerns. The caregiver who declined to the study was be thanked and excluded, while the one who agreed to the study brought in their child who was also given details of the study. When the child gave assent by verbal affirmation, the caregiver signed the consent form. Where a child declined to participate in the study both the child and the caregiver were thanked and allowed to leave the room to continue with usual care. The caregivers who gave consent were given socio-demographic questionnaire to fill, while the child who gave assent was given CDI and CYRM to fill.

All the forms: assent, consent and data tools were available in English and Kiswahili since these are nationally recognized languages. Any child or caregiver was free to withdraw from the study at any point for whatever reason even after starting to fill the forms. Any child or caregiver who expressed distress, whether physical or emotional was relieved from the study and given appropriate debriefing by the researcher.

Anyone requiring more psychological support was referred to the psychologists who are based at the mental health clinic in KNH. For any child who scored significantly for depression on CDI a consultation form was filled at the ward and taken to mental health clinic as is the current chain of consultation liason psychiatry in the hospital. The psychiatrist or registrar on call was then to visit the child on the ward and institute relevant management for the depression.

3.8 Trial Study

Pilot study was carried out at the Kiambu County Referral Hospital to ensure soundness and accuracy of the study tools (effectiveness). 10 participants were used. The pre-test aimed at assessing accuracy, clarity and approximate time needed for each tool and thus validating the tools.

3.9 Quality Assurance Procedures

The study proposal was reviewed by the University Of Nairobi Department Of Psychiatry and Kenyatta National Hospital – University of Nairobi Ethics and Research Committee. The Ethics and Research committee ensured that the proposal passed the quality threshold and the researcher fully understood their area of study, including potential risks and benefits. The researcher was on residency at the University of Nairobi and had received training on the research methods and data collection tools required for the study. She worked under the guidance of University of Nairobi Supervisors.

The researcher ensured that the data collected including any research material are stored in a lock and key cabinet and only accessible to the researcher as hard copies. The soft copies were stored in a Microsoft database that is password protected to preserve the confidentiality of all participants involved in the research study. Double entry and checking procedures was done in the entry of data, to reduce error. The results of the research were presented to the University of Nairobi Department of Psychiatry and Kenyatta National Hospital – University of Nairobi Ethics and Research Committee for peer review.

3.10 Data Management Procedure

Data from the study questionnaire was checked after each participant fills, for completeness. The researcher had the data cleaned and computerized ready for analyses by the statistician. The hard data was stored in a lockable cabinet while the soft data extracted from the questionnaires and CDI was coded for easier detection of errors using STATA software, version 11.2 for analysis and later on stored into a password-protected

Microsoft Access Database. The results were presented in narration, tables, graphs and charts. The researcher submitted the final research in both hard and soft copy to the University of Nairobi (UoN), Department of Psychiatry for marking and later on assessment.

3.11 Ethical Considerations

3.11.1 Approval for the study

Approval was sought from UoN Department of Psychiatry and Ethics and Research Committee of Kenyatta National Hospital (ERC/KNH). Permission was also sought from UoN management before carrying out the study.

3.11.2 Approval for tools

Application for permission to use the CDI was sought in writing and granted (appendix 11).

Permission to download and use the CYRM was given with condition that citation is done (appendix 12).

3.11.3 Informed Consent/Assent

Study participants received adequate information about the study and potential risk and benefit to ensure that they give informed consent/assent as per the explanation given.

The caregiver first received the explanation about the study in simple and clear language they could understand and their questions addressed. When a caregiver consented to the study then they were asked to bring in their child who was also told about the study in simple words and a language they are comfortable with, that is English or Kiswahili. When the child assented by giving verbal affirmation, then the caregiver was asked to sign informed consent form which the researcher kept. The caregiver was given a copy of their respective consent/assent form for record keeping. Only after this were the research tools given to the respondents.

3.11.4 Privacy and Confidentiality

The caregivers were attended to individually in a room separate from the general ward section to minimize neighbours' comments or intimidation. Confidentiality observed throughout the whole process of data collection and data management. No identifiers were put on the study instruments and only serial numbers were used instead of names. The researcher did not disclose identifiable data to anyone so as to avoid social or psychological trauma. Serial numbers instead of names were used in the consent documents and study questionnaires. A link log that helped trace the patients with severe psychopathology was only accessible to the researcher. The information collected was kept in a lock and key cabinet and only accessible to the researcher when needed. Once the data was entered into the computer, it was stored in password protected folder and the researcher allows the supervisors only upon request to access the research materials, for maximum 5 years then all the data shall be deleted.

3.12 Benefits of the study

- The results of this study will be useful for clinicians at KNH and other hospitals in Kenya to improve for the management of children with depressive disorders
- The Findings of the Study are recommended to the Ministry of Health to guide in policy making for child mental programs in the hospital as well as the community.
- Children found with depression in the study were guided to appropriate treatment at the facility, which is good because ordinarily they would rarely get diagnosed and therefore live with poor prognosis of the illness.

3.13 Risks of Study

There were no harmful physical effects on the participants since the study is non-invasive and only pen and paper will be used. However, by use of research instruments, the study had the potential to evoke emotions of participants by recalling any traumatic experiences in the past for example bereavement. Only valid consent and assent was solicited. Dissent and declined consent was respected and confidentiality was assured to participants. The

researcher was proactive in the ongoing assessment of a child's or caregiver's agreement to participate in the research. In the event of distress on any participant, the researcher debriefed the participant and then referred them for counseling when needed.

By virtue of their age and size children are prone to emotional distress when exposed to strangers. In this study the caregiver first received the study information and only called in their child after establishing safety for them. The researcher was not left to interact alone with the child, to minimize the discomfort. The researcher was also cognizant of dynamics of dissent to withdraw a child when it is valid.

CHAPTER FOUR: RESULTS

4.1 Introduction

In this chapter the results of the study are presented, with respect to the objectives. It discusses the socio-demographic profiles of the chief respondents, the children hospitalized at KNH, their performance on depression scale as well as on the resilience scale. The results are given in tables and figures as appropriate.

The socio-demographic questionnaire, CDI and CYRM responses were coded and entered into Excel. In order to minimize errors, the data was entered by 2 independent data entry personnel. Data cleaning was done and the validated data set transferred to STATA software, version 11.2 for analysis.

The prevalence of depression was estimated at 95% confidence level. For descriptive statistics, continuous variables were summarized using mean, median and interquartile range and presented in tabular form. Categorical data was presented in proportions (percentage).

Univariable and multivariable logistic regression was conducted to test the association between possible risk and resilience factors and depression. In the univariable analytic model, predictors were evaluated using a likelihood ratio test (LRT) at a liberal p value of <0.20. This helps to rule out negative confounding and spurious associations. Only the variables found to be significant in the univariable model were added to the multivariable model. Using a backward stepwise approach, variables with a p-value >0.05 were eliminated so long as their exclusion from the model did not result in more than 30% change in the effects of the remaining variables. The final model was assessed for significance.

4.2 Response Rate

A total number of 80 children were interviewed as well as their caretakers on the ward. 16 children were successfully found from each of the 5 children wards at the hospital by visiting the wards on different days in the month of September 2019. The data collection tools were administered to all the 80. However, data from children with Down's syndrome (total of two children) was excluded from analysis for not meeting reading level for the CDI tool.

4.3 **Proportion of depression in physically ill children**

A considerable number of children were found to have depressive symptoms, with the total proportion being 30.77% as depicted in figure 2. Most of the children with depressive symptoms fell in the high average (mild depression) range with 5 children in the very elevated or severe depression range as seen in table 2.

Figure 3

Proportion of depression in physically ill children in KNH

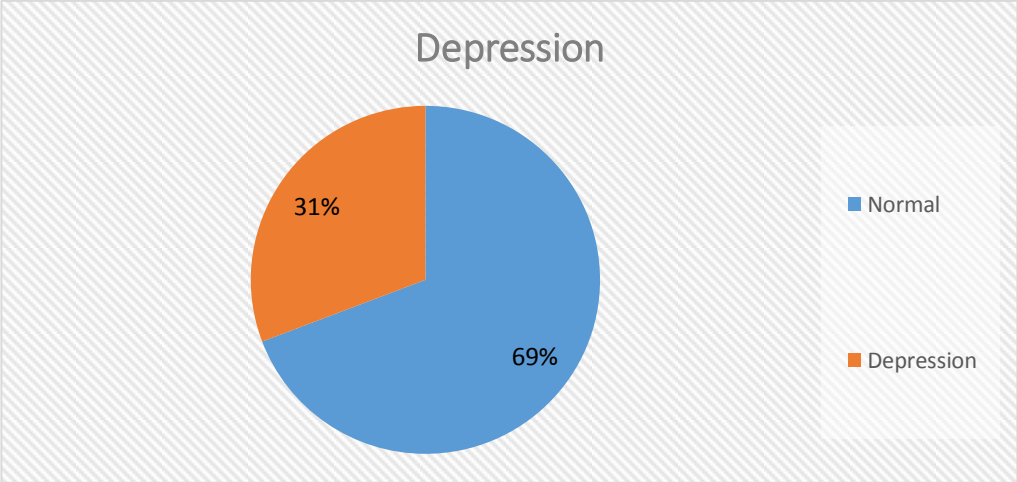


Table 2

T-score distribution among physically ill children in KNH

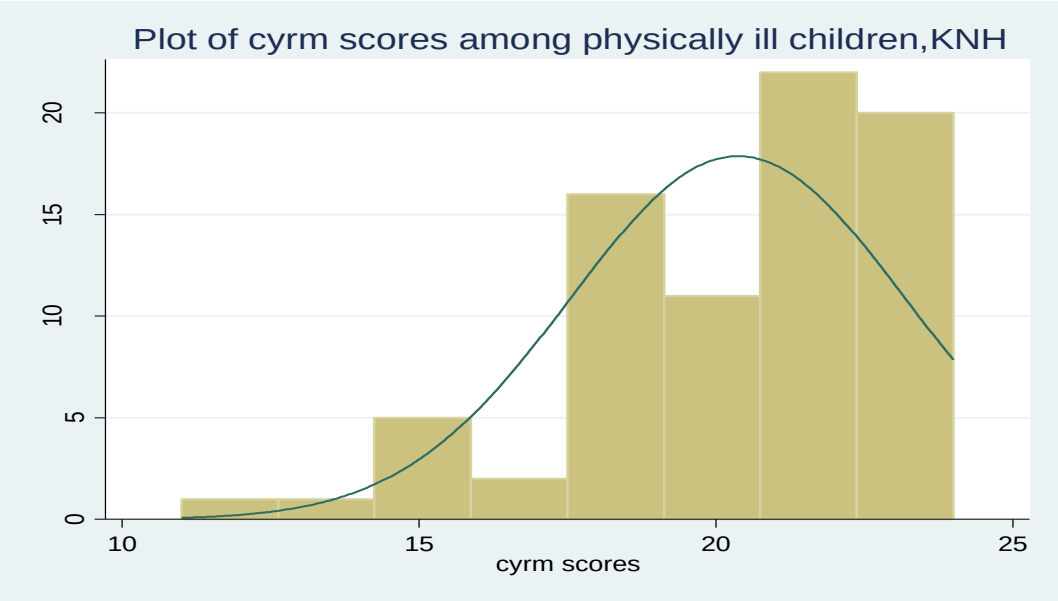
CDI Classification by T-score	Frequency (n)	Percentage
Average or lower (0-59)	54	69.23
High average (60-64)	14	17.95
Elevated (65-69)	5	6.41
Very elevated (>70)	5	6.41

4.4 **Resilience measure of physically ill children**

Score on CYRM range from 0 for the least resilience to 24 for highest resilience. The child with the least resilience scored 11 while the highest was 24. Median CYRM score was 21 with a mean of 20.37 (s. d.=2.82) as depicted in figure 3.

Figure 4

Resilience measure of physically ill children in KNH



4.5 Individual Sociodemographic data of physically ill children

For the individual child characteristics which fall in the first level of influence for disease occurrence, age range was 7 to 13 years with slightly more females than males. Most of them were Christians and had been ill for averagely 18 months. This is depicted in table 3. Most children were suffering from chronic diseases with cancer at 47 of the 80 children as seen in table 4. Some had two diagnoses.

Table 3

Descriptive statistics of respondents' individual data (n=78)

Variable	Values	Median	Inter-Quartile Range (IQR)	Mean	Frequency n (%)
Age (years)	7 – 13	10	4	10.03	-
Sex	Male	-	-	-	36 (46.15)
	Female	-	-	-	42 (53.85)
Religion	Christian	-	-	-	76 (97.44)
	Muslim	-	-	-	2 (2.56)
Duration of illness (Months)	0 – 96	12	20	18.26	-
Hospital stay (months)	0 – 24	1.5	6	3.92	-
No. of admissions	1 – 10	2	2	2.41	-
Traumatic experience	Yes	-	-	-	32 (41.03)
	No	-	-	-	46 (58.97)

Table 4

Descriptive statistics of respondents' physical illness (n=80)

Variable	Values	Frequency n (%)
Diagnosis	Cancer	47 (58.02)
	Diabetes	7 (8.64)
	Hematological	9 (11.11)
	Kidney disease	7(8.97)
	Heart disease	6 (7.41)
	Epilepsy	4 (4094)
	Asthma	2 (2.47)
	Down Syndrome	2 (2.47)
	Other	1 (1.23)
	Unknown	3 (3.70)

4.6 Relational Sociodemographic data of physically ill children

Relational factors refer to family and home situations for these children. As shown in table 5, most of them hailed from small size families with mean of 2.45 children and most caretakers were parents, especially the mother for 65 children. Most parents were biological, who did business for a living and only 20 caretakers used substances like alcohol or cigerate.

Table 5

Descriptive statistics of respondents' Relational factors (n=78)

Variable	Values	Frequency n (%)
No. of other children on household	Mean 2.45	-
Other child with illness in household	Yes No	11 (14.10) 67 (85.90)
Ward caretaker	Mother Father Self Other relative	65 (80.25) 7 (8.64) 2 (2.47) 7 (8.64)
Parental status	Both parents Single mother Single father Orphan	49 (63.64) 24 (31.17) 1 (1.30) 3 (3.90)
Primary guardian	Biological parent Relative adult	69 (88.46) 9 (11.54)
Guardian occupation	Business Casual laborer Farmer Other None	42 (51.85) 16 (19.745) 3 (3.70) 6 (7.41) 14 (17.28)
Alcohol intake	Never Rare Often	62 (79.49) 10 (12.82) 6 (7.69)
Tobacco use	Never Rare Often	74 (94.87) 3 (3.85) 1 (1.28)

4.7 Contextual Sociodemographic data of physically ill children

Factors relating the child's society are shown in table 6. 96.15% of the children attended school while 3 had stopped schooling due to the effects of their illness.46 children were aware of their reason for hospitalization while 48 reported engagement in recreational activities on the ward.

School level ranged from pp 2 to form one with a median of grade 4 while days missed from school due to illness ranged from zero to 36 months with a mean of 5.21 months.

Table 6

Descriptive statistics of respondents' Contextual factors (n=78)

Variable	Values	Frequency n (%)
School attendance	Yes	75 (96.15)
	No	3 (3.85)
School level appropriateness	Yes	66 (85.71)
	No	11 (14.29)
Mode of study	Day	72 (93.51)
	Boarding	4 (5.20)
	None	1 (1.30)
Diagnosis awareness	Yes	46 (58.97)
	No	32 (41.03)
Ward recreation activities	Yes	48 (61.54)
	No	30 (38.46)

4.8 Logistic Regression analysis

Mean CYRM score for children who did not know their diagnosis was 20.34 while for children who knew was 20.39. The p-value of 0.94 did not show strong evidence for statistically significant difference between the 2 means.

Mean CYRM score for children without h/o trauma was 20.76087 while for children with h/o trauma: 19.8125. The p-value, 0.1464 showed no statistically significant difference between the 2 mean

Only four factors were found to have a statistically significant association with depression in the univariable model at a liberal p-value of 0.20. Age had 0.12, appropriate

school level was 0.04, duration of illness was o.13 and CYRM was 0.001. These factors qualified for addition to the multivariable model.

Three of the factors (age, school level appropriateness and duration of illness) were subsequently not found to be statistically associated with depression in the multivariable model at p-value <0.05. Dropping each of these 3 factors from the multivariable model resulted in less than 30% change in the effect of the other variables on depression.

CYRM score was found to have a statistically significant association with depression (p=0.002) at 95% confidence level. There is roughly 0.3 times less odds of depression with every unit increase in CYRM score. (OR=0.689, 95% CI=0.54-0.87). this is depicted in table 7.

Table 7

Multivariable analysis of risk and resilience factors associated with depression (n=78) by use of logistic regression model

Variable	**Values**	**Depression + (n=28)**	**Depression - (n=50)**	**OR**	**95% Confidence interval**		**LRT P-value**
					Lower	Upper	
Age	7-14	28	50	0.81	0.60	1.09	0.164
School level appropriateness	Yes No	20 7	46 4	0.32	0.07	1.42	0.136
Duration of illness(months)	0-96	28	50	1.01	0.99	1.04	0.271
CYRM	11-24	28	50	0.689	0.54	0.87	0.002

4.9 Scaled Relationship of CYRM score and CDI Score

The relationship between CDI and CYRM scores was found to be linear and inverse as shown in figure 5. The higher the CYRM score, the lower the CDI score and vice versa. 23.84% of the variation in CDI was explained by CYRM score(R-squared=0.2384) as seen in table 8. We are 95% confident that, the true regression coefficient for CYRM scores in this population lies between -0.7141 and -0.3000 ($p<0.0001$) For every unit increase in CYRM, the CDI score of an average child decreases by 0.507 units (Regression coefficient=-0.507). There is a negative correlation between CDI and CYRM (correlation coefficient=-0.4882)

Figure 5

Relationship between CDI and CYRM scores

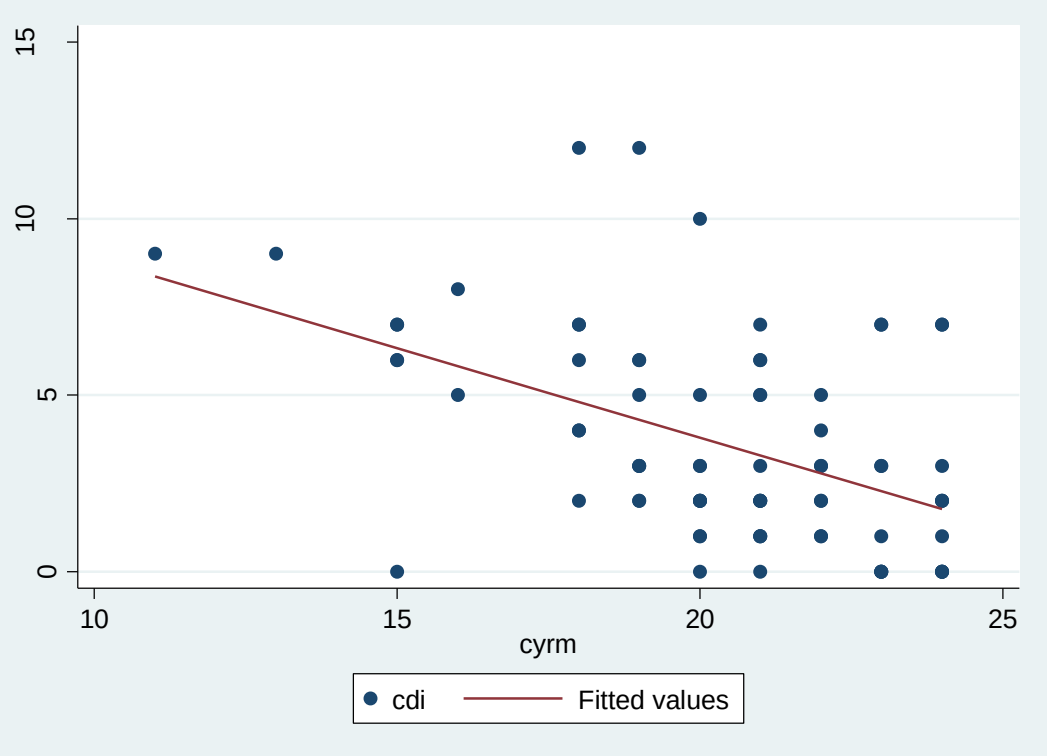


Table 8

Regression analysis of CYRM score on cdi score.

Source	SS	df	MS	Number of obs =	78
Model	158.450797	1	158.450797	F(1, 76) =	23.79
Residual	506.22869	76	6.66090382	Prob > F =	0.0000
Total	664.679487	77	8.63220113	R-squared =	0.2384
				Adj R-squared =	0.2284
				Root MSE =	2.5809

cdi	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
cyrm	-.5070842	.1039679	-4.88	0.000	-.7141542	-.3000141
_cons	13.93278	2.138078	6.52	0.000	9.674427	18.19113

CHAPTER FIVE: DISCUSSION

5.1 Introduction

This study was done with a background that studies in Kenya have demonstrated prevalence and to some extend risk factors in childhood depression (Ndetei et al, 2009, Kamau et al, 2017). However, they were not able to show resilience associations in these children, which is relevant when considering holistic approach to disease management (Hayden et al., 2014), This study shows the proportion of depression among hospitalized children as 30.8%, and demonstrates that resilience correlates negatively with depression. Child's age, illness duration and schooling were significant correlates for depression.

5.2 Burden of depression

The overall proportion of children with depression was high, 30.8%, which was an expected result considering that the WHO data rates depression as a big burden. This is in agreement with findings by Esmaeeli et al., (2014) where depression was detected in various degrees in 63% of patients, as well as Ndetei et al. (2009) who found 41.3% depression in children attending at nine medical facilities and 13.9% depression found by Kamau et al. (2017) in outpatient children in Kenya.

In comparison to other inpatient populations, in this study the proportion was a little lower. This may be due to the inclusion of much younger children (7 years) unlike Esmaeeli's mean 11 years and Ndetei's age range of 11-17 years. It's believed that children lack the mature psychologic and cognitive structure to experience mental distress (Ewan Gillon, 2015). However, with the presumed rise of depression morbidity globally, (World Health Assembly, May 2013) this study chose to explore the largest possible age range. Considering that the abstract thinking in younger children in is underdeveloped, the depression tool (CDI) may not have been best placed for the very young children, as there are other ways of recognizing mental illness in children for example expressive therapy. Going by WHO recommendations that the right thing to do is to provide child mental health services (Eggertson, 2005), this results emphasize the

unmet need of childhood depression, therefore a child's age should not be the hindrance to optimum care.

5.3 Resilience Profile

The data suggests a high median CYRM score at 21 with a mean of 20.37 (s. d.=2.82) with the p value (0.002) at 83% of total score. This shows significant inverse association with depression giving odds ratio of 0.689. There is roughly 0.3 times less odds of depression with every unit increase in CYRM score. In other words, these children have a range of resources that lessen the risk of getting depression or positively help them to adapt during significant adversity like the physical illness they have.

This resonates with findings in primary schools in China, in which resilience related negatively with depression since the subclinical depressive symptoms were significantly lowered (Stewart & Sun, 2012), as well as in South African where resilience related positively with reduced depression index in school children (Govender et al., 2017). The Protective Model explains that each additional resilience factor further weakens the relationship between adversity and negative outcomes, and individual protective factors can strengthen the buffering effects of other factors (Hollister-Wagner et al., 2001). This is the first study in Kenya that assesses resilience in children and relate it to depression in hospitalized children, and this finding means that strengthening the available resilience factors could steadily lessen child depression occurrence and improve the experience for already depressed children, thus assuring the children of healthier future.

Since resilience is not necessarily inborn, it can be created with time and resources. A collective devotion to the resilience wealth available for the children will help to alleviate stress and guarantee a thriving childhood (Day, 2017).

5.4 Individual Factors

In line with the hypothesis, there are individual factors related to depression with age and duration of illness showing the strongest relationships.

5.4.1 Age

The results indicate a positive correlation between increase in age and proportion of depression, although ultimately not statistically significant as reported by other studies.

Esmaeeli et al., (2014) also found a significant correlation between pubertal age and severity of depression in patients with cancers and chronic renal failure. Similarly, an age correlation was noted in children and adolescents in Kenyan schools (Ndetei et al., 2008). Khasakhala et al., (2013) noted that occurrence of MDD was associated with late adolescence, 16 to 18 years (OR = 2.66, 95% CI 1.40 to 5.05, p = 0.003), but marginally associated with younger adolescents 13 to 15 years (OR = 1.93, 95% CI 0.93 to 4.01, p = 0.078). All this seems to support the narrative that children lack the mature psychologic and cognitive structure to experience mental distress (Ewan Gillon, 2015).

5.4.2 Type of illness

The results indicate that most children had cancer at 47%, with very few acute cases at 1%. There was however no statistically significant correlation for any illness with depression. This was expected since most hospital stays are accounted for by chronic illnesses.

Similar results were reported by Arabiat, Elliott, & Draper, (2012), in Jordan who did not record a difference in the presence of depressive symptoms in pediatric patients with cancer and other chronic illness as well as healthy children, using the Arabic version of CDI. It is important to report that some studies (Hysing et al., 2007), (Glazebrook et al., 2003) note that chronic conditions have proved to be a recipe for depression and this was characteristic in Esmaeeli's study among cancer and chronic kidney disease (Esmaeeli et al., 2014) in which severe depression was not seen in any of the patients with acute illness yet more than half of patients with cancer and chronic kidney disease had moderate to severe depression. Kamau, J. (2012, thesis) also found correlation among children and adolescents living with HIV in Kenya in which there was 17.8% major depression. However, in this study only 1% participants had acute illness therefore comparison between acute and chronic was not feasible.

It is notable that children with Down's syndrome were excluded from the CDI and CYRM rating since their school grade was below the academic level of the tools. Their low numbers too were not of statistical importance to make correlations. The researcher however acknowledges the result by Kinyanda et al who reported that intellectual disability was protective against depression among the Northern Uganda children.

5.4.3 Duration of illness

There were notably long hospital stays (18 months) with statistically significant relation to depression as seen in odds ratio 1.01 and p value o.271. This agrees with findings of Esmaeeli et al, (2014) who noted the average stay in hospital of 8 days and that children who stayed longer developed more depressive symptoms. There was a significant statistical relationship between the duration of illness and severity of depression.

Esmaeeli also found a significant correlation between severity of depression and frequency of hospitalization. Children who had been hospitalized more than 3 times in the previous year, experienced more severe levels of depression. It is postulated that long hospital stays impact negatively on a child's mental health. In this study however, frequency of admissions did not record statistically significant results. It is possible that having most children with chronic illness which is a greater influence on depression, the admissions' effect could not be noticed.

5.4.4 Other individual factors

Gender, religion, length of hospital stay and presence of traumatic experience had subtle relations with depression since they were not statistically significant even at the univariate analysis.

There was a similar result where there was also no significant difference between boys (OR = 2.10 CI 95% 1.56-2.83) and girls (OR = 2.11 CI 95% in a study (Hysing et al., 2007) that examined emotional disturbances in school children with a chronic illness, which led Hysing to conclude that social amenities probably help to harmonize children's cognition. This is however not the case by some studies which noted that sex influences

depression experience. In the meta-analysis of studies in 30 countries (Lim et al., 2018) there was higher aggregate prevalence rates in females (14.4%) compared to the average aggregate (12.9%). Looking at parents' response to a child's poor conduct, the father's impact was notable only in boys, and the male's dangerous actions were credited largely to fixed factors , while parents anticipated to change the factors ascribed to the girl's dangerous conduct (Morrongiello & Hogg, 2004). Locally, variations in gender were also identified among school children (Ndetei et al., 2008).

The different result in this study implies that contextual factors, as Hysing inferred, do refine the disease experience in children. Additionally, the influence of traumatic experiences is usually noted later in life (WHO, 2018), so it's important to identify victims for preventive programs.

5.5 Relational Factors

Contrary to the hypothesized association that guardians are ordinarily basic in connection to family components and by default also blend the child with community elements, (Masten & Barnes., 2018), the relational factors in this study did not seem significant. The parenting and caretaker status, number of children in a household and other sick people in the house had no statistically significant correlation with depression.

This however differs with findings by some studies. Ndetei et al., (2008) found that adolescents who sensed a mother's estrangement ($p<0.001$) with no psychological connection ($p<0.001$), and lack of a father's psychological connection ($p<0.001$) with non- protective behavior, as well as perceived maladaptive parental behaviors scored higher for depression. In addition, countries with lower human development index (HDI) reported more depression (29.2%) than aggregate (12.9%) in the met-analysis of 30 countries (Lim et al., 2018) and Kinyanda et al., (2013) found types of living arrangements and fights at home contributing significantly to depression scores. I suppose that this study found variations because most caretakers were mothers which posed homogenous demographics.

5.6 Contextual Factors

5.6.1 Schooling

There were high rates of attending school with high level of appropriateness of school level. School level related with depression with statistically significant association, with Odds ratio of 0.32 and p value of 0.136. This seems to resonate with the age factor which already showed positive relation to depression. However, since the general narrative that not attending school or poor performance as well as lack of stimulation point to incompetence which is a risk factor for depression, it seems like the child's age is a stronger determinant of depression experience than schooling. A study found positive impact of boarding school (p=0.01) on depressive symptoms among adolescents in Kenya (Khasakhala et al., 2013) . In this study however, data for boarding school was minimal for making adequate comparison.

5.6.2 Other contextual factors

The null hypothesis is held here observing that availability of recreation activities at 48% did not offer statistically significant correlation with depression. However, its presence could explain the high resilience in these children, as well as the lower depression proportion in comparison to the previous studies by Esmaeeli et al., (2014) at 63% and Ndetei et al. (2009) at 41.3%. These are some of the facilities that may have to be strengthened to foster more resilience in the children.

Diagnosis awareness at 46% did not offer statistically significant association with depression. Nevertheless, since among resilience impartation programs there is the Clinician-based family approach to accord a better understanding of illness experience to the child and encourage the parents to identify and foster resilience in their children, such information is relevant to inform clinical management changes.

5.7 Conclusion

There is high prevalence of depression among hospitalized children at 35.9% with a high resilience capital at 83%, and resilience correlates negatively with depression. The older the child and the longer the illness duration, the higher the depression scores, and schooling also correlated positively with depression. There are many resilience factors available for children. However, there seem to be gaps in employing more holistic approach in diagnostics to capture this illness as well as providing ideal hospital and community environment for children. It is therefore advisable to consider more practical plans to improve the care for hospitalized children's mental health.

5.8 Study Limitations

5.8.1. Since the study took place in only one hospital, the results may not be generalized.
Delimitation: Nevertheless, KNH is the main national referral hospital in Kenya so patients are drawn from most regions in the country. Furthermore, from the results of Ndetei et al (2009) the highest depression scores were recorded in KNH so assessing the resilience of children in that same set up forms a relevant addition of information.

5.8.2. Removal of data from children with Down's syndrome since they did not have intelligence capacity to fill the CDI tool.
Delimitation: The numbers were small (2 children) and inclusion would give false extreme values that may have affected correlations.

5.9 Recommendations

- This study uniquely explored explore both protective and harmful childhood depression correlates and results are insightful. Considering the small study sample, more similar studies can be done on larger number of children to provide a more exhaustive backdrop for management of depressive illness in children.

- The findings from this study reveal that there are programs at schools and hospital that motivate children to resist depression. We recommend that the Ministry of health in collaboration with Ministry of Education revise existing programs to include more activities that foster resilience in children. These include:

    i. Community prevention & school-based programs to enhance a pattern of positive thinking in children and adolescents, like bonding with positive and competent adults.

    ii. Clinician-based family approaches to accord a better understanding of illness experience for both child and caretaker.

    iii. Combined cognitive and social problem-solving techniques that eventually produce a healthy childhood, for example healthy mind habits.

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APPENDICES

Appendix 1: SDQ (English)

Questionnaire Number ….....

1. Child's age (years) …….
2. Child's gender Female ☐ Male ☐

3. Is the child attending school Yes ☐ No ☐

   If yes, state a) Class/grade ……

   b) Age appropriate? Yes ☐ No ☐

   b) School ……

   c) Mode of study Day ☐

   Boarding ☐

   Other (Specify) ……..

   d) Number of days missed from school due to illness……

4. Are there any recreation activities on the ward?

   Yes ☐ No ☐

   If Yes, specify …….

5. What is the child's illness/ medical diagnosis? ……

6. How long has the child been ill? …….

7. How long has the child stayed in hospital? ……

8. How many times has the child been admitted in their life?……..

9. Does the child understand their disease? Yes ☐ No ☐

10. Has this child ever gone through a very disturbing experience?

Yes ☐ No ☐

If yes, specify…….

11. What is the child's religion? Christian ☐ Muslim ☐

Hindu ☐ Other (specify)……..

12. How is the child related to his/her caretaker on the ward?…….

13. Parental Status

Both parents alive ☐

Single parent ☐ Mother ☐ Father ☐

Orphan ☐

14. Primary guardian

Biological parent ☐

Relative adult ☐

Non-relative adult ☐

Self ☐

Other …….

15. Guardian's occupation……

16. Does the primary guardian consume any of the following? Tick as appropriate.

	Never	Rare/ Occasional	Often
Alcohol			
Tobacco			
Other Drugs (Specify) ……..			

17. How many other children are there in the household?.....

18. Is there anyone else in the household who has been ill for more than two weeks?

Yes ☐ No ☐

Appendix 2: SDQ (Kiswahili)

Nambari ya Fomu ….....

1. Umri wa mtoto (Miaka) …….
2. Jinsia Msichana ☐ Mvulana ☐
3. Je, mtoto anaenda shule? Ndiyo ☐ La ☐

Ikiwa ndiyo a) Darasa la ……

b) Umri unalingana na darasa? Ndiyo ☐ La ☐

c) Shule ……..…

d) Aina ya shule Ya Siku ☐

Ya Bweni ☐

Nyingine (fafanua) ……..

d) Amekosa kwenda shule siku ngapi kwa sababu ya kuugua?……

4. Kuna burudani yoyote anapata hapa hospitalini?

Ndiyo ☐ La ☐

Kama ndiyo, zipi?..... …….

5. Dini ya mtoto ni ipi? Mkristo ☐ Muislamu ☐

Mhindu ☐ Nyengine (sema ipi)……..

6. Mwanao anauguwa nini? ……
7. Ameuguwa kwa mda gani sasa? …….
8. Mwanao ameishi hospitalini kwa mda gani sasa? ……
9. Ni mara ngapi mwanao amelazwa hospitalini tangu kuzaliwa kwake?……..

10. Mwanao anafahamu anauguwa maradhi gani? Ndiyo ☐ La ☐

11. Mwanao ashawahi kupitia tukio la kutisha?

Ndiyo ☐ La ☐
Kama ndiyo, lipi?…….

12. Mtoto ana uhusiano gani na anayemtunza hospitalini?……

13. Hali ya wazazi
- Wote wako hai ☐
- Mzazi mmoja Mama ☐ Baba ☐
- Yatima ☐

14. Mlezi
- Mzazi ☐
- Jamaa mzima ☐
- Sio jamaa ☐
- Mwenyewe ☐
- Nyengine …….

15. Ajira ya mlezi……

16. Je mlezi anatumia chochote kati ya hizi? Weka alama ya kijiti.

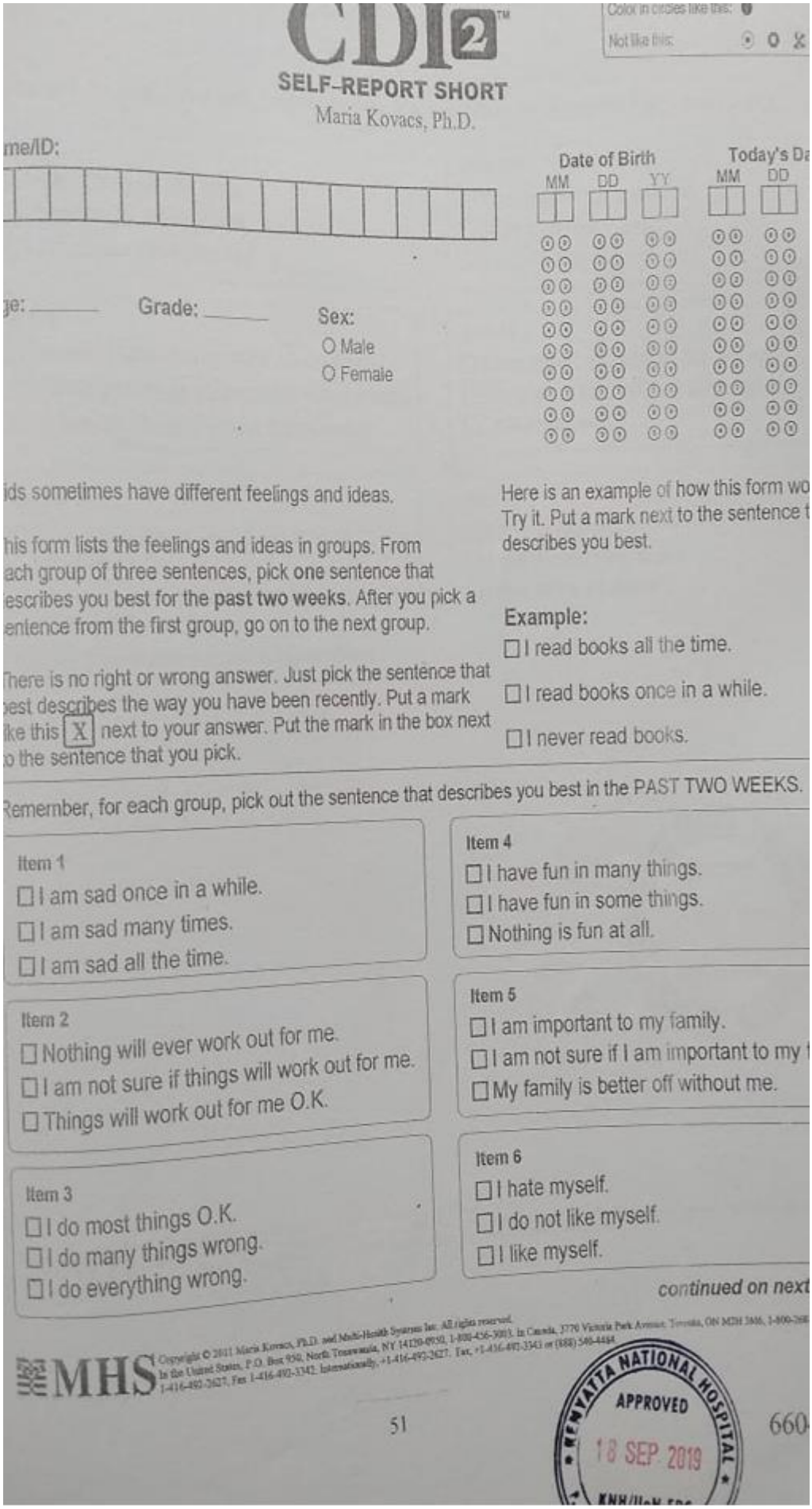
	Hajawahi	Mara chache	Mara nyingi
Pombe			
Sigara			
Dawa nyengine (Specify) ……..			

17. Ni watoto wangapi wengine wanaishi kwa hiyo nyumba?.....

18. Kuna mtu yeyote kwenye nyumba hiyo ambaye amewahi kuugua kwa zaidi ya wiki mbili?

Ndiyo ☐ La ☐

Appendix 3: CDI-2 (English version)



CDI 2™

SELF-REPORT SHORT

Maria Kovacs, Ph.D.

Color in circles like this: ●

Not like this: ⊙ ⊘ ✕

me/ID:

Date of Birth MM DD YY

Today's Da MM DD

ge: _____ Grade: _____

Sex:
O Male
O Female

ids sometimes have different feelings and ideas.

his form lists the feelings and ideas in groups. From ach group of three sentences, pick **one** sentence that escribes you best for the **past two weeks**. After you pick a entence from the first group, go on to the next group.

There is no right or wrong answer. Just pick the sentence that best describes the way you have been recently. Put a mark like this [X] next to your answer. Put the mark in the box next to the sentence that you pick.

Here is an example of how this form wo Try it. Put a mark next to the sentence t describes you best.

Example:
☐ I read books all the time.
☐ I read books once in a while.
☐ I never read books.

Remember, for each group, pick out the sentence that describes you best in the PAST TWO WEEKS.

Item 1
☐ I am sad once in a while.
☐ I am sad many times.
☐ I am sad all the time.

Item 2
☐ Nothing will ever work out for me.
☐ I am not sure if things will work out for me.
☐ Things will work out for me O.K.

Item 3
☐ I do most things O.K.
☐ I do many things wrong.
☐ I do everything wrong.

Item 4
☐ I have fun in many things.
☐ I have fun in some things.
☐ Nothing is fun at all.

Item 5
☐ I am important to my family.
☐ I am not sure if I am important to my
☐ My family is better off without me.

Item 6
☐ I hate myself.
☐ I do not like myself.
☐ I like myself.

continued on next

MHS

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APPROVED
18 SEP 2019

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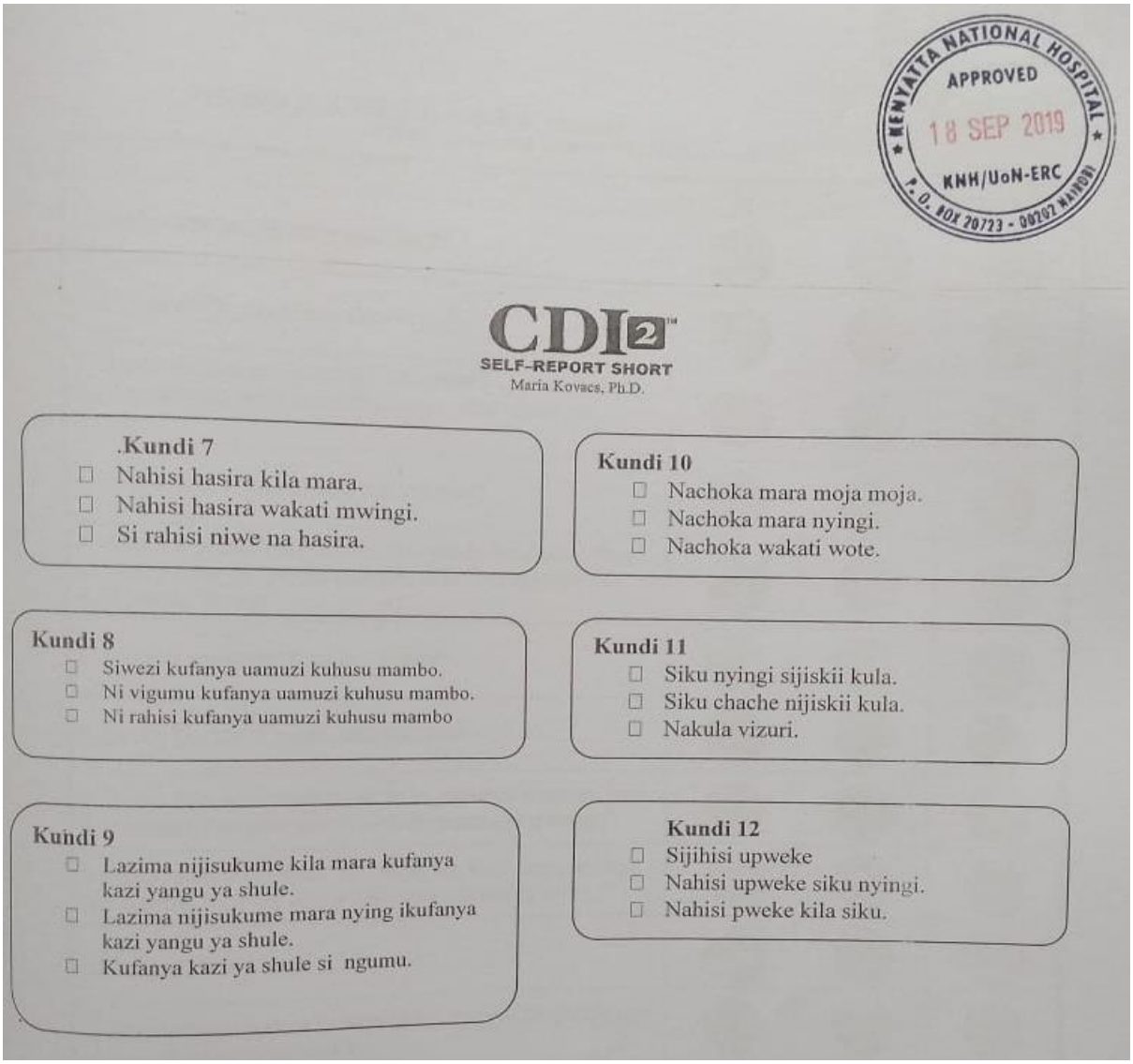
Appendix 4: CDI-2 (Kiswahili version)



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CDI 2
SELF-REPORT SHORT
Maria Kovacs, Ph.D.

.Kundi 7
- ☐ Nahisi hasira kila mara.
- ☐ Nahisi hasira wakati mwingi.
- ☐ Si rahisi niwe na hasira.

Kundi 10
- ☐ Nachoka mara moja moja.
- ☐ Nachoka mara nyingi.
- ☐ Nachoka wakati wote.

Kundi 8
- ☐ Siwezi kufanya uamuzi kuhusu mambo.
- ☐ Ni vigumu kufanya uamuzi kuhusu mambo.
- ☐ Ni rahisi kufanya uamuzi kuhusu mambo

Kundi 11
- ☐ Siku nyingi sijiskii kula.
- ☐ Siku chache nijiskii kula.
- ☐ Nakula vizuri.

Kundi 9
- ☐ Lazima nijisukume kila mara kufanya kazi yangu ya shule.
- ☐ Lazima nijisukume mara nying ikufanya kazi yangu ya shule.
- ☐ Kufanya kazi ya shule si ngumu.

Kundi 12
- ☐ Sijihisi upweke
- ☐ Nahisi upweke siku nyingi.
- ☐ Nahisi pweke kila siku.

Appendix 5: CYRM-12 (English Version)

Appendix 5: CYRM-12 (English Version)

Please circle one answer for each question.

	No	Sometimes	Yes
1. Do you have people you want to be like?			
2. Is doing well in school important to you?			
3. Do you feel that your parent(s)/ caregiver(s) know a lot about you (for example, what makes you happy, what makes you scared)?			
4. Do you try to finish activities that you start?			
5. When things don't go your way, can you fix it without hurting yourself or other people (for example, without hitting others or saying nasty things)?			
6. Do you know where to go to get help?			
7. Do you feel you fit in with other children?			
8. Do you think your family cares about you when times are hard (for example, if you are sick or have done something wrong)?			
9. Do you think your friends care about you when times are hard (for example if you are sick or have done something wrong)?			
10. Are you treated fairly?			
11. Do you have chances to show others that you are growing up and can do things by yourself?			
12. Do you like the way your family celebrates things (like holidays or learning about your culture)?			

Liebenberg, L., Ungar, M., and LeBlanc, J. C. (2013). The CYRM-12: A brief measure of resilience. *Canadian Journal of Public Health*, 104(2), 131-135.

Appendix 6: CYRM-12 (Kiswahili version)

Appendix 6: CYRM-12 (Kiswahili version)

Tafadhali chagua moja kwa kila swali.

	La	Mara chache	Ndiyo
1. Kuna watu ungependa kuwaiga?			
2. Kufanya vyema shuleni ni muhimu kwako?			
3. Unahisi kama mzazi au mlezi wako anajua mengi kukuhusu (kama yanayokufurahisha au kukukasirisha?			
4. Wewe hujaribu kumaliza kazi unayoianza?			
5. Mambo yasipoenda unavyopenda, unaweza kutatua bila madhara kwako au kwa wengine (kama bila bila kupiga mtu au kutamka vibaya)?			
6. Unajua pa kupata usaidizi?			
7. Unahisi kwamba unatangamana vyema na watoto wengine?			
8. Unaona kama familia yako inakujali wakati wa shida (kama ukiwa mgonjwa au umefanya makosa)?			
9. Unaona kama rafiki zako wanakujali wakati wa shida (kama ukiwa mgonjwa au umefanya makosa)?			
10. Huwa unahudumiwa vizuri?			
11. Huwa unapata nafasi ya kuonyesha wengine kwamba unakuwa mkubwa na unaweza kujifanyia mambo?			
12. Unapenda jinsi familia yako husherehekea mambo (kama sikukuu au kujifunza tamaduni zenu)?			

Liebenberg, L., Ungar, M., and LeBlanc, J. C. (2013). The CYRM-12: A brief measure of resilience. *Canadian Journal of Public Health, 104*(2), 131-135.

Appendix 7: Caregivers Consent Form (English Version)

Title: Risk factors and Resilience for depressive illness among children Hospitalized in Kenyatta National Hospital.

Researcher: Dr. Milcah Adhiambo Olando, MMed Psychiatry Student University of Nairobi

Introduction

I would like to tell you about a study being conducted by the above researcher. The purpose of this consent form is to give you the information you will need to help you decide whether or not to allow your child to be a participant in the study. Feel free to ask any questions about the purpose of the research, what happens if you participate in the study, the possible risks and benefits, your rights as a volunteer, and anything else about the research or this form that is not clear. When we have answered all your questions to your satisfaction, you may decide to be in the study or not. This process is called 'informed consent'. Once you understand and agree to be in the study, I will request you to sign your name on this form. You should understand the general principles which apply to all participants in a medical research:

i. Your decision to participate is entirely voluntary
ii. You may withdraw from the study at any time without necessarily giving a reason for your withdrawal
iii. Refusal to participate in the research will not affect the patient's treatment in the hospital

I will give you a copy of this form for your records.

May I continue? YES / NO

This study has approval by The Kenyatta National Hospital-University of Nairobi Ethics and Research Committee, Protocol No. _____

This Informed Consent Form has two parts: Information Sheet (to share information about the research with you) and Certificate of Consent (for signatures if you agree to take part). You will be given a copy of the full Informed Consent Form

PART I: Information Sheet

Introduction

My name is Milcah A. Olando. I am a post graduate student undertaking a Master's of Medicine in Psychiatry, University of Nairobi. The study, Risk and Resilience factors for depressive illness among children in Kenyatta National Hospital, is a requirement for part fulfillment of the degree requirements.

I am going to explain about this research in detail in a language that you understand either spoken or written and invite you to voluntarily agree to participate. You are free to ask any question or seek clarification about the research during and after data collection using the contact address provided at the end of this document.

Purpose of the research

Purpose of the research is to find out the pattern of depressive illness among children on wards at KNH.

Benefits

There are no direct benefits of this study to you as an individual but from this study, however the results of these findings will allow us to know the depressive illnesses among the pediatric patients. The findings made will also be shared to the relevant stakeholders like Ministry of Health, to guide in policy making for the management of pediatric patients and proper planning and treatment of these disorders.

Risks

You will be required to only use a paper and pen and answer questions so no physical harm will come to you. However, in case of emotional distress kindly talk to the researcher.

Voluntary Participation

It is your choice whether or not to allow your child in the study, without repercussions in your treatment in the Hospital. If you feel like withdrawing, you can without any victimization.

Confidentiality

Your identity and the child's will not be disclosed or shared with anyone. To ensure confidentiality the data collection forms will bear codes instead of your child's name. Only the researchers will recognize what your number is and the collected data kept under lock and key. All the data and the information obtained during the study will be used for the sole purpose of meeting the objective of the study.

Duration

The data collection will take a period of 20 to 30 minutes. During this time, you will only be expected to answer the questions asked as outlined.

Contacts

Questions are welcome at the moment or later, even when the study is in progress. Feel free to contact researcher on 0716767631 or the supervisors Dr Manasi on 0717379687 and Dr. Kamau on 0722489273. You may also contact the KNH/UON-ERC on Email address uonknh_erc@uonbi.ac.ke; Website: http://www.erc,uonbi.ac.ke.

PART II: Certificate of Consent

If you decide you want to allow your child in this study, please sign below.

I voluntarily agree to my patient's participation in this research study: _____ (Signature/Thumb stamp)

_____ (Relationship)

Date: _____

Principle Investigator _____ (Signature)

Date: _____

I understand that the researcher will not identify me by name in any reports using information obtained from this interview and that my confidentiality as a participant in

this study will remain secure. Subsequent uses of records and data will be subject to standard data use policies which protect the anonymity of individuals.

The hospital's management and staff will neither be present at the interview nor have access to raw notes. This precaution will prevent your individual comments and that of the patient's from having any negative repercussions.

Contacts

Questions are welcome at the moment or later, even when the study is in progress. Feel free to contact researcher Feel free to contact researcher on 0716767631 or the supervisors Dr Manasi on 0717379687 and Dr. Kamau on 0722489273. You may also contact the KNH/UON-ERC on Email address uonknh_erc@uonbi.ac.ke; Website: http://www.erc,uonbi.ac.ke.

Statement of Consent

I have read this consent form. I have had the chance to discuss this research study with the researcher. I have had my questions answered in a language that I understand. The risks and benefits have been explained to me. I understand that my participation in this study is voluntary and that I may choose to withdraw any time. I freely agree to participate in this research study. Date: _____

Appendix 8: Caregiver's Consent Form (Kiswahili Version)

Andiko: Vyanzo na Ujasiri kwa Maradhi ya Kusononeka Miongoni mwa Watoto Wagonjwa katika Hospitali ya Kenyatta.

Mpelezi: Dr.Milcah A. Olando, Mwanafunzi Katika Chuo Kikuu cha Nairobi

Utambulisho

Ningependa kukueleza kuhusu andiko hili. Madhumuni ya fomu hii ni kukupa maelezo unayohitaji ili uamue iwapo utaruhusu mwanao ashiriki kwenye andiko hili. Jihisi huru kuuliza maswali ili uelewe kikamilifu. Tukiisha kujibu maswali yako yote utaamua iwapo utashiriki. Huu mchakato unaitwa idhini yenye taarifa. Iwapo umeelewa na kukubali kuhusika kwa andiko hili,nitakupa fomu ya kutia sahihi. Ni vyema uelewe vipengele kadhaa kuhusiana na upelelezi kweny maswala ya afya:

i. Uamuzi wako kushiriki ni kwa hiyari yako
ii. Una uhuru wa kujiondoa kwenye upelelezi wakati wowote bila kushurutishwa
iii. Kujiondoa kwenye upelelezi hautaathiri matibabu ya mwanao hospitalini

Nitakupa nakala ya fomu hii kwa hifadhi yako.

Naweza kuendelea? Ndiyo/La

Ruhusa imepewa kuendelea na upelelezi huu na kamati ya upelelezi ya Hospitali ya Kenyatta. Hifaki nambari…….

Fomu hii ina sehemu mbili: Maelezo kuhusu andiko hili na idhini yako kuhusu kushiriki.

SEHEMU I: Maelezo

Introduction

Jina langu ni Dr.Milcah A. Olando, Mwanafunzi Katika Chuo Kikuu cha Nairobi. Ninafanya upelelezi kuhusu maradhi ya kusononeka miongoni mwa watoto wagonjwa katika hospitali ya Kenyatta. Hili ni hitaji katika masomo ya kukamilisha shahada ya uzamili.

Nitakueleza kuhusu andiko hili kwa lugha unayoelewa kasha nikusihi kuruhusu mwanao ashiriki. Una uhuru wa kuuliza maswali wakati na baada ya upelelezi kutumia anwani zilipeanwa kwenye hii fomu.

Kusudi ya Upelelezi

Upelelezi huu unakusudia kuangazia vyanzo na ujasiri kuhusiana na maradhi ya kusononeka miongoni mwa watoto wagonjwa katika Hospitali ya Kenyatta..

Andiko hili litakuwa na manufaa yoyote kwako?

Hakuna faida ya moja kwa moja ya andiko hili kwako au mwanao, ila matokeo ya andiko hili yataweza kutufahamisha kuhusu magonjwa ya kusononeka miongoni mwa watoto wagonjwa. Matokeo haya pia yataelezewa wadau husika ili wapeane mwongozo katika uamuzi wa sera kwa ajili ya matibabu ya watoto wenye magonjwa kama haya.

Andiko litakuwa na athari yoyote kwako?

Utatakiwa kutumia kalamu na karatasi kujibu maswali, kwa hivyo hakuna madhara ya kimwili kwako. Lakini iwapo utakuwa na dhiki ya kihisia, tafadhali ripoti kwa mpelelezi.

Tukimaliza upelelezi huu, tutaandika ripoti kuhusu upelezi huu. Andiko hili halitaandikwa jina lako au kuwa ulishiriki katika upelezi huu.

Uhuru wa Kushiriki

Si lazima ushiriki katika andiko hili na Iwapo ungependa kuwacha kushiriki katika andiko hili, hilo ni sawa pia.

Usiri

Utambulisho wako na mwanao hautasambazwa. Andiko hili halitaandikwa jina lako wala la mtotokuonyesha kuwa ulishiriki katika upelezi huu.

Ni mpelelezi tu atakuwa na fomu hizi na atziweka kwenya kabati ambayo ni yeye tu ana ufunguo. Maelezo yote yanayopeanwa kwenye huu upelelezi yatatumika tu kwenye madhumuni ya andiko hili.

Muda

Itakuchukua kama dakika kumi kujaza fomu na dakik aishirini kwa mwanao kujaza fomu. Kwenye muda huo unatarajiwa kujibu tu yale maswali yaliyoko kwenye fomu.

Anwani

Maswali yanakubalika sasa na hata baadaye. Una uhuru wa kushirikiana na wafuatao ili kupata majibu: Mpelelezi 0716767631 au Wasimamizi Dr Manasi 0717379687 na Dr. Kamau 0722489273. Pia unaweza kuandikia kamati ya upelelezi KNH/UON-ERC ukitumia anwani ya barua pepe uonknh_erc@uonbi.ac.ke; Tovuti: http://www.erc,uonbi.ac.ke.

SEHEMU II: Kitambulisho cha Idhini

Ukikubali mwanao kushiriki kwenye andiko hili, tafadhali tia sahihi.

Ninakubali kwa hiari yangu kumruhuru mwanangu kushiriki kwenye andiko hili: _____ (Sahihi au kidole)

_____ (Uhusiano na mtoto)

Tarehe: _____

Mpelelezi _____ (Sahihi)

Tarehe _____

Ninaelewa kuwa mpelelezi hatanitambulisha kwenye fomu zote kwa jina langu au la mototo na kwamba usiri wangu utadumishwa. Matumizi yoyote ya baadaye ya maelezo ninayopeana yatazingatia vipengele vinavyokubalika bila madhara yoyote kwangu.

Viongozi wa hospitali hawatasikiza maelezo yangu wala kupewa fomu zangu. Hii itazuia madhara yoyote kunipata mimi na mwanagu tukiwa hospitalini.

Contacts

Anwani

Maswali yanakubalika sasa na hata baadaye. Una uhuru wa kushirikiana na wafuatao ili kupata majibu: Mpelelezi 0716767631 au Wasimamizi Dr Manasi 0717379687 na Dr. Kamau 0722489273. Pia unaweza kuandikia kamati ya upelelezi KNH/UON-ERC ukitumia anwani ya barua pepe uonknh_erc@uonbi.ac.ke; Tovuti: http://www.erc,uonbi.ac.ke.

Kauli ya Idhini

Nimesoma maelezo haya, na kujadiliana na mpelelezi na mswali yangu yamejibiwa kwa lugha ninayoelewa. Athari na faida pia nimeelezwa. Ninaelewa kwamba kushiriki kwangu kwenye hili andiko ni kwa hiyari yangu naa kuwa ninaweza kujiondoa wakati wowote ninavyopenda. Kwa hiyari yangu nakubali mwanangu ashiriki kwenye andiko hili.

Tarehe: _____

Appendix 9: Assent Form for Children Participants (English Version)

Title: Resilience and risk factors for depressive illness among children in Kenyatta National Hospital.

Researcher: Dr. Milcah Adhiambo Olando, MMed Psychiatry Student University of Nairobi

PART I: Information Sheet

I am doing a research study to find out the pattern of depressive illness among the children in the wards of KNH.

Permission has been granted to undertake this study by the Kenyatta National Hospital -

University of Nairobi Ethics and Research Committee (KNH- UoN ERC Protocol No._____)

This research study is a way to learn more about people.

About 100 children will be participating in this research study with you.

If you decide that you want to be part of this study, kindly give affirmative agreement then I will give you 2 questionnaires to fill, which will take 10 minutes each. Your caregiver will fill one questionnaire.

There are some things about this study you should know;

Benefits

There are no direct benefits of this study to you as an individual but from this study, however the results of these findings will allow us to learn about the depressive illnesses among the children. The findings made will be also be shared to the relevant stakeholders to guide in policy making for the management of children and proper planning and treatment of these disorders

Risks

You will be required to only use a paper and pen or answer questions so no physical harm will come to you. However, in case of emotional distress kindly talk to the researcher.

When we are finished with this study we will write a report about what was learned.

This report will not include your name or that you were in the study.

You do not have to be in this study if you do not want to be.

If you decide to stop after we begin, that's okay too.

Your caregiver and the hospital management know about the study too.

Appendix 10: Assent Form for Children Participants (Swahili version)

Andiko**: Maradhi ya kusononeka miongoni mwa watoto wagonjwa katika hospitali ya** Kenyatta.

Mpelelezi: **Dr.Milcah A. Olando, Mwanafunzi Katika Chuo Kikuu cha Nairobi**

Maelezo

Ninafanya upelezi kuhusu maradhi ya kusononeka miongoni mwa watoto wagonjwa katika hospitali ya Kenyatta.

Ruhusa imepewa kuendelea na upelelezi huu na Kenyatta National Hospital-Ethics and Research Committee, Hifaki nambari…….

Karibu watu mia moja wanashiriki kwa upelezi huu na wewe.

Iwapo utakubali kuhusika kwa andiko hili nitakuuliza maswali machache, kisha utaanza kujaza orodha mbili ya maswali ya uchunguzi ambayo itakuchukua dakika kumi kila moja.

Andiko hili litakuwa na manufaa yoyote kwako?

Hakuna faida ya moja kwa moja ya andiko hili kwako, ila matokeo ya andiko hili yataweza kutufahamisha kuhusu magonjwa ya kusononeka miongoni mwa watoto wagonjwa. Matokeo haya pia yataelezewa wadau husika ili wapeane mwongozo katika uamuzi wa sera kwa ajili ya matibabu ya watoto wenye magonjwa kama haya.

Andiko litakuwa na athari yoyote kwako?

Utatakiwa kutumia kalamu na karatasi ama kujibu maswali, kwa hivyo hakuna madhara ya kimwili kwako. Lakini iwapo utakuwa na dhiki ya kihisia, tafadhali ripoti kwa mpelelezi.

Tukimaliza upelelezi huu, tutaandika ripoti kuhusu upelezi huu. Andiko hili halitaandikwa jina lako au kuwa ulishiriki katika upelezi huu.

Mlezi wako na uongozi wa hospitali wamefahamishwa vyema kuhusu upelelezi huu.

Si lazima ushiriki katika andiko hili na Iwapo ungependa kuwacha kushiriki katika andiko hili, hilo ni sawa pia.

Appendix 11: Study Timelines

EVENT/ ACTIVITY	**TIME**
Research proposal development and departmental defense	Jan to April 2019
Proposal submission, ethical approval and clearance	May -July 2019
Pilot study and pre-test of the tools	August2019
Data Collection	August 2019
Data cleaning, entry and analysis	September2019
Results defense and thesis preparation and submission.	September 2019

Appendix 12: Budget

ITEM	QUANTITY	PRICE PER UNIT	TOTAL
Preparation of data collecting tools	Printing Questionnaire 3 page	@10	30
	Procuring CDI access consent	@6,000	6,000
	Printing CDI form 3pages	@10	30
	Printing Consent document 10 pages	@10	100
	Printing CYRM form 1page	@10	10
	Photocopying 80 SDQ 3 page each	@5	1,200
	Photocopying 80 CDI form 3 page each.	@ 5	1,200
	Photocopying 80 CYRM form 1 page each.	@5	400
	Photocopying 80 Consent forms 10 pages each	@5	4,000
Communication	1 Airtime	@2000	2,000
Car fuel to KNH	30 trips	@500	15,000
Pilot study and pretesting tools	Printing SD questionnaires 3 pages each	@ 10	30
	Printing CDI forms 3 page each	@10	30
	Printing CYRM forms 1page each	@10	10
	Printing Consent/assent document 10 pages each	@10	40
	Photocopying 10 questionnaires 1 page	@ 5	50
	Photocopying 10 CDI forms 3 page each	@5	150
	Photocopying 10 CYRM forms	@5	50
	Copies 10 consent forms 10 pages each.	@5	500
Statistician	1 person	@30000	30,000
Thesis printing	90 pages	@10	900
Thesis copies	270 pages	@5	1,350
Thesis binding	4	@800	3,200
Sub-total			66,280
Contingencies	10% of budget		6,628
TOTAL			**72,908**