PSYCHOLOGICAL CORRELATES OF TRAUMATIC EXPERIENCES AND COPING STRATEGIES OF POST AMPUTATION PATIENTS: A CASE STUDY OF MULAGO SPECIALIZED NATIONAL HOSPITAL, KAMPALA-UGANDA

BY

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DECLARATION

I, Kakooza Sulaiman Mahmood, declare that none of the work presented in this research thesis has been submitted to any other University or Institution for any academic Award.

Signed_____ Date_____

Researcher: Kakooza Sulaiman Mahmood

APPROVAL

Following a constant and thorough supervision of both fieldwork and the write up of the research by **Kakooza Sulaiman Mahmood**, I approve and recommend his work to the academic board of the University of Kisubi, Department of Clinical psychology and counseling for examination.

Supervisors

Dr. Frank Pio Kiyingi (PhD)

Signature _____ Date _____

Mr. Muwonge Kizito

Signature _____ Date _____

DEDICATION

To my Mum and siblings, thank you for your love and support. I greatly appreciate your care and love.

To my friends: thank you for your collaboration and encouragement.

ACKNOWLEDGEMENT

I would like to acknowledge each participant in this research study. Having the opportunity to meet you was a pleasure and honour. Your participation has made this thesis possible. Thank you for your kindness and for sharing your insights and time during our interviews.

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TABLE OF CONTENTS

LIST OF TABLES AND FIGURES

ABBREVIATIONS

ABIS	Amputee Body Image Scale
CC	Confrontive Coping
D	Distancing
EA	Escape Avoidance
GAS	General Adaptation Syndrome
LMICs	Low- and Middle-Income Countries
MDD	Major Depressive Disorder
PCA	Principal Component Analysis
PPS	Planful Problem Solving
PR	Positive Reappraisal
PT	Positive Thinking
PTSD	Posttraumatic Stress Disorder
PVD	Peripheral Vascular Disease
QOL	Quality of Life
WOC	Ways of Coping
SC	Self controlling
SID	Scientific information Database
SSS	Seeking Social Support
WHO	World Health Organization

ABSTRACT

The study assessed the effect of psychological correlates of traumatic experiences on coping strategies of post amputation basing on evidence from Mulago specialized national hospital, Kampala-Uganda. It specifically analyzed the personality styles that enhance coping among amputees, assessed the psychological consequences among amputees and examined the psychological interventions among amputees.

The study was a hospital based prospective post treatment employing a cross sectional design utilizing a quantitative research approach by administering questionnaires to 72 patients who were admitted for amputations and attending weekly amputee clinics and those using prostheses and orthosises. The data was processed both at descriptive and inferential level using SPSS version 20.0.

The study found extraversion as a statistically positive correlate with the confrontational form of coping style ($r = 0.279$, $p = 0.031 < 0.05$). It found a significantly positive correlate that enhanced painful problem solving($r = 0.278$, $p = 0.032 < 0.05$) and positive reappraisal ($r = 0.301$, $p = 0.019 < 0.05$) compared to conscientiousness as a negative correlate of coping styles particularly self-control ($r = -0.326$, $p = 0.011 < 0.05$) and escape avoidance ($r = -0.263$, $p = 0.043 < 0.05$). Results showed abnormal depression (46.7%), suffering abnormal anxiety (45.0%) alongside demonstrating symptoms of at least 2 Post-Traumatic Stress Disorders (46.7%) as the psychological consequences. The psychological interventions study found included specialized physician services (60.0%), primary care provision (45.0%) and financial assistance (46.7 among others

The study concluded that personality styles such as extraversion, agreeableness and conscientiousness are crucial in enhancing coping styles among amputees and therefore need to be well established and aligned supporting initiatives. It was thus recommended among others that the management of psychological consequences in relation to the health care providers' services, there is need to develop and implement assessments that comprehensively appraises the various personality styles demonstrated by the patients as to inform care alignment. It was also recommended that health care providers in collaboration with the caregivers need to institute mechanisms which help the amputees learn the approaches to embracing positive thinking about their present situations as minimize the negative psychological consequences

CHAPTER ONE

INTRODUCTION

1.0 Introduction

The study aimed at assessing the effect of psychological correlates of traumatic experiences on coping strategies of post amputation basing on evidence from Mulago specialized national hospital, Kampala-Uganda. This chapter presents the background to the study, the problem statement, purpose, specific objectives of the study, research questions, hypothesis scope and significance of the study.

1.1 Background to the study

In the present society, a number of people have experienced limb loss for one or more reasons resulting to a total change of body image (Okello et al., 2019). Loss of a limb is a tragic event and in many circumstances, amputation cannot be avoided. Although stump problems disrupt the day-to-day use of artificial limbs, Salawu et al., (2006) urges that good clinical practices and psycho education services aid continued use of prothetic limbs with a significant reduction in psychological illness observed in various studies (srivastava, 2010; Mugo, 2010; Bessell et al., 2012) . Worldwide, more than 900,000 people are living with minor limb loss (Amoah, 2018). In the US, close to 185,000 amputations occur each year, with more than 2 million people living with amputation (Hughes et al., 2018).

Historical perspective

Over the years, Uganda has been experiencing the heaviest burden of Orthopedic and head injuries from road traffic accidents (Balikuddembe et al., 2017). At present, over

28.9 deaths per 100,000 populations occur annually due to road traffic accidents (WHO, 2013). Although victims survive, many of them however remain with severe damages and injuries on their bodies. Nevertheless shared experiences due to traumatic event and after amputation, gave insight into the kind of life amputated victims are going through including, psychological torture, loss of employment, body image loss among others. To have a deeper insight, efforts were made to dedicate a scheme to lives of individuals after amputation.

An early researcher such as Padula and Friedmann (1987) asserts that amputation practices have been proficient since 43,000 BCE mainly for ritualistic and vocational reasons. However amputation practices with prostheses made of fiber, wood, bone, and metals, often lined with rags, started as early as 1,500 BCE to cater for punitive and curative reasons, in relation to ritualistic and vocational reasons.

Theoretical Perspective

The study adopted the Cognitive Behavioral Therapy (CBT) as a method for increasing the people's adaptability to complex life situations. Through focusing on patients' emotional, cognitive, and behavioral reactions, these interventions help clients to identify and modify their distorted thinking patterns and inefficient behaviors. The positive effects of CBT have been shown on older adults' psychological conditions such as anxiety, depression (Ghamarikivi, 2015) and anxiety (Ghamarigivi, 2016) and in the improvement of their sleep quality. The theory was relevant to the study since it emphases several aspects of psychological correlates of traumatic experiences on coping strategies of post amputation such as personality style, psychological consequences; anxiety, depression

levels and PTSDs as well as painful problem solving, seeking social support, escape avoidance, confrontation, positive reappraisal and self control

Conceptual perspective

Amputation involves a surgical removal of body parts especially limbs leading to a change in the body structure. Furthermore, amputation has got a great influence on many activities; participation in various activities that people used to do can be retarded hence affecting the quality of life of victims economically, socially and psychologically. Peoples' lifestyles are forced change; due to disability caused by amputation, sources of earning a living are partially or badly affected (Mugo, 2010). According to Dieter et al., (2017), Amputation entails removal various body parts that leaves individual with physically incapacitated. Parts of a limb or extremity such as an arm, leg, foot, hand, toe, or finger are removed.

Contextual perspective

In Uganda, a number of amputees have failed to appreciate the use of prostheses as a perfect answer to their challenge of lacking a limb or limbs. This is attributed to psychological problems associated with their use (Orthopedic report, Kiruddu General Referral Hospital, 2017). The affected individuals have abandoned the prosthetic devices due to the discomfort. Therefore this research sought to assess the relevance of clinical counseling on post amputated individuals using prostheses and orthosises.

Over 54% of amputations are due to non-traumatic reasons, such as diabetes, peripheral artery disease, and Less than 2% of amputations are related to cancer **(**Ramirez & Menaker, 2017). While 45% is as a result of injuries from road traffic accidents which is

one of the leading causes of death and disability in many LMICs, Uganda is no different (Amputee Coalition of America, 2014).

Although persons with physical disabilities have been assisted to participate in society through the provision of technologies such as prosthetic limbs and orthotic bracing devices, the relationship between coping in the presence trauma and their psychological well- being have not induced keen interest to care providers while amputation also leads to emotional and physical distress (Srivastava et al., 2010).

Amalraj et al., (2017) highlights a direct connection of one's' body image with psychological adjustment. The changes in appearance that many people endure as a result of trauma or disease can completely alter one's pre-existing body image and take him or her far from his ideal body image. Irrespective of amputation cause, whether it is due to vascular, traumatic or orthopaedic causes, it is a major surgery that definitely affects the lives of these patients. The dynamic construction is subject to revision and reconstruction in response to both internal and external stimuli. For example, decreased body image can result in poor social skills or anxious and distracted behavior where individuals attempt to hide their feature in some way (Bessell et al., 2012).

1.2 Problem statement

William et al. (2004) asserts that decreased self-esteem, social isolation, perceived vulnerability, body image problems, and sense of stigmatization have also been associated with limb loss. Psychological correlates such as personality styles and psychological consequences of an individual are important in understanding the total wellbeing of the patients although not very much studied yet studied in Uganda.

According to International Classification of Functioning, Disability and Health (ICF), Lower limb amputations account for 84% of total amputations, while upper limb amputation account for only 16% and currently 90% of orthopaedic cases are due to trauma (Deathe and Miller , 2005). There is no definitive information about the number of persons with physical disability who have undergone amputation disabilities in Uganda, Prosthetics and Orthotics Services in Uganda are strongly linked with the field of orthopaedics and services are positioned as orthopaedic technology departments (Emong & Eron, 2016).

Despite all this, little has been documented to ascertain whether this could be as a result of poor coping strategies such as adjustment, adaption and resilience. Unless this is urgently addressed, the situation is likely to worsen. The current study, therefore, assessed the effect of psychological correlates of traumatic experiences on coping strategies of post amputation in Mulago specialized national hospital, Kampala-Uganda. To help in understanding the influence of these factors in the management of amputees in Mulago Specialized National Hospital.

1.3 Purpose of the Study

The purpose of the study was to assess the effect of psychological correlates of traumatic experiences on coping strategies of post amputation basing on evidence from Mulago specialized national hospital, Kampala-Uganda.

1.4 Specific objectives

1. To examine the personality styles that enhance coping among amputees in Mulago specialized national hospital, Kampala-Uganda.

2. To assess the psychological consequences among amputees in Mulago specialized national hospital, Kampala-Uganda.
3. To suggest viable psychological interventions among amputees in Mulago specialized national hospital, Kampala-Uganda

1.5 Research questions

1. What personality styles enhance coping among amputees in Mulago specialized national hospital, Kampala-Uganda?
2. What are the psychological consequences exhibited by amputees in Mulago specialized national hospital, Kampala-Uganda?
3. What psychological interventions are needed by amputees in Mulago specialized national hospital, Kampala-Uganda?

1.6 Hypothesis

There is no statistically significant relationship between psychological correlates of traumatic experiences and coping strategies of post amputation among adults attending amputee clinics.

1.7 Study Scope

1.7.1 Geographical scope

The study was carried out at the orthopaedic ward in Mulago Specialized National Hospital in Kampala district Uganda. Mulago National specialized Hospital is surrounded by densely populated districts of Wakiso and Mukono. Located north of the central business district and approximately 5.5k outside of the central business centre It rises 4134 feet (1260m) above sea level.

1.7.2 Content Scope

The study focused on Psychological correlates and Coping strategies**.** The independent variable is psychological correlates being characterized by personality style, psychological consequences; anxiety, depression levels and PTSDs while the dependent variable which is coping strategies being reflected by distancing, planful problem solving, seeking social support, escape avoidance, confrontation, positive reappraisal and self control

1.7.3 Time Scope

The study was carried out from March to July 2019, simply because the researcher intended to accomplish this study within the institution's academic calendar.

1.8 Significance of the study

Once completed, the researcher believes that the study findings might help the government of Uganda, Ministry of Health, Ministry of gender, and labour, social and economic development and Ministry of Education and Sports in filling the gaps involving practical measures on the study.

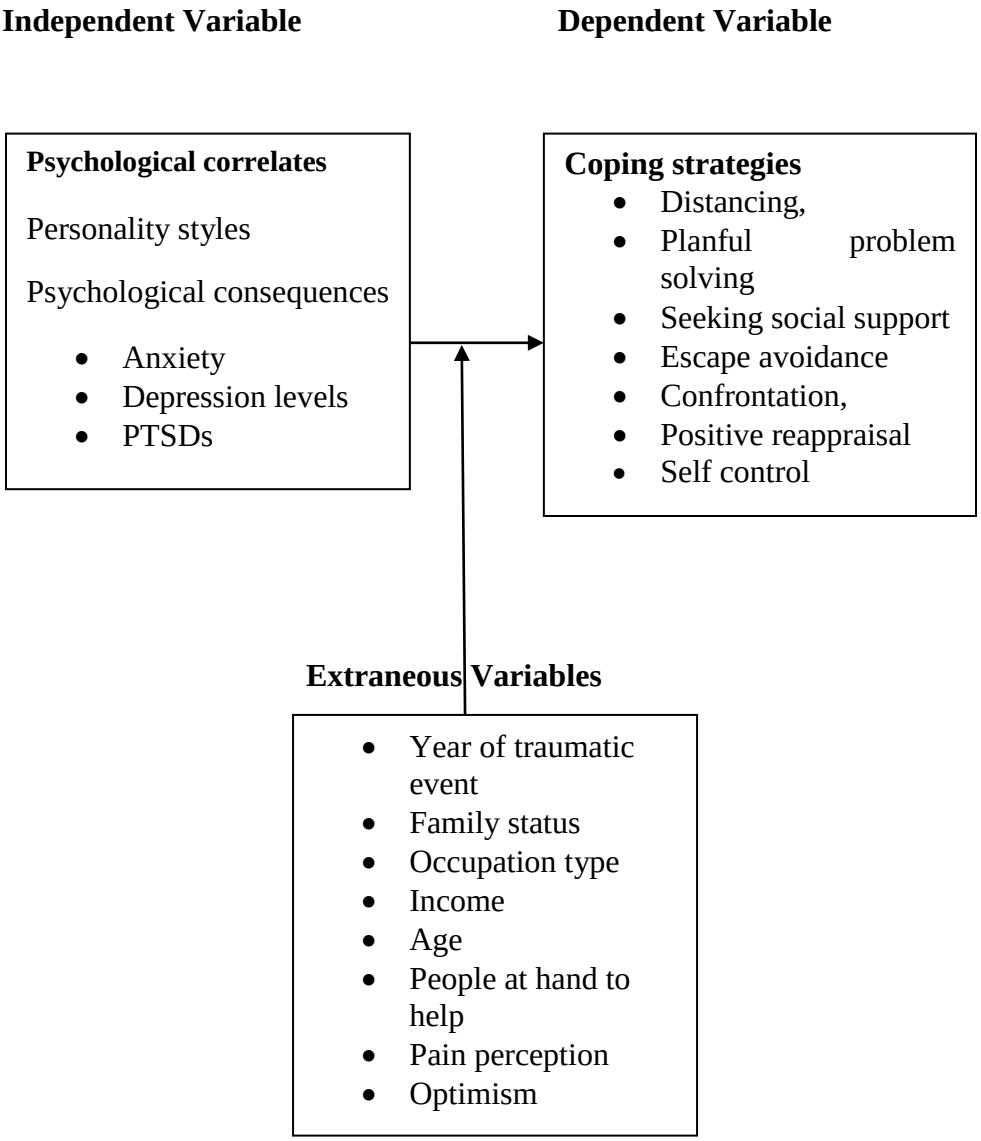
Results of this study may therefore contribute to psychological evidence to explain the cause the ill health among victims of amputation. Findings may also be found helpful to the orthopaedic technologists who may find it worth to address concerns of the victims either by production modification or by adjusting user instructions.

An understanding of how the experience of living with an amputation and a chronic condition may change over time might help clinicians and families to identify the ongoing need for psychological support.

The finding may stimulate Academicians and other researchers to carry out empirical studies in other aspects of amputation challenges and how they can be managed.

Lastly, the researcher might be in position to gain new skills and knowledge on how to help amputees, which is important to him as a carrier clinical psychologist.

1.8 Conceptual framework



Source: Constructed by the researcher

Figure 1.1: Conceptual framework for Psychological correlates and Coping strategies

In the conceptual framework above, the independent variable is Psychological correlates being characterized by personality style, psychological consequences, anxiety, depression levels and PTSDs. These could have an effect on the dependent variable which is coping strategies being reflected by Distancing, Planful problem solving, Seeking social support Escape avoidance, Confrontation, Positive reappraisal and Self control. However, there are some extraneous variables that could also have an effect on coping strategies. These include among others: personality styles, year of traumatic event, family status, occupation type, income, age, people at hand to help, pain perception and optimism.

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

This chapter presents a review of the related literature. The literature critically discusses and analyses the previous scholarly works of other researcher. The literature is presented in light of the study objectives and guided by the conceptual framework.

2.1 Theoretical framework

Literature was reviewed basing on the theory of Cognitive Behavioral Therapy (CBT) by Egan, (2015) as a method for increasing the people's adaptability to complex life situations. The theory asserts that focusing on patients' emotional, cognitive, and behavioral reactions help clients to identify and modify their distorted thinking patterns and inefficient behaviors. Ghamarikivi, (2015) reveals that older adults with psychological conditions such as anxiety and depression have had positive effects from CBT such as improvement of their sleep quality. The theory was relevant to the study in that it focuses on some of the most significant of psychological correlates of traumatic experiences on coping strategies of post amputation such as personality style, psychological consequences; anxiety, depression levels and PTSDs as well as painful problem solving, seeking social support, escape avoidance, confrontation, positive reappraisal and self control

2.2 Causes of amputation

Over the past 20 years, injury disease burden has been reported as the growing health crisis in developing countries (Lozano et al., 2012). By 2030, amputations due to injuries

are expected to increase by 28%, surpassing the total burden of all chronic diseases. Chichom Mefire et al., (2013) Asserts that inconsistent amount of this burden exists mainly in low- and middle-income countries (LMICs) with the highest injury-related mortality estimates found in Sub-Saharan Africa. The developed world reports slightly different causes of amputation from the developing countries (Tseng, 2006; Moxey et al., 2011).

The prevalence of diabetic foot ulcer ranges from 1.0 to 4.1% in the US, 4.6% in Kenya, 20.4% in the Netherlands (Bartus et al., 2004), between 11.7 and 19.1% in Nigeria (Unachukwu et al., 2007). Tseng, (2006) in his study confirmed that taller patients are at an increased risk of such a procedure. In many developing countries, the incidence of diabetes mellitus has reached pandemic status and exposing individuals neuropathy and soft tissue sepsis (Newman, 1993; Beckman, 2002; Moxey et al., 2011). The impact that a person with diabetic conditions has on family is not only direct and t does not lie in one only in one direction. The impact is multidimensional affecting the whole family system.

In developed countries, peripheral arterial disease, as a result of atherosclerosis is the most common reason for lower limb amputation followed by infection, tumor, non-diabetic gangrene and congenital limb abnormalities (Ahmad, 2014; Ndukwu, 2015). While in LMIC, Traffic accidents and work accidents/trauma are the primary causes of amputation (Ogeng'o et al., 2009; Ndukwu, 2015).

In a study by Low et al., (2017), orthopaedic injuries involving injury to upper or lower extremity or pelvis were diagnosed and contributed to 37% of all cases studied. Whilst In

war zones and post-war zones, the greatest numbers of amputations resulted from the fighting, gunshots and landmine explosions (Ogeng'o et al., 2009).

In sub-Saharan Africa, Abbas and Musa (2007) found out that tumors and trauma as the main causes of amputation. Burn injuries and snake bites have also been reported as causes of amputation (Loro and Franceschi , 1999).

In reference to the study of Sahu (2016), Amputations due to trauma are usually associated with intense fear, horror, images of others being injured, and startling sounds that re-emerge during rehabilitation. It is therefore important for clinicians to conceptualize the three categories, anxiety, depression, PTSD and coping strategies related to treatment during and after amputation

2.3 Personality styles that enhance coping among amputees

Many studies conducted on personality traits verify typical reactions to the environment (Mischel, 2004). Kowalski (2018) asserts that exposure to the same trauma may not necessarily yield similar responses or cope in the same because of varying personality traits. These traits justify why many people might experience trauma, and only a few develop PTSD.

In the study conducted by McCrae & Costa (2003), individual differences showed consistent patterns of feelings, thoughts and actions across developmental stages.

While treatment options help individuals to restore resilience and well being, personality traits do determine the etiology of psychopathology (Widiger, 2011).

Although, personality traits do influence coping, Jacofsky (2011) studied that PTSD among victims may not be relevant to all because of their personality traits. He however recommended that individuals who develop PTSD be considered vulnerable and thus given keen attention. Amputees who experience higher levels of physical stress interact differently with other people in the society or even rude to the family members compared to those with lower levels.

Paris (2000) clarifies that these personality traits on the other can be an obstacle for the victim to accept to the situation. Therefore adjustments process is often more difficult as additional demand may placed on care takers.

Certain personality parameters have been studied and authors have found out that individuals with a narcissistic personality style react negative to limb loss and usually take longer to adjust (Bhuvaneswar et al., 2007; Neil, 2016).

Scholars urge that timid and self-conscious individuals suffer excessively from psychologically associated trauma illnesses compared to self-assured individuals (Friedmann, 1978; Parkes, 1984; Srivastava et al., 2010).). Personality styles describes how people feel when they are under emotional pressure and how they respondent to the external stimuli.

2.4 Psychological consequences of traumatic events after amputation

The loss of a limb can be devastating and is likely to cause significant disruption to one's wellbeing. A person's immobility, and lack of participation in day-to-day activities, can have a significant impact on one's psychological wellbeing as amputation can disrupt plans for the future and affect how they view themselves in the society (Brown 2013).

Suddenly, anxiety and depression levels arise thus affecting the psychological squeal during the rehabilitation phase.

Studies have found that after an amputation the prevalence of depression and anxiety is as high as 41 per cent (Hawamdeh et al., 2008; Srahbzu et al., 2017). Research stresses the importance of intervention programs in amputation treatments in order to alleviate depression and anxiety levels because high levels may have negative impact on amputees. However, in some cases, functional outcomes are often determined basing on the severity of the injury and the number of body parts to be removed. Upper extremity amputations are associated with a significantly decreased quality of life compared to lower extremity amputations because of substantial functional defects (Ovadia & Askari, 2015; Sahu et al., 2016). Ramirez (2007) found out that amputations below knee were associated with a "normal life," while unilateral trans-femoral (above knee) amputations had moderately decreased function. In this study Functionality above-knee amputations decreased and Prosthetics were found abandoned after an average of seven years of use (Raichle et al., 2008). Given the various challenges and experiences of loss, various reasons identified were; residual limbs that are too short for prosthetics contributing to 33%, pain 25% , prosthetics that are too heavy (17%) and too much hassle (17%) (Schweitzer et al., 2018**)**

Equally, Mountany (2009) observed that use of prostheses in both lower and upper limbs can to lead to restlessness and feeling of insecurity among others (Mountany, 2009). Individuals who are outgoing may feel slowed down, inferior and unable to relate with peers because of their changed body structure. The negative thoughts, feelings and emotions often stimulate their anxiety levels. According to Onwukamuche, Chikwado

Kingsley, (2018), reaffirms that continuous usage of artificial limbs after amputation bears important implications associated with self-identity; as a result emotion distress manifests. Therefore victims need to counseled and nurtured to live positively.

2.5 Psychological interventions among amputees

Although, readjusting to life after amputation is associated with depression, anxiety and disturbed body image (Rybarczyk et al., 1992), Amputees are often required to cope with ongoing health issues, learn new skills and sometimes even modify their expectations in relation to their capabilities. Gilg (2016) suggests that major adjustment to limb loss for both the person and their family/friends.

Although all most All coping strategies have the adaptive goal of dealing with stressful events, some strategies can on the other hand be maladaptive (unhealthy) or merely ineffective. Roloff (2015), defines Maladaptive behaviors as those that slow down a person's ability to adjust to particular situations. Such coping strategy reduces one's anxiety, but can as well result into one being dysfunctional and non-productive.

Although there is no universally accepted definition of coping, Montero-Marin et al., (2014) has broadly defined coping as the behavioral efforts persons use to adjust to stressful event while maintaining their emotional wellbeing (Montero-Marin et al., 2014). Coping styles are approaches people in the face of stress or trauma to help manage difficult and painful emotions.

Chukwu, (2019), proposed that coping is a transitional process whereby coping methods vary across time and contexts to match the changing demands of stressful events. However personality traits and the type of the stressor usually determine the coping

strategy of an individual. In addition, past studies on coping have cited positive coping approached used by some individuals to have a strong positive relationship with adaptive mental health outcomes.

Studies by Fitzgerald, (2015) and Robinson et al., (2019) concluded that practical strategies for self-care can be helpful to individual especially in the initial stages after an event has occurred. This includes ensuring one has adequate sleep and is maintaining a good diet. Relaxation, breathing and mindfulness exercises are equally important. At the same time, Dekker & Engbersen, (2014) advises victims to seek support from qualified professionals as mental health issues such as depression are treatable.

In relation to seeking support, Lakkin & Knowlton, (2015) supports that social networks play significant role in facilitating coping. Additionally, practical and emotional support provided by peers, Family members and friends can reduce the sense of isolation that is experienced across the word by amputees.

Anderson (2006) explains Active coping strategies where by individuals are required take responsibility control the pain in spite of the existing circumstances.

On the other hand, People tend to eliminate the source of stress by researching the problem and learning management skills to solve it. Although many people who are victims of the tragedies especially in Uganda are semi- illiterate and such strategy many may be less helpful in certain circumstances.

As Ryan, (2013) points out on Emotion-focused strategies, people address the feelings associated with the stressor People modify the emotions by releasing, distracting, or managing their mental state.

However a classic classification proposed by Lazarus and Folkman (1984) distinguishes between problem-focused as the relationship altered by instrumental actions and emotion-focused coping as a strategy that allows new meaning to be assigned, thereby changing the emotions associated with the stressful event (Sjodahl, 2004).

Emotion-focused coping strategies includes engaging in distracting activities, using alcohol or drugs, or seeking emotional support, whereas making a plan of action and taking assertive action to solve the problem are forms of problem-focused coping (Folkman & Moskowitz, 2004).

Ferguson et al. (2004) in his study examined factors that contribute to recovery in terms of economic, cultural and societal aspects and further asserted that psychological intervention indicated for individuals who suffer difficulty in any of the stages previously described and who are unable to resume a normal existence should otherwise be assisted to help them cope by initiating possible interventions..

Summary of literature and Identified gaps

From the literature reviewed it's clear that much has been written and researched on anxiety, depression, PTSD and coping strategies, like when people they are unable to manage or changes caused by abnormal life activities. Depression has become increasingly recognized as a factor that can reduce the quality of life of most people Kowalsiki (2018). Ramirez (2017) asserts that problems are not the problem but coping is the problem. Brown (2013) discovered that a part of from examining anxiety and

depression levels among victims, measures to assist them lower levels should be put across. North et al. (2008) emphasizes that individuals learn to identify the problems and solve them. It is possible therefore those other forms of positive coping will diminish the negativity amongst them.

Most literature reviewed is out dated and did not bring the specific areas of the condition that affects the victims in this study. The information is widely from foreign countries and not from Uganda, this compromises the circumstances under which the studies were done. Furthermore, on all studies which have been studied on personality styles, anxiety, depression, PTSD and coping strategies none of the looked at effects of personality styles and coping in Mulago specialized national hospital in Uganda.

CHAPTER THREE

METHODOLOGY

This chapter gives detailed description of the methodology that was used in the study. It gives a plan, structure and strategy of the investigation so as to obtain answers to the research questions. The chapter covers, study design, study area, target population, sampling procedure, study variables, data collection methods that were be employed, how validity and reliability were measured and described, plan for data analysis, quality control, ethical considerations, limitations as well as plan for dissemination of the results.

3.1 Study design

The study used cross sectional design. It was a hospital based prospective post treatment study employing quantitative research approaches. The data collection and research activities tend to narrow to particular sites, subjects, materials, topics, questions and themes, with the purpose of studying extensively the background, current status and environmental interactions of a given organizational unit; an individual, group, institution or community.

The study was quantitative in that the researcher sought inquiries on the problem based on testing the variables, measure with numbers and analyzing with statistical procedures. It was also correlative in nature because it sought to establish the relationship between personality styles and coping strategies among amputees in Mulago National Specialized Hospital (MNSH) Kampala District, Central Uganda.

3.2 Study site

This study was conducted in Mulago National specialized Hospital (MNSH) located in Kampala District, Central Uganda. Mulago National specialized Hospital has been selected for this study because it is the major hospital where orthopaedic rehabilitation services are provided in Uganda. Secondly, Mulago National specialized Hospital has a cosmopolitan population being the country's capital city and surrounded by densely populated districts of Wakiso and Mukono. This makes Mulago handle numerous amputations. Approximately 90% of the country's amputations are attributed to motor bike accidents in the city locally known as boda bodas which people use to avoid city traffic jam.

3.3 Study population

According to Babbie (2007), a study population is the number of study subjects from which the sample is selected. The study population in this case comprised of patients who have undergone amputation in Mulago National Referral hospital. A total of 89 clients are amputated annually per 1500 patients received annually (Gakwaya, 2005).

3.3.1 Inclusion criteria

These included patients who had been clinically examined, and were amputated, patients attending weekly amputee clinics and amputees fitted with prostheses and orthosises.

3.3.2 Exclusion criteria

Patients who had not consented to participate were not included in this study and those patients with past history of psychiatric disorders and associated physical disabilities other than amputation were excluded from the study.

3.4 Sample size determination

Mbaga & Kakinda (2000) defines a sample size as part of the population which is deliberately selected for the purpose of investigating the properties of the apparent population.

Using a study population of 88 patients who are amputated annually in Mulago specialized national hospital, the study adopted Krejcie and Morgan (1970) formula of sample size determination to come up with a sample of 72 patients who were recruited into the study as shown below.

$S= x^2NP (1-P) \div d^2 (N-1) + x^2P (1-P)$

Where:

S= sample size required

p = the population proportion (assumed to be .50 since it would provide the maximum sample size)

X^2 = the table of chi-square of 1 degree of freedom at the desired confidence level (3.841=1.96*1.96)

d=degree of accuracy expressed as proportion (0.05).

$$s = \frac{3.841 \times 88 \times 0.50(0.5)}{3.841 \times 0.25 + (0.0025 * 87)}$$

n=72

Thus a sample size of 72 was used.

3.5 Sampling techniques

The study used simple random sampling technique to select 72 respondents (male and female) to collect data. Consecutive sampling of patients was also used those attending weekly amputee clinics and those using prostheses and orthosises until the required number was obtained.

3.1 Sampling frame

Category of respondents	population	sample	Sampling technique
Male amputees	64	52	Simple random/ consecutive sampling
Female amputees	24	20	Simple random & consecutive
Total	88	72	

Source: Primary Data (2019)

3.6 Research Instruments

These are tools used to data from the field. In this study the researcher used the questionnaire (Performa sheet) to elicit for socio- demographic characteristics of respondents and assess for the psychological intervention. On other hand, standardized tools were used to asses for other independent variables in the study including anxiety, depression and PTSD.

This study used Big five inventory for personality test, Hospital Anxiety and Depression Scale (HADS), DSM V and Ways of Coping Questionnaire for data collection.

3.6.1 Self –administered Performa Sheet

This sheet was designed by the investigator to collect data relevant to socio-demographic characteristics such age, sex, marital status, cause of amputation among others. Data were collected postoperatively within 2-3 weeks

3.6.2 Big five Personality Inventory (BFI)

In this study, personality styles were assessed using the Big five Inventory (BFI). This questionnaire was developed by McCrae and Costa (1995) as a guide to discover one's personality traits .This method comprises 44 items (adjectives) referring to specific individual characteristics for example, extraverted, enthusiastic among others. Respondents were required to rate each item using a 5 point likert scale ranging from strongly disagree to strongly agree. A score of 5 indicates "Yes", you strongly agree with the statement, and 1 indicates "No", you strongly disagree with it

3.6.3 Hospital Anxiety and Depression Sale (HADS)

The study used Hospital anxiety and depression scale (HADS) to determine anxiety and depression levels among amputees. The HADS has two subscales: the anxiety subscale (HADS-A) and the depression subscale (HADS-D). Each subscale contains seven items for a total of 14 items in the HADS. The reliability of HADS found to have cronbach's α for the total HADS, the HADS-A and HADS-D of 0.78, 0.73 and 0.76 respectively. It has cutoff point ≥ 8 for each subscale to be positive for anxiety and depression

3.6.4 Ways of Coping Questionnaire (WCQ):

This tool this tool was developed by Lazaus and Folkman (1988) to assess the patient thoughts and actions in dealing with stressful incidents in their social life. It consists of

66 items designed to measure 8 different coping strategies namely; confrontive coping, distancing, self-controlling, seeking social support, accepting responsibility, escape avoidance, planful problem solving and positive re appraisal. The first four coping methods measure emotion focused coping and the rest measure problem –focused coping. The original scale, responses were measured on a 4-point Likert scale and it was modified in this current study WCQ into three point Likert Scale: with the following responses scoring doesn't apply/not use at all (1), used a little bit (2), and always used (3).The current study followed the same system, a high score indicates greater use of that particular coping strategy.

3.7 Quality Control

Validity

Validity refers to the appropriateness of the instrument to which research results can be accurately interpreted and generalized to other populations. The researcher with the help of the supervisor used the content validity index (CVI) which was a scale developed by computing relevant items in the questionnaire. This was done by employing the following formula:

$$CVI = \frac{\text{Number of valid items}}{\text{Total of number of items}} \quad X\ 100$$

C.V.I= 66/66,=1/1=100=0.99

The results obtained a 0.99 which was above 0.6 figured by the researcher which was then taken as valid instrument as considered valid by (Amin, 2005)

Reliability

Reliability of data refers to whether repeating the same measurement under similar conditions yields the same results (Kumar 1990). The reliability of the questionnaires was improved through pretesting of pilot samples from the field by issuing 20 questionnaires which enabled the rephrasing of some questions. Data was entered into statistical package for social scientists (SPSS) to determine reliability of a tool. Cronbanch alpha coefficient (2004) was used to assess the internal consistency. The score turned out to 0.8 and then the instruments were considered reliable for the study.

Reliability table

Cronbach's alpha	No of items
.8222	66

Pretest

In this present study, the researcher pre-tested the questionnaire at Nsambya Hospital prior to data collection to enhance its validity. The pretest was done in order to determine the comprehensibility of the questions, ability of the questions to elicit the required data, and to detect any ambiguity in the questions.

Data collection procedure

The student got an introduction letter from the Director School of Graduate Studies and Research which was presented to the management of Mulago orthopaedic department through Mulago research management team. Upon authorization, the student was issued an acceptance letter that introduced him to staff and clients at the orthopaedic wards.

With the help from the management at the orthopaedic ward, the researcher used a sampling frame which helped him identify patients to be contacted during data collection. The student then embarked on data collection with the help of three research assistants (staff) from the orthopaedic department having sought consent from respondents and ensuring them the confidentiality. Since a given portion of the target population was basically illiterate and semi –literate, consideration was made in such cases and the questionnaires were administered and Patients were interviewed individually by the researcher and the trained health professional (research assistants) and questionnaires were filled on behalf of the respondents, to elicit data on the requires socio-demographic factors, available interventions and other variables in relation to the study objectives.

3.8 Data Analysis

To embark on the process of data analysis, Editing of data was done during and after data collection, where by the student had to make sure that the exact number of questionnaires administered are returned to detect for abnormalities that could have risen.

Coding was done by assigning numerical and alphabetical numbers to responses in the questionnaire. Pre-coding was done by assigning numbers in some sections of the questionnaire. Post coding was done after field work in order to assign numbers to open –ended responses in form of suggestions from respondents.

Data entry was done using statistical package for social scientists (SPSS) to put responses for possibility of producing necessary statistics during analysis.

Data cleaning was done by removing irrelevant information from the questionnaire to minimize mistakes in statistical output.

Descriptive statistics such as Frequencies and percentages were used to analyze objectives 2 and 3. Inferential statistics; Pearson’s correlation coefficient was used for

objective 1 to test for the relationship between personality style and coping strategies of post amputation. The study took 0.05 as a standard level of rejecting or accepting the hypothesis.

3.9 Research Ethical Considerations

Permissions

Before going into the field to collect data, the researcher first obtained an introductory letter from the Faculty of Health Sciences, Uganda Martyrs University through Uganda Martyr's university ethical review committee. Authorization was then obtained from the Mulago department of Orthopaedics.

Study Benefits and Risks

Before informed consent was sought, study participants were taken through the benefits and risks that may be associated with the study. They were further rest assured that the study was mainly for academic purposes and thus had no risks involved concerning ones participation.

Informed Consent

Informed consent of the study participants was sought before data collection by verbal consent in both English and Luganda. The objectives of the study were discussed with participants.

The information obtained from the participants was kept with utmost confidentiality. The names of the participants were not included in the questionnaire but rather unique codes were considered.

The Right to Self-Determination

The principle of self-determination means that prospective participants are subject to voluntary participation in a study, without risking any penalty or prejudicial treatment (Polit& Beck, 2008). In this research, respondents were treated as ‘autonomous agents’

Justice

In this study, the selection of sample was conducted according to the eligibility criteria where the researcher ensured that, the respondents have the right to fair treatment before, during and after their participation in the study. The researcher also ensured participants’ confidentiality and privacy are maintained.

3.10 Limitations of the study

The researcher focused mainly on adult amputees not considering children who are also victims. However this was due to failure of children to expression their feeling as they were considered in the pre-test

CHAPTER FOUR

PRESENTATION, ANALTSIS AND PRESENTATION OF DATA

4.0 Introduction

In this chapter, the results with regard to the study assessing the effect of psychological correlates of traumatic experiences on coping strategies of post amputation in Mulago specialized national hospital, Kampala-Uganda are presented. Starting with the demographic characteristics, the chapter also provides an analysis with respect to the study objectives.

Response Rate

The study as was the original plan targeted a total of 72 amputees as respondents but received complete responses from 60 who were patients admitted for amputations. This meant that the study received an 83.3% response rate which was considered sufficient to address the research objectives.

4.1 Demographic characteristics

The demographic characteristics considered included sex, formal education level, age and marital status of the patients attending to amputee clinic. The descriptive results in this regard were as presented in Table 3 below.

Table 4.1: Demographic characteristics of the amputees

Demographic characteristic		Frequency (N = 60)	Percentage (%)
Age in years	18-25	14	23.3
	26-35	24	40.0
	36-45	11	18.3
	Above 45	11	18.3
Gender	Male	39	65.0
	Female	21	35.0
Marital status	Married	20	33.3
	Not married	30	50.0
	Divorced/separated	3	5.0
	Widowed	7	11.7
Education level	None	4	6.7
	Primary	8	13.3
	Secondary	24	40.0
	Tertiary	24	40.0
Current working status	Yes	21	35.0
	No	39	65.0

Source: Primary 2019

Table 4.1 above shows that most of the amputees were aged in the youthful age of 26 to35 years 24(40.0%) compare to the minority who were either aged 36 to 45 years 11(18.3%) or above 45yeasr 11(18.3%). The results also show that most of the

respondent amputees were male 39 (65.0%), not married 30(50.0%) and with the highest education level of either secondary 24(40.0%) or tertiary 24(40.0%). As presented in the table above, most of the amputees were not working 39(65.0%). These demographic results show how adequate the study has addressed the various psychological situations manifested since the varied views representative of all categories found in the population were included.

The descriptive results with regard to the when the traumatic events occurred, when amputation took place and their respective causes are presented in the table 4.2 below;

Table 4.2 Traumatic events, types and their causes

Traumatization and amputation aspects		**Frequency (N = 60)**	**Percentage (%)**
Time period when Traumatic event occurred	Months ago	26	43.3
	1-3years ago	26	43.3
	More than 3 years ago	8	13.3
Time period of amputation	Months ago	31	51.7
	1-3years ago	24	40.0
	More than 3 years ago	5	8.3
Type of amputation	both lower limbs	2	3.3
	left arm	1	1.7
	lower limb	47	78.3
	Right arm	1	1.7
	upper arm	1	1.7
	Upper Limb	8	13.3
Cause of amputation	Accident	43	71.7
	Amunition(Bomb, Land mine)	2	3.3
	Chronic Illness(Diabetes, Cancer)	11	18.4
	Others(Infection, Mob Justice, Extraction machine, Bite)	4	6.7

Source: Primary 2019

Results with regard to the traumatic events show that most of the amputees had experienced traumatic events occurred to them 1to 3years ago 26(43.3%) compared to the minority who had experienced the event more than 3 years ago 8(13.3%). Most of the

amputees as seen in the table above were of the lower limb 47(78.3%) followed by the upper limb8 (13.3%) with the least in the left arm 1(1.7%), right arm 1(1.7%) and upper arm 1(1.7%).

Results additionally show that as accidents 43 (71.7%) as the most common cause of the amputation, followed by chronic Illnesses like Diabetes and Cancer 11 (18.4%) with the least cause as ammunition particularly the bomb and or land mines 2(3.3%). These finding shows that a diversity of causes explains amputations and the while some can be unavoidable some have to show at some later times of life specifically the chronic conditions.

4.2 The personality styles that enhance coping among amputees in Mulago specialized national hospital, Kampala-Uganda

The first objective of this study was to analyze the personality styles that enhance coping among amputees in Mulago Specialized national hospital, Kampala-Uganda. To attain this objective, descriptive results with regard to the personality styles alongside coping among amputees in Mulago specialized national hospital were first presented as shown in table 4.3 and table 4.4 below. Thereafter the personality styles and coping approaches were subjected to Pearson Correlational analysis and results were presented in table 4.5 below.

Table 4.3: The personality styles among amputees attending Mulago specialized national hospital

Personality styles		**Frequency (N = 60)**	**Percentage (%)**
Extraversion	Less	12	20.0
	Fair	41	68.3
	More	7	11.7
Agreeableness	Less	9	15.0
	Fair	30	50.0
	More	21	35.0
Conscientiousness	Less	11	18.3
	Fair	37	61.7
	More	12	20.0
Neuroticism	Less	12	20.0
	Fair	31	51.7
	More	17	28.3
Openness	Less	6	10.0
	Fair	44	73.3
	More	10	16.7

Source: Primary 2019

Table 4.4 above shows most of the amputees attending Mulago specialized national hospital scoring moderately on all the personality styles that extraversion 41(68.3%), agreeableness 30(50.0%), conscientiousness 37(61.7%), neuroticism 31(51.7%) and openness 44(73.3%). The study results however show that personality style of most manifested as agreeableness 21(35.0%) followed by Neuroticism 17(28.3%), then openness 10 (16.7%) as compared to extraversion 7(11.7%) as the least amongst the amputees attending Mulago specialized national hospital.

The study was a way of establishing the personality styles that enhance coping among amputees in Mulago specialized national hospital additionally established the coping styles adopted by the respondent amputees. The descriptive results in this regard were as presented in table 4.5 below;

Table 4.4: The coping styles demonstrated among amputees attending Mulago specialized national hospital

Coping styles		Frequency (N = 60)	Percentage (%)
Confrontational	Rarely	24	40.0
	Sometimes	30	50.0
	Often	6	10.0
Distancing	Rarely	31	51.7
	Sometimes	14	23.3
	Often	15	25.0
Self-control	Rarely	33	55.0
	Sometimes	20	33.3
	Often	7	11.7
Seeking social support	Rarely	28	46.7
	Sometimes	20	33.3
	Often	12	20.0
Accept responsibility	Rarely	33	55.0
	Sometimes	19	31.7
	Often	8	13.3
Escape avoidance	Rarely	30	50.0
	Sometimes	22	36.7
	Often	8	13.3
Planful Problem solving	Rarely	28	46.7
	Sometimes	22	36.7
	Often	10	16.7
Positive reappraisal	Rarely	35	58.3
	Sometimes	8	13.3
	Often	17	28.3

Source: Primary 2019

The study results show the often demonstrated coping styles amongst amputees as positive appraisal 17(28.3%) then followed by distancing 15(25.0%). The other coping

styles often include seeking social support 12(20.0%), planful Problem solving 10 (16.7%), accept responsibility 8(13.3%) and escape avoidance 8(13.3%). The study results show confrontational coping style 6(10.0%) as the least demonstrated amongst the amputees attending Mulago Specialized Unit. This means that a diversity of coping styles manifest amongst the amputees.

Table 4.5 Correlational Results for the personality styles that enhance coping among amputees in Mulago specialized national hospital

		Coping Styles							
Personality styles		**Confrontational**	**Distancing**	**Self-Control**	**Seeking social support**	**Accept responsibility**	**Escape avoidance**	**Planful Problem solving**	**Positive reappraisal**
Extraversion	Pearson Correlation	0.279*	0.219	-0.085	-0.068	-0.060	-0.055		-0.092
	Sig. (2-tailed)	**0.031****	0.093	0.518	0.608	0.650	0.674	0.075	0.487
	N	60	60	60	60	60	60	60	60
Agreeableness	Pearson Correlation	0.061	0.059	-0.003	0.207	0.018	-0.110	0.278*	0.301*
	Sig. (2-tailed)	0.645	0.655	0.980	0.113	0.894	0.403	**0.032****	**0.019****
	N	60	60	60	60	60	60	60	60
Conscientious-ness	Pearson Correlation	-0.029	0.014	-0.326*	0.140	-0.153	-0.263*	0.083	0.105
	Sig. (2-tailed)	0.825	0.916	**0.011****	0.285	0.245	**0.043****	0.527	0.423
	N	60	60	60	60	60	60	60	60
Openness	Pearson Correlation	-0.015	-0.019	0.017	-0.143	0.190	-0.010	-0.007	0.189
	Sig. (2-tailed)	0.907	0.883	0.897	0.277	0.146	0.937	0.960	0.149
	N	60	60	60	60	60	60	60	60
Neuroticism	Pearson Correlation	-0.192	-0.005	-0.016	-0.161	0.082	0.160	-0.218	-0.225
	Sig. (2-tailed)	0.141	0.970	0.905	0.219	0.535	0.223	0.095	0.084
	N	60	60	60	60	60	60	60	60

*** Correlation is significant at the 0.05 level (2-tailed).*

Table 4.4 above shows that openness and neuroticism are not statistically significant correlates that enhance coping styles amputees in Mulago specialized national hospital ($p > 0.05$). The results in Table 4.4 suggest that extraversion as a personality style has got a statistically positive correlate with the confrontational form of coping style demonstrated among the respondent amputees in Mulago specialized national hospital ($r = 0.279$, $p = 0.031 < 0.05$). The result implies that amputees who score high on extraversion as a personality style are mostly confrontational in copying with situations than those who score less on extraversion.

Table 4.4 above shows that agreeableness as a personality style has similarly got a significantly positive correlate with planful problem solving($r =0.278$, $p =0.032 < 0.05$) and positive reappraisal ($r = 0.301$, $p = 0.019 < 0.05$) as a coping strategy. The result means that amputees who score high on agreeableness as a personality style mostly demonstrate planful problem solving alongside reappraisal and vice versa.

Lastly findings shown above indicates that conscientiousness as a personality style significantly a negative correlate with coping styles particularly self-control ($r =-0.326$, $p = 0.011< 0.05$) and escape avoidance ($r =-0.263$, $p =0.043< 0.05$). The finding means that demonstration of high conscientiousness as a personality style lowers self-control and escape avoidance and vice versa.

4.3 The psychological consequences among amputees in Mulago specialized national hospital, Kampala-Uganda

The second objective of the study was to determine psychological consequences among amputees in Mulago specialized national hospital, Kampala-Uganda. In the study, the amputees were asked as to rate the different aspects of the psychometric tools for psychological conditions as it applies to them. The descriptive results in this regard were as presented in table 4.4 below.

Table 4.6: The psychological consequences among amputees in Mulago specialized national hospital

Psychological consequences		Frequency (N = 137)	Percentage (%)
Depression	Normal	11	18.3
	Borderline case	21	35.0
	Abnormal	28	46.7
Anxiety	Normal	13	21.7
	Borderline case	20	33.3
	Abnormal	27	45.0
PTSDs	None	21	35.0
	Atleast 1	11	18.3
	Atleast 2	28	46.7

Source: Primary (2019)

The study results are presented in the table above shows that most of the respondents amputees were abnormally depressed 28(46.7%) followed by a significant proportion of them that were at the borderline of suffering depression 21(35.0%). From the table only 11 (18.3%) of the respondent amputees who constitute the minority was found to be normal.

Other results as presented from the table above indicates that most of the amputees were suffering abnormally from anxiety 27 (45.0%) followed by a significant proportion of them that were at the borderline of suffering an anxiety disorder 20 (33.3%). As can be seen in the table, only 13(21.7%) of them were free of anxiety as a psychological consequences.

The study results lastly show that only 21(35.0%) of the respondent amputees who constituted the minority were not subject to post-traumatic stress disorder symptoms. Table 4.2 however indicates that the majority of the respondent amputees that were attending Mulago specialized

national hospital had symptoms of at least 2 Post-Traumatic Stress Disorders 28(46.7%). Results additionally show that up to 11(18.3%) of the amputees that were attending Mulago specialized national hospital had symptoms of at least 1 Post-Traumatic Stress Disorder. The forgoing results illustrate how unaware the amputees are in as far as controlling feeling which could worsen their quality of life and demonstrates the need for programs that minimize such psychological consequences.

4.4 The psychological interventions among amputees in Mulago specialized national hospital, Kampala-Uganda

This study as its third objective was set to examine the psychological interventions among amputees in Mulago specialized national hospital, Kampala-Uganda. To address this objective, descriptive results were processed and presented as illustrated in Table 4.5 below.

Table 4.7: The psychological interventions among amputees in Mulago specialized national hospital, Kampala-Uganda

Psychological interventions	Poor N(%)	Satisfactory N(%)	Excellent N(%)	Unavailable & needed	Unavailable & unneeded
Support groups	18(30.0)	16(26.7)	1(1.7)	19(31.7)	6(10.0)
Financial assistance	23(38.3)	28(46.7)	1(1.7)	7(11.7)	1(1.7)
Counseling Services	28(46.7)	3(5.0)	0(0.0)	26(43.3)	3(5.0)
Primary Care Provider	23(38.3)	27(45.0)	1(1.7)	7(11.7)	2(3.3)
Specialized Physicians	12(20.0)	36(60.0)	8(13.3)	0(0.0)	4(6.7)
Therapy Providers	13(21.7)	16(26.7)	0(0.0)	26(43.3)	5(8.3)

Source: Primary (2019)

Findings in table 4.5 above shows specialized physicians as the most satisfactorily provided psychological interventions among amputees in Mulago specialized national hospital 36(60.0%). This was closely followed by the other psychological intervention provided specifically primary care provision which was indicated by the majority of the amputees as satisfactory 27(45.0%)

The results in table 4.5 above indicate financial assistance 28(46.7%) and also therapy providers 16(26.7%) as the satisfactorily provided psychological interventions among amputees in Mulago specialized national hospital. The study findings as per table 4.5 above shows support groups as the other psychological intervention provided to the amputees in Mulago specialized national hospital rated as poor by the majority 18(30.0%) but with a significant proportion of them indicating it as satisfactory 16(26.7%).

The study findings also show counseling services as the other psychological interventions provided among amputees in Mulago specialized national hospital but reported as poor by the majority 28(46.7%). This result show how much gap exists in as far as improving the counseling services are concerned and is suggestive of the need for improvement programmes in this regard.

CHAPTER FIVE

DISCUSSION, CONCLUSIONS AND RECOMMENDATIONS

5.0 Introduction

This chapter provides the discussion of study results in relation to the objective of assessing the effect of psychological correlates of traumatic experiences on coping strategies of post amputation: a case study of Mulago specialized national hospital, Kampala-Uganda. It specifically discusses the findings comparing them with those of the previous studies particularly about the personality styles that enhance coping among amputees, the psychological consequences and the psychological interventions among amputees. The chapter also provides conclusions and makes recommendations for future redress.

5.1 Discussion of the findings

5.1.1 Personality styles that enhance coping among amputees

The current study established openness and neuroticism as not being statistically significant correlates that enhance coping styles amputees in Mulago specialized national hospital ($p > 0.05$). This study however found extraversion as a personality style has got a statistically positive correlate with the confrontational form of coping style demonstrated among the respondent amputees ($r = 0.279$, $p = 0.031 < 0.05$). The latter results is similar to one earlier found out by Lazarus and Folkman (1984) that emotion-focused coping within a person–environment relationship was altered by instrumental actions.

The results in this study also showed that agreeableness as a personality style had a significantly positive correlate that enhanced planful problem solving($r =0.278$, $p =0.032< 0.05$) and positive reappraisal ($r = 0.301$, $p = 0.019 < 0.05$) as a coping strategy. These results are much comparable

to those established by Dekker & Engbersen (2014) just like Lakkin and Knowlton (2015) who found a significant role that social networks played in facilitating coping.

This study in addition found conscientiousness as a negative correlate of coping styles particularly self-control ($r = -0.326$, $p = 0.011 < 0.05$) and escape avoidance ($r = -0.263$, $p = 0.043 < 0.05$). This result equally compares well with those earlier found out by Lazarus and Folkman, 1984) that showed that person and environment bond evolve as a result of a dynamic interplay between coping strategies, changes in the environment, and changes in the individual.

5.1.2 Psychological consequences among amputees

This study established the psychological consequences among amputees as abnormal depression (46.7%) and suffering abnormal anxiety (45.0%). These results are much similar to those earlier established by Hawamdeh et al. (2008) just as Srahbzu et al.(2017) that after an amputation the prevalence of depression and anxiety is as high as 41 per cent. The results equally compare well with those earlier established by Sahu et al.,(2016) that amputations are associated with a significantly decreased quality of life compared to lower extremity amputations because of substantial functional defects. These results are similarly comparable to those by Rybarczyk et al. (1992) that amputation is associated with depression, anxiety and disturbed body image.

The current study also found the psychological consequences among amputees as demonstrating symptoms of PTSD at 46.7% and 18.3% PTSD. These findings are much similar to those established by Mountany (2009) that the use of prostheses and orthosises in both lower and upper limb amputees can to lead to restlessness and also post-traumatic stress disorder among others. These are similarly comparable to those earlier established by Atherton and Robertson (2006) that amputation can trigger psychological distress in an individual. They are also similar

to those by Mischel (2004) who found experiencing trauma as resulting into developing of PTSD.

5.1.3 Psychological interventions among amputees

The current study found psychological interventions towards the amputees in Mulago Specialized hospital as specialized physician services (60.0%), primary care provision (45.0%) and financial assistance (46.7%). This study established the other psychological interventions as therapy provision (26.7%), support groups (26.7%) alongside counseling services but reported as poor by the majority 28(46.7%). These results are quite comparable to those earlier established by Srivastava (2010) that family therapy may be indicated to assist in reaching the proper balance between the legitimate support amputees need and the independence that they must regain. The current findings are as well similar to those earlier established by Dekker and Engbersen (2014) who found a significant role that social networks play in facilitating coping.

5.2 Conclusions

The personality styles such as extraversion, agreeableness and conscientiousness are crucial in the coping styles demonstrated amongst individuals who have had traumatic experiences and therefore need to be well aligned in supporting amputees.

The amputees who have had traumatic experiences are bound to suffer abnormal depression, anxiety with at least 1 or 2 Post-Traumatic Stress Disorders that need to be controlled in supporting the patients' wellbeing.

The psychological interventions particularly specialized physician services, primary care provision, financial assistance, therapy provision and support groups are crucial in enhancing wellbeing of the amputees that need to be supplemented with satisfactory counseling services.

5.3 Recommendations

Basing on the study objective, the study recommends health care providers in collaboration with the caregivers to institute mechanisms which help the amputees learn the approaches to embracing positive thinking about their present situations as minimize the negative psychological consequences.

The administrative staff of specialized units needs to put in place workable measures like avoiding unfair self-blame and inculcating a belief that they are still worth as to help amputees to improve their self-esteem thereby minimizing adverse psychological consequences

The management of psychological consequences such as depression, anxiety and PTSD after amputation need to be incorporated in the services provided to patients so as to enable them cope comprehensively despite of the challenges they go through.

The clinicians extending care to amputees need to seek training programmes that improve their counseling support skills if they are to contribute significantly improving patients' wellbeing at satisfactory levels.

5.4 Suggestions for Further Research

The present study was conducted only in Mulago Specialized national hospital, Kampala-Uganda which I think the results would vary if other hospitals were to be involved. In addition a bigger sample would be attained resulting in more generalizable findings. It is therefore recommended that future studies consider a census if not more health units and individuals that have had traumatic experiences.

The current study made use of quantitative research approaches only which do not bring out why some results are the way they are. It is thus recommended that future studies consider

triangulating quantitative with qualitative research approaches like focus group discussion or interviews for a more clearer views based on in-depth opinions.

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APPENDICIES

Budget

ITEM	QUANTITY	UNIT COST	AMOUNT(UGX)
STATIONARY			
Pens	6	500	3,000.00
ream of ruled papers	2	15,000	30,000.00
pencils	4	200	800.00
floppy/flash disk	4GB	35,000	35,000.00
SERVICES			
secretarial			50,000.00
photocopying			20,000.00
printing			20,000.00
binding	Hard cover	30,000	30,000.00
Accommodation & Feeding			100,000.00
Contingency			100,000.00
TOTAL			958,800.00

NB: the above items and costs are not the only expected expenses but those not mentioned do follow under the contingency.

Sample Size Determination Table

N	S	N	S	N	S	N	S	N	S
10	10	100	80	280	162	800	256	2,800	338
15	14	110	86	290	165	850	260	3,000	341
20	19	120	92	300	169	900	269	3,500	346
25	24	130	97	320	179	950	274	4,000	351
30	28	140	103	340	181	1000	278	4,500	354
35	32	150	108	360	186	1100	285	5,000	357
40	36	160	113	380	191	1200	291	6,000	361
45	40	170	118	400	196	1300	297	7,000	364
50	22	180	123	420	201	1400	302	8,000	367
55	48	190	127	440	205	1500	306	9,000	368
60	52	200	132	460	210	1600	310	10,000	370
65	56	210	136	480	214	1700	313	15,000	375
70	59	220	140	500	217	1800	317	20,000	377
75	63	230	144	550	226	1900	320	30,000	379
80	66	249	148	600	234	2000	322	40,000	380
85	70	250	152	650	242	2200	327	50,000	381
90	73	260	155	700	248	2400	331	75,000	382
95	76	270	159	750	254	2600	335	100,000	384

A sample size (S) required for a given population size (N)

SOURCE: Kreijcie & Morgan (1970), Determining sample size for research activities.
NOTE:

"N" is Population size
"S" is sample population

Consent Form

How are you? My name is Kakooza Sulaiman Mahmood, a Masters student from Uganda Martyrs University, Faculty of Health Sciences, and I am conducting a study on psychological correlates of traumatic experiences and coping strategies of post amputation. The Uganda Martyrs University's Institutional Review Board through my supervisors has allowed me to proceed with the study. In addition, authority from Mulago hospital orthopaedic department was also granted to carry out the study.

Rationale of the Study

The main objective is to assess for psychological correlates of traumatic experiences on coping strategies of post amputation: a case study of Mulago specialized national hospital, Kampala-Uganda

Background: The Principal investigator of this study is Kakooza Sulaiman Mahmood, a student of Master of Clinical Psychology and counselling. The study is being undertaken is for academic purposes as a requirement for the award of Masters Degree of Science in clinical psychology and counselling of Uganda Martyrs University.

Procedure: The information will be collected on the socio-demographic characteristics of clients, patients attending to amputee clinic and amputees who are using prostheses and orthosises in Mulago National Referral hospital.

Risk and Benefits: This study has no harm to you in any way except you may get some discomfort with some questions. The benefit is that the result will contribute towards the development of appropriate context specific and general recommendations to improve the quality of psychological wellbeing of amputees.

Rights: Participation in this study is voluntary. You can decide to refuse to participate. When you decide to assist me by participating in the study, you still have the liberty to withdraw from the

study. The withdrawal will not affect you and your family from receiving health services from this facility. You have the right to ask me any questions in relation to the study before you sign the consent form. In case you have no or cannot ask now, you still ask at any time during or after the interview. Anonymity and Confidentiality: Information you provide will be handled with utmost confidentiality, no information will be shared with any third party but for use by the principal investigator for the study. Your name will not be written on the interview forms.

Please do not hesitate to contact me for question or clarification even after the study. The researcher can be contacted on +256 772232271 /0702107604 or email kakoozasulaiman@gmail.com.

You may also contact the academic supervisor on telephone number +256 787934657.

Participant

I, _____, having given opportunity participate in this study; I am aware that I can refuse to participate or withdraw from the study without loss or benefit which I would have otherwise been eligible. Therefore based on all the information provided, I agree to participate in the study.

Name of Participant: _____

Signature or thumbprint: _____ Date _____

Interviewer's statement

I have explained the procedure to be followed by study participants to the best of my knowledge and he/she also agreed to participate in the study.

Signature of the interviewer _____ Date _____

Appendix V**: Questionnaire for the patients attending to amputee clinic and amputees who are using prostheses and orthosises**

SOCIO-DEMOGRAPHICS OF CLIENTS

QUESTIONNAIRE CODE: Completed by: _____

What is your age?	
What is your gender?	
What is your Marital status	
What is your highest level of education attained?	
Are you currently working or employed?	
Which year did the traumatic event take place?	
When where you amputated?	
Do you have People at hand to help?	
What was the cause of amputation?	

In Table B, please rate each potential source of support in terms of its helpfulness to you in caring by ticking in the appropriate column. In Table B, if service is not available (N/A) please respond in terms of whether this service is needed or not.

	Poor	Satisfactory	Excellent	Not available & needed	Not available & not needed
Support Groups					
Financial Assistance					
Counseling Services					
Primary Care Provider					
Specialized Physicians					
Therapy Providers					
Other (please specify)					

Hospital Anxiety and Depression Score (HADS)

This questionnaire helps your physician to know how you are feeling. Read every sentence. Place an "circle"on the answer that best describes how you have been feeling during the LAST WEEK. You do not have to think too much to answer. In this questionnaire, spontaneous answers are more important.

A	I feel tense or 'wound up'		D	I feel as if I am slowed down;	
	Most of the time	3		Nearly all the time	3
	A lot of the time	2		Very often	2
	From time to time	1		Some times	1
	Not at all	0		Not at all	0
D	I still enjoy the things I used to enjoy		A	I get a sort of frightened feeling	
	Definitely as much	0		like "butterflies" in the stomach;	
	Not quite as much	1		Not at all	0
	Only a little	2		Occasionally	1
	Hardly at all	3		Quite often	2
				Very often	3
A	I get a sort of frightened feeling as if something awful is about to happen;		D	I have lost interest in my appearance:	
	Very definitely and quite badly	3		Definitely	3
	Yes, but not too badly	2		I don't take as much care as I	2
	A little, but it doesn't worry me	1		should	
	Not at all	0		I may not take quite as much care	1
				I take just as much care	0
D	I can laugh and see the funny side of things;		A	I feel restless as I have to be on the move:	
	As much as I always could	0		Very much indeed	3
	Not quite so much now	1		Quite a lot	2
	Definitely not so much now	2		Not very much	1
	Not at all	3		Not at all	0
A	Worrying thoughts go through my mind;		D	I look forward with enjoyment to	

	A great deal of the time	3		things;	
	A lot of the time	2		As much as I ever did	0
	From time to time, but not often	1		Rather less than I used to	1
	Only occasionally	0		Definitely less than I used to	2
				Hardly at all	3
D	I feel cheerful;		A	I get sudden feelings of panic:	
	Not at all	3		Very often indeed	3
	Not often	2		Quite often	2
	Sometimes	1		Not very often	1
	Most of the time	0		Not at all	0
A	I can sit at ease and feel relaxed;		D	I can enjoy a good book or radio	
	Definitely	0		/TV program:	
	Usually	1		Often	0
	Not often	2		Sometimes	1
	Not at all	3		Not often	2
				Very seldom	3

Please check you have answered all the questions

Scoring:

Total score: Depression (D)…….. Anxiety (A)…….

0-7 = Normal

8-10 = borderline abnormal (borderline case)

11-21 = abnormal (case)

PTSD Checklist for DSM-5 (PCL-5)

Instructions: Below is a list of problems that people sometimes have in response to a very stressful experience. Please read each problem carefully and then circle one of the numbers to the right to indicate how much you have been bothered by that problem in the past month.

In the past month, how much were you bothered by:	Not at all	A little bit	Moderately	Quite a bit	Extremely
1. Repeated, disturbing, and unwanted memories of the stressful experience?	0	1	2	3	4
2. Repeated, disturbing dreams of the stressful experience?	0	1	2	3	4
3. Suddenly feeling or acting as if the stressful experience were actually happening again (as if you were actually back there reliving it)?	0	1	2	3	4
4. Feeling very upset when something reminded you of the stressful experience?	0	1	2	3	4
5. Having strong physical reactions when something reminded you of the stressful experience (for example, heart pounding, trouble breathing, sweating)?	0	1	2	3	4
6. Avoiding memories, thoughts, or feelings related to the stressful experience?	0	1	2	3	4
7. Avoiding external reminders of the stressful experience (for example, people, places, conversations, activities, objects, or situations)?	0	1	2	3	4

8. Trouble remembering important parts of the stressful experience?	0	1	2	3	4
9. Having strong negative beliefs about yourself, other people, or the world (for example, having thoughts such as: I am bad, there is something seriously wrong with me, no one can be trusted, the world is completely dangerous)?	0	1	2	3	4
10. Blaming yourself or someone else for the stressful experience or what happened after it?	0	1	2	3	4
11. Having strong negative feelings such as fear, horror, anger, guilt, or shame?	0	1	2	3	4
12. Loss of interest in activities that you used to enjoy?	0	1	2	3	4
13. Feeling distant or cut off from other people?	0	1	2	3	4
14. Trouble experiencing positive feelings (for example, being unable to feel happiness or have loving feelings for people close to you)?	0	1	2	3	4
15. Irritable behavior, angry outbursts, or acting aggressively?	0	1	2	3	4
16. Taking too many risks or doing things that could cause you harm?	0	1	2	3	4
17. Being “superalert” or watchful or on guard?	0	1	2	3	4
18. Feeling jumpy or easily startled?	0	1	2	3	4
19. Having difficulty concentrating?	0	1	2	3	4
20. Trouble falling or staying asleep?	0	1	2	3	4

WAYS OF COPING QUESTIONNAIRE

This tool helps to identify the thoughts and actions an individual uses to cope with specific stress full encounters. Tick in the box for the response appropriate

Item	Not used at all (1)	Somewhat (2)	Always used (3)
Just concentrated on what I had to do next – the next step.			
I tried to analyze the problem in order to understand it better.			
Turned to work or substitute activity to take my mind off things.			
I felt that time would make a difference – the only thing to do was to wait.			
Bargained or compromised to get something positive from the situation.			
I did something which I didn't think would work, but at least I was doing something.			
Tried to get the person responsible to change his or her mind.			
Talked to someone to find out more about the situation.			
Criticized or lectured myself.			
Tried not to burn my bridges, but leave things open somewhat.			
Hoped a miracle would happen.			
Went along with fate; sometimes I just have bad luck.			
Went on as if nothing had happened.			
I tried to keep my feelings to myself.			
Looked for the silver lining, so to speak; tried to look on the bright side of things.			
Slept more than usual.			
I expressed anger to the person(s) who caused the problem.			
Accepted sympathy and understanding from someone.			
I told myself things that helped me to feel better.			
I was inspired to do something creative.			
Tried to forget the whole thing.			
I got professional help.			
Changed or grew as a person in a good way.			
I waited to see what would happen before doing anything.			
I apologized or did something to make up.			
I made a plan of action and followed it.			
I accepted the next best thing to what I wanted.			
I let my feelings out somehow.			
Realized I brought the problem on myself.			
I came out of the experience better than when I went in.			
Talked to someone who could do something concrete about the problem.			
Got away from it for a while; tried to rest or take a vacation.			
Tried to make myself feel better by eating, drinking, smoking, using drugs or			
Took a big chance or did something very risky.			

I tried not to act too hastily or follow my first hunch.			
Found new faith.			
Maintained my pride and kept a stiff upper lip.			
Rediscovered what is important in life.			
Changed something so things would turn out all right.			
Avoided being with people in general.			
Didn't let it get to me; refused to think too much about it.			
I asked a relative or friend I respected for advice.			
Kept others from knowing how bad things were.			
Made light of the situation; refused to get too serious about it.			
Talked to someone about how I was feeling.			
Stood my ground and fought for what I wanted.			
Took it out on other people.			
Drew on my past experiences; I was in a similar situation before.			
I knew what had to be done, so I doubled my efforts to make things work.			
Refused to believe that it had happened.			
I made a promise to myself that things would be different next time.			
Came up with a couple of different solutions to the problem.			
Accepted it, since nothing could be done.			
I tried to keep my feelings from interfering with other things too much.			
Wished that I could change what had happened or how I felt.			
I changed something about myself.			
I daydreamed or imagined a better time or place than the one I was in.			
Wished that the situation would go away or somehow be over with.			
Had fantasies or wishes about how things might turn out.			
I prayed.			
I prepared myself for the worst.			
I went over in my mind what I would say or do.			
I thought about how a person I admire would handle this situation and used that			
I tried to see things from the other person's point of view.			
I reminded myself how much worse things could be.			
I jogged or exercised.			

The Big Five Inventory (BFI)

Here are a number of characteristics that may or may not apply to you. For example, do you agree that you are someone who likes to spend time with others? Please write a number next to each statement to indicate the extent to which you agree or disagree with that statement. Answer quickly. Please do not skip any item.

I see Myself as Someone Who	Disagree strongly (1)	Disagree a little (2)	Neither agree nor disagree (3)	Agree a little (4)	Agree strongly (5)
1. Is talkative					
2. Tends to find fault with others					
3. Does a thorough job					
4. Is depressed, blue					
5. Is original, comes up with new ideas					
6. Is reserved					
7. Is helpful and unselfish with others					
8. Can be somewhat careless					
9. Is relaxed, handles stress well					
10. Is curious about many different things					
11. Is full of energy					
12. Starts quarrels with others					
13. Is a reliable worker					
14. Can be tense					
15. Is ingenious, a deep thinker					
16. Generates a lot of enthusiasm					
17. Has a forgiving nature					
18. Tends to be disorganized					
19. Worries a lot					
20. Has an active imagination					
21. Tends to be quiet					
22. Is generally trusting					
23. Tends to be lazy					
24. Is emotionally stable, not easily upset					
25. Is inventive					
26. Has an assertive personality					
27. Can be cold and aloof					
28. Perseveres until the task is finished					
29. Can be moody					
30. Values artistic, aesthetic experiences					
31. Is sometimes shy, inhibited					
33. Does things efficiently					
34. Remains calm in tense situations					
35. Prefers work that is routine					
36. Is outgoing, sociable					

37. Is sometimes rude to others					
38. Makes plans and follows through with them					
39. Gets nervous easily					
40. Likes to reflect, play with ideas					
41. Has few artistic interests					
42. Likes to cooperate with others					
43. Is easily distracted					
44. Is sophisticated in art, music					

Scoring:

BFI scale scoring ("R" denotes reverse-scored items):

Extraversion: 1, 6R, 11, 16, 21R, 26, 31R, 36
Agreeableness: 2R, 7, 12R, 17, 22, 27R, 32, 37R, 42
Conscientiousness: 3, 8R, 13, 18R, 23R, 28, 33, 38, 43R
Neuroticism: 4, 9R, 14, 19, 24R, 29, 34R, 39
Openness: 5, 10, 15, 20, 25, 30, 35R, 40, 41R, 44

Coding sheet

S/N	Variable	Coding category	Measure/ description
1	Age of respondent	age	1=18-25 2=26-35 3=36-45 4=Above 45
2	Sex of respondent	gender	1=Male 2= female
3	Education level of the respondent	Educ level	1= none 2=primary 3=secondary 4=tertiary
4	Marital status of the respondent	marital	1= married 2=not married 3=separated 4=widowed
5	Employment status of the respondents	work	1= yes 2=no
6	Cause of amputation	cause	1= accidents 2= chronic illness 3= amunition
7	Time period when the traumatic event occurred	Trauma time	1= a month ago 2=1-3 years 3= more than 3years
8	Time period for amputation	Amputation time	1= a month ago 2=1-3 years 3= more than 3years
9	Type of amputation	type	1= both limbs 2=lower limb 3=upper limb 4=left arm 5= right arm