

**PREDICTIVE AND PROTECTIVE FACTORS OF COMPASSION FATIGUE  
AMONG HEALTH CARE PROFESSIONALS IN MOI TEACHING AND  
REFERRAL HOSPITAL – ELDORET, KENYA**

**BY**

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Master of Science Degree in Counseling Psychology, Department of Sociology and  
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**DECLARATION**

This thesis is my original work and has not been presented for a degree in this or any other University.

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**Recommendation**

The research was done under our supervision and this thesis therefore, has been submitted for examination with our approval as university supervisors.

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## **DEDICATION**

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## ABSTRACT

Compassion fatigue is a condition unique to the human service occupations, characterized by a state of tension and preoccupation with the traumatized clients by re-experiencing their traumatic events. With increased incidences of traumatic events both nationally and globally, the greater burden of care and after-care is usually borne by health care professionals. The objective of this study was to determine the predictive and protective factors of compassion fatigue among health care professionals in Moi Teaching and Referral Hospital (MTRH) Eldoret, Kenya. Approval to conduct this study was obtained from the Institutional Research Ethics Committee (IREC) which evaluates proposals for (Moi University & MTRH)), and the National Commission of Science Technology and Innovation (NACOSTI). The target population was health care professionals working in twelve units (grouped into more traumatizing and less traumatizing) offering specialized patient care services in MTRH. A simple random sampling technique was used to select a sample of 82 health care professionals comprising of 19 Doctors, 54 Nurses and 9 Counselors. The study was guided by Figley Model of Compassion Fatigue. The study adopted the Ex Post Facto research design. The independent variables were Work Setting and Years of Experience as predictors, Self-care as a protective factor while Compassion Fatigue was the dependent variable. Data was collected using a demographic questionnaire, the “Professional Quality of Life Scale (ProQoL) version V” and the Self-Care Assessment Worksheet. Data analysis was done using the Statistical Package for Social Sciences (SPSS - version 20.0). Analysis involved descriptive statistics, regression, analysis of variance (ANOVA) and t-tests. All the inferential statistics were tested at 0.05 level of significance and data presented in form of percentages, frequencies and means while graphic presentation was in form of charts, graphs and frequency tables. The study revealed that Work Experience and Work Setting were statistically significant predictors of Compassion Fatigue with  $F(3,69) = 5,281, p < 0.002$  and  $t(66.309) = 6.266, p < 0.000$  respectively. Self-care was found to be negatively correlated to Compassion Fatigue ( $r = - 0.766, p < 0.000$ ). The fitted regression model explained 76.1% ( $R^2 = 0.761, F=43.927, p < 0.000$ ) of the total variation of compassion fatigue in MTRH. The findings of this study will be useful to health care professionals in understanding compassion fatigue and possible interventions required to minimize it. Based on the findings of this study, it is recommended that the management of MTRH should support self-care activities among its staff at both personal and organization level and especially in high risk work settings. On matters of policy, professional licensing bodies such as Kenya Medical Association, Kenya Counseling and Psychological Association, Nursing Council of Kenya which license doctors, counselors and nurses respectively should include self-care, wellness and impairment of care providers in their respective curricular.

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**LIST OF ABBREVIATIONS AND ACRONYMS**

AIDS:	Acquired Immune Deficiency Syndrome
ADA-R	Alcohol and Drug Abuse Rehabilitation
CF	Compassion Fatigue
HCP	Health Care Professions
KNH	Kenyatta National Hospital
MTRH	Moi Teaching and Referral Hospital
NACOSTI	National Commission for Science, Technology and Innovation
ICU	Intensive Care Unit
IREC	Institutional Research Ethics Committee
ProQoL	Professional Quality of Life
HIV	Human Immuno Virus
PEV	Post Election Violence
PTSD	Post Traumatic Stress Disorder
SCAW	Self Care Assessment Worksheet
UK	United Kingdom

## **CHAPTER ONE**

### **INTRODUCTION**

#### **1.1 Overview of the Chapter**

This section of the study covers the background information, statement of the problem, purpose of the study, research questions, hypotheses, justification and significance of the study, scope and limitations, theoretical framework, conceptual framework and operational definitions of the terms used in this study.

#### **1.2 Background Information**

Compassion fatigue is a quick-developing condition that afflicts care givers with Post Traumatic Stress Disorder-like symptoms initiated by hearing the traumatic experiences of their clients (Figley, 2002). It is characterized by a state of tension and preoccupation with the traumatized patients by re-experiencing the traumatic events, avoidance or numbing of reminders and persistent arousal associated with the clients.

Figley (2012) defines compassion fatigue as the emotional and physical exhaustion that affects helping professionals and caregivers over time. This condition is associated with a gradual desensitization to patient stories, a decrease in quality care for patients and clients, an increase in clinical errors, higher rates of depression and anxiety disorders among helpers, and rising rates of stress, leave and gradation in workplace climate. Further, Figley opined that the most insidious aspect of compassion fatigue is that it attacks the very core of what brings helpers into this work: their empathy and compassion for others.

Compassion fatigue is therefore viewed as a by-product of working with traumatized or suffering individuals and it is unique to the human service occupations (Merriman, 2011). Features of compassion fatigue manifest as the care givers respond to emotional strain they experience during their empathetic engagement with care recipients, or from secondary exposure to distressing and traumatic materials (Figley, 2002).

Other terms have been used to describe the negative effects that result from working with traumatized clients. Common ones include Vicarious Trauma and Burnout. Vicarious trauma describes the pervasive changes that occur within clinicians over time as a result of working with clients who have experienced trauma. These include changes in the clinician's sense of self, spirituality, worldview, interpersonal relations and behavior (Way, VanDeusen & Martin, 2004). Further the terms vicarious trauma and compassion fatigue are often used interchangeably to describe the negative effect of dealing with survivors or victims of traumatic experiences and tend to share the same clinical manifestations (Sodeke-Gregson, Holtum & Billing, 2013, Way et al 2004 & Rodrigo, 2005). Burnout on the other hand is described as a prolonged response to chronic emotional and interpersonal stressors on the job and is defined by the three dimensions of exhaustion, cynicism and inefficacy (Maslach, 2003).

As observed from literature, helping traumatized people can be a satisfying undertaking; global statistics however indicate that caring for the wounded affects the carer, hence diminishing their ability to provide care (Chance, 2012). Studies done on Trauma counselors, Nursing personnel, Oncology nurses, Clinicians, Social workers, have shown

consistent relationship between working in the helping fields and development of compassion fatigue. Among the factors that have been attributed to development of compassion fatigue include the helper's age, gender, workload, work experience, work setting, access to supervision and management support, among others (Alhajjar, 2013; Chance, 2012; Dougherty, 2013 & Gillespie, 2013).

In a study on mental health counselors, Bowen (2010) found that work setting, lack of supervisor support, the nature of clients handled and workload determined counselors' compassion. These findings are consistent with those of a study done on therapists working with adult trauma clients in the United Kingdom and another one on South African health workers that revealed a 70% and 26.8% compassion fatigue prevalence rate respectively (Sodoke, et.al, 2013 & Smit, 2006). Studies have further revealed that management support and supervision were predictors of compassion satisfaction (Sodeke-Gregson et al, 2013), while years of experience and work setting were found to predict a higher risk of compassion fatigue (Star, 2013).

In Kenya, a study on burnout among health workers in Kenyatta National Hospital (KNH), posted a crude prevalence rate of 95.4% with socio-demographic factors and work environment related factors strongly contributing to the burnout syndrome (Kokonya, Mburu, Kathuku, Ndetei, Adams, Nshimirimana & Biraboneye, 2014). On the other hand, Nyagaya, Chepchieng, Njonge & Ombura (2014) found a prevalence level of 48.2% for Secondary Traumatic Stress (STS) among Psychotherapists in Nairobi and Nakuru while a study by Kabunga, A., Adina, J. & Disiye, M. (2014) on compassion

fatigue among counselors in Eldoret Municipality posted a prevalence rate of 52%. Literature on counselor burnout further indicates that professional burnout disables the counselor making it difficult for him/her to connect, bond and intervene productively in client situations (Gachutha, 2006). This, Gachutha asserts, leads to low energy, diminished empathy and diminished personal and professional awareness resulting in diminished professional effectiveness.

Though not much study has been documented on Compassion Fatigue in Kenya, global statistics clearly indicates that its prevalence is high among health care professionals of which Kenya is not exceptional. From the reviewed studies, factors such as years of experience, work setting and Self-Care among others have been identified as predictors and protectors of Compassion Fatigue.

Moi Teaching and Referral Hospital is the second largest referral facility in Kenya. Due to its location on the highway to Uganda, Rwanda, Burundi and South Sudan, hospital handles emergencies of all nature from Western Kenya Regions and beyond. Health care professionals in the institution are therefore always on high alert because of the risks of exposure to highly infectious diseases such as Ebola and Multi-Drug Resistance Tuberculosis (MDR), among other dreadful conditions. Further, survivors of critical incidents such as the 2007/8 Post Election Violence (Human Rights Watch, 2007-2008) that affected the country are usually attended to at MTRH. The health care professionals not only attended to the hospitalized patients but also extended care to the survivors in the refugee camps. This further exposed them to traumatic experiences.



### **1.3 Statement of the Problem**

Kenya has been experiencing a myriad of traumatic incidences in the last two decades, which have been increasing by the day. These include critical incidences are such as domestic violence (Human Rights Watch, 2007-2008), bizarre murders, rape and kidnappings (Kenya Police Report, 2014), collapsing of buildings (The Commission on Administration of Justice Report, 2015) which have led to deaths and injuries. Terror attacks have also been experienced in Nairobi, Lamu, Mandera, Wajir and the attack on Garrisa University College where 147 students lost their lives and scores of others suffered both physical and psychological trauma (National Consortium Report 2015). The country is also facing an upsurge of both social and medical problems such as alcohol and drug abuse (NACADA, 2012), chronic illnesses such as cancer and HIV/AIDs (Ministry of Health, Kenya 2013; Kenya AIDS Response Progress Report, 2016). Effects of all these and many other health related issues requiring medical interventions expose health care professionals to compassion fatigue.

Helping people, who have undergone trauma either from natural disasters, accidents, or sudden acts of violence, can be a highly satisfying activity but it can also have a negative impact on the caregiver. Continuous and prolonged exposure to the suffering of patient/clients experiencing trauma can lead to various responses including burnout, compassion fatigue, and compassion satisfaction (Craig & Sprang, 2010). Figley (2002) postulates that compassion fatigue is a serious occupational hazard for health care professionals who in an effort to view the world in the perspective of the suffering, suffer themselves leading to reduced capacity or interest in bearing the suffering of others.

Gachutha (2006) and Merriman (2011) further propose that there is an imminent need for the caring professionals to become aware of the causes, risks and preventive strategies of compassion fatigue if their capacity of being empathic and bearing the clients' suffering is to be maintained or enhanced.

Prevalence of Compassion Fatigue among health professionals in other parts of the world has been widely studied (Smit, 2006). However, limited studies have been documented in Kenyan hospitals. Specifically no study was found that has attempted to carry out an investigation of compassion fatigue on more than one health care profession in one setting. Further no documented study was found that draws a comparison of the constructs among doctors, nurses and counselors in MTRH despite the widespread evidence of compassion fatigue in this population globally. This study therefore envisaged filling this gap.

#### **1.4 Purpose of the study**

The purpose of this study was to determine the predictive and protective factors of compassion fatigue among health care professionals in MTRH.

#### **1.5 Objectives of the study**

The general objective of this study was to determine the predictive and protective factors of compassion fatigue among health care professionals in MTRH. The specific objectives were:

- i) To establish the predictive role of work experience in the development of compassion fatigue among health care professionals in MTRH.
- ii) To determine the role of work setting as a predictive factor in the development of compassion fatigue among health care professionals in MTRH.
- iii) To determine the role of self-care as a protective factor for compassion fatigue among health care professionals in MTRH.

### **1.6 Hypotheses of the study**

The following hypotheses were tested to determine the association between the independent and dependent variables:-

- i)  $H_{01}$ : There is no significant association between work experience and the development of compassion fatigue amongst health care professionals in MTRH
- ii)  $H_{02}$ : There is no significant association between work setting and the development of compassion fatigue amongst health care professionals in MTRH
- iii)  $H_{03}$ : There is no significant association between self-care and development of compassion fatigue amongst health care professionals in MTRH

### **1.7 Significance of the Study**

The findings of this study will be used to create awareness amongst health care professionals in MTRH and beyond on the relationship between work settings, work experience and self-care and development of compassion fatigue among health care professionals. Other helping professions such as social workers, teachers, and rescue workers among others are set to benefit from the findings of this study because they will

gain understanding on possible interventions required to minimize compassion fatigue which will in turn improve the quality of their work. Further, the findings will inform training institutions, professional bodies and policy makers in making informed decisions that will improve the quality of life of health care professionals. These findings will also contribute to the general body of knowledge gaps identified offer room for further studies.

### **1.8 Justification of the study**

Although there is evidence of widespread compassion fatigue among health care professionals globally, studies on its prevalence among health professionals in Kenya are limited. Specifically no study has attempted to carry out an investigation of compassion fatigue among health care professionals in MTRH and more importantly none has so far attempted to draw a comparison of the construct among doctors, nurses and counselors. Empirical research findings on this area will therefore be valuable not only to the study participants and health care professionals in MTRH but also to other health care institutions and further contribute to the existing body of knowledge.

### **1.9 Scope of the Study**

The study aimed at determining the predictive and protective factors of compassion fatigue among health care professionals in MTRH which is the second largest referral hospital in Kenya after Kenyatta National Hospital. The hospital is located along Nandi Road in Eldoret town, Uasin Gishu County. The study was limited to Doctors, Nurses and Counselors working in twelve hospital units offering specialized patient care. The

units included Intensive Care Unit (ICU)/High Dependence Unit (HDU), Sexual and Gender Based Violence Centre (CAR\_E), Oncology Unit, New Born Unit (NBU) and Ophthalmology (Eye) Unit. The other units were Alcohol and Drug Rehabilitation Unit (ADA-R), Psychiatric unit, Accident and Emergency Department, Burns Unit, Cardiac Care Unit, Renal Unit and Labour Ward. The study sought to determine the influence of work experience, work setting and self-care in the development of compassion fatigue among doctors, nurses and counselors.

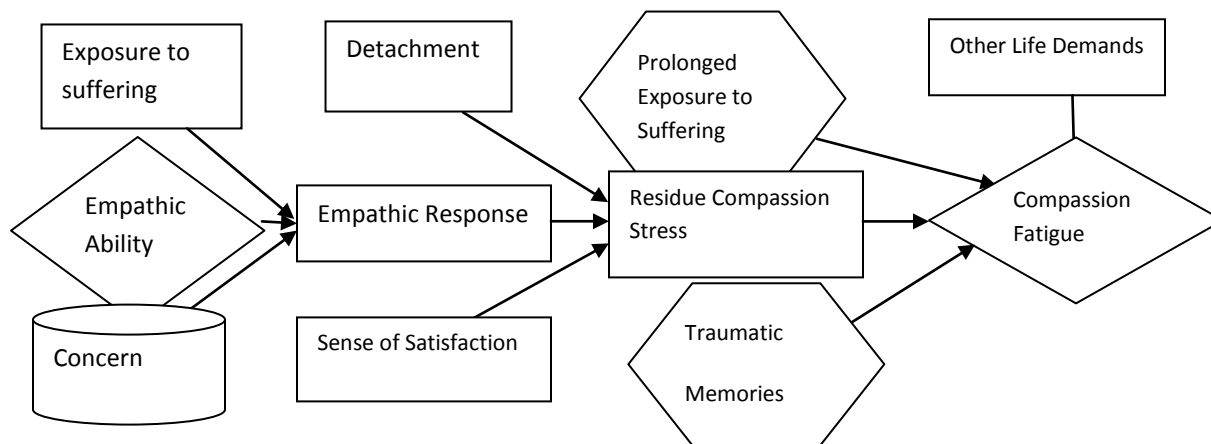
### **1.10 Limitations of the Study**

Given that the study employed an ex post facto design which focuses on studying facts that have already occurred, other factors that would influence compassion fatigue were not put into consideration since they were beyond the scope of this study.

### **1.11 Theoretical framework**

The theoretical framework of this study was based on Compassion Fatigue Process Model by Figley (2002). Figley defines Compassion fatigue as a state of tension and preoccupation with the traumatized clients by re-experiencing traumatic events, avoidance/numbing of reminders, and persistent anxiety associated with the client. As a by-product of working with traumatized or suffering individuals compassion fatigue is unique to the human service occupations and it can develop in response to emotional strain which arises when human service workers are required to sustain high levels of empathetic engagement with care recipients, or from secondary exposure to distressing and traumatic events (Figley, 2002).

The model consists of eleven components which are thought to bring about the onset of Compassion Fatigue. The variables outline both the predictive and progressive nature of compassion fatigue which can assist in recognizing its development and the protective factors as demonstrated in the diagrammatic presentation of the model in Figure 1.1.



**Figure 1.1:** The Compassion Fatigue Process model: Adopted from Figley (2002, p. 1437).

As demonstrated in the model, in order to experience compassion or Compassion fatigue, the clinician must first possess the capacity for empathetic understanding which is at the initial part of the process indicated in the diagram as “Empathic Ability”. Empathic Ability on its own, according to Star (2013) is regarded as ineffective in the absence of “Concern”. Figley (2002) postulates that insight into the feelings, thoughts and behaviors of the client is achieved by putting oneself into the perspective of the client. Empathic concern is what motivates the therapists to respond to people in need (Figley, 2002), without which the health worker may not choose to intervene.

This insight into feelings, thoughts, and behaviors of the client is achieved by projecting one's self into the perspective of the client. In doing so, the therapist might experience the hurt, fear, anger, or other emotions experienced by the client. Figley (1995) speculated that an increased capacity for empathy subjects the caregiver to a higher likelihood of developing compassion fatigue since empathetic understanding can connect the individual more fully to the client and subject him/her to feeling more of the pain.

The outcome of this empathic response can manifest itself in two ways which serve as protective factors; a "sense of satisfaction" which leaves the caregiver feeling fulfilled, and "detachment" also referred to as disengagement. Ringenbach (2009) referred to professional disengagement as a protective factor that helps to reduce the impact of compassion stress. Detachment is the extent to which a therapist can distance him/herself from the ongoing misery of the client between care delivery sessions. A caregiver's ability to disengage requires the individual to consciously "let go" of the patient's feelings, thoughts and behaviors and establish a degree of professional distance from his or her work. Caregiver's inability to disengage may lead to "Residual Compassion Stress" which is described as the residue of emotional energy from the empathic response to the client and the on-going demand for action to relieve the suffering (Figley, 2002).

Documented studies on compassion fatigue have further demonstrated the effect of work load on caregivers' wellbeing with a large body of research on counselors for instance recommending that they handle manageable caseloads, take advantage of time off and allow for time away from being in compassionate service to others (Star, 2013). This has

been shown to ameliorate the effects of consistent exposure to traumatic materials and cases demonstrated in the model as “Prolonged Exposure to Suffering”. Figley (2002) observed that prolonged exposure to suffering leads to “Traumatic Memories” which he describes as a phase in which the therapist is faced with disturbing recollections of clients’ stories that elicit PTSD-like symptoms of compassion fatigue. These symptoms include sleep disturbances, overwhelming thoughts and memories concerning the clients’ experiences of trauma, becoming easily frightened by noises or change in environment, and despondent or nervous mood.

“Life Demands” according to Figley (2002) is the last piece in the Compassion Fatigue Process model, with studies showing that any dramatic shift in the clinician’s life such as family responsibility, ill health or receiving new professional demands can contribute to the development of compassion fatigue. Ringenbach (2009) refers to these life demands as life disruptions described as the unexpected changes in schedule, routine, and managing life responsibilities that demand attention on the part of the therapist. Ringenbach further asserts that although life disruptions alone are unlikely to result in compassion fatigue, when combined with the other risk factors and a lack of protective factors, these disruptions can increase the risk of compassion fatigue.

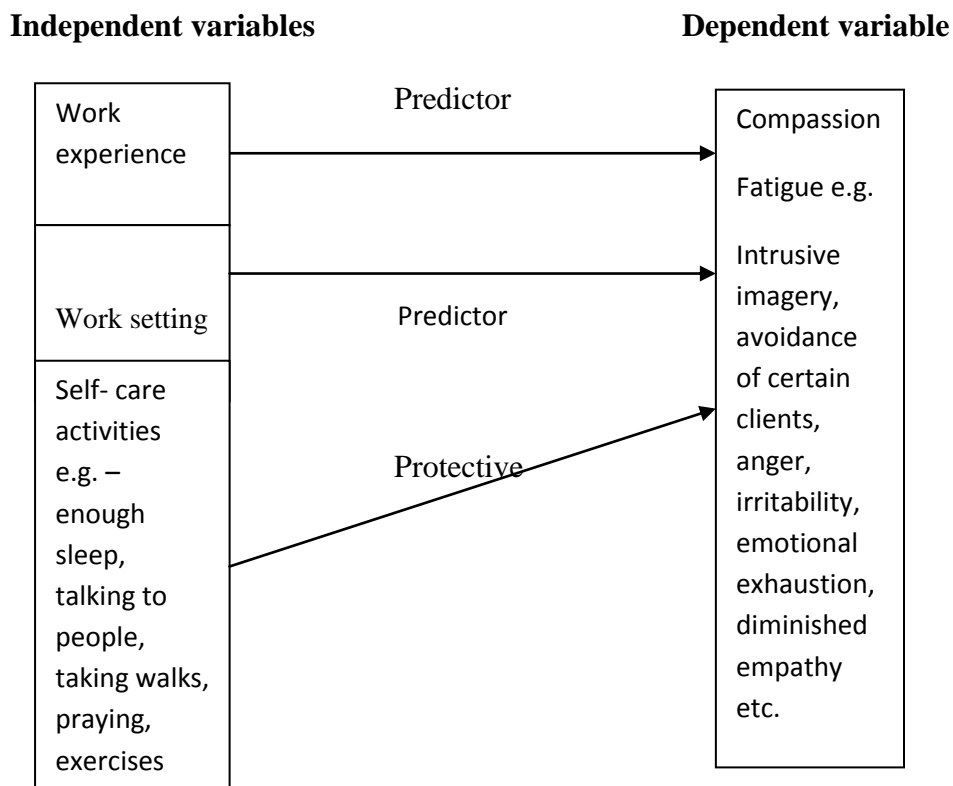
Health care professionals are exposed to patients and clients every time they sit to listen to their stories or offer medical care. To effectively attend to these sufferings they need to display an empathic ability which Figley, as cited by Ringenbach (2009) refers to as the aptitude of the psychotherapist. Ringenbach asserts that whether the empathy is



dispositional or learned as a part of the individual's professional training, accurately detecting and discerning the emotions of another is a vital component in the development and maintenance of the therapeutic alliance yet without it, there would be little or no risk of compassion stress or fatigue. Compassion Fatigue Process Model therefore is quite ideal for this study.

### **1.12 Conceptual framework**

Kombo and Tromp (2006) define a conceptual framework as a set of broad ideas and principles taken from relevant fields of inquiry and used to structure a subsequent presentation. It explains the association between interlinked concepts under study. In this study, the conceptual framework sought to explain the relationship between predictive and protective factors of compassion fatigue and its development. The concepts under investigation in this study were whether work experience denoted by the length of time one has worked as a health provider and work setting, thus the types of clients one handles are predictors of development of compassion fatigue. The study also sought to investigate whether self-care activities employed by the health care professionals act as protective factor to the development of compassion fatigue.



**Figure 1.2:** Relationship between work experience, work setting, self-care activities and compassion fatigue

This conceptual framework seeks to explain the association between work experience (independent variable) which is defined by the number of years that one has worked as a health care provider and its contribution to compassion fatigue which is a dependent variable. Work setting (independent variable), denoted by the nature of clients that one handles, such as working with cancer patients or survivors of gender based violence is also investigated in order to determine its relationship with compassion fatigue.

Self-care (independent variable) focuses on a holistic approach, in which the health care professional examines own life, considers areas that are being neglected, and formulates

prospective adjustments as a way to not only achieve greater balance, but to also prevent the debilitating phenomena of compassion fatigue (Star, 2013). The role of this variable as a protective factor is also demonstrated in this conceptual framework.

### **1.13 Operational Definition of Terms**

**Burnout:** Maslach (2003) defines burnout as a psychological syndrome involving Emotional exhaustion, depersonalization, and a diminished sense of personal accomplishment that occurs among professionals who work with other people in challenging situations.

**Compassion:** According to this study compassion is a deep awareness of the suffering of another, coupled with the wish and/or action to relieve the suffering or relieve the problem. It is a state induced by another person's suffering.

**Compassion Fatigue:** Compassion fatigue is the emotional and physical exhaustion that affects helping professionals and caregivers over time. The condition is associated with a gradual desensitization to patient stories, a decrease in quality care for patients and clients, an increase in clinical errors, higher rates of depression and anxiety disorders among helpers, and rising rates of stress, leave and gradation in workplace climate.

**Compassion Satisfaction:** This is the ability to gain or receive a sense of meaning or purpose from the help that a health care worker gives to others.

**Empathy:** The feeling of emotional concern for others expressed through feelings of warmth, compassion, and care. It is considered to be a key common factor in developing a working alliance and positive counseling outcomes.

**Health Care professionals:** In this study, health care professionals are doctors, nurses and counselors who provide health services to patients and clients in MTRH.

**Post-traumatic Stress Disorder:** A condition of persistent mental and emotional stress occurring as a result of injury or severe psychological shock, typically involving disturbance of sleep and constant vivid recall of the experience, with dulled responses to others and to the outside world.

**Protective Factors:** Factors that help prevent the development of compassion fatigue among health care workers. In this study self-care is a protective factor.

**Predictive factors:** Factors that are considered to be risk factors to development of compassion fatigue among health care workers. This study considered work experience and work setting as predictive factors.

**Registrar:** A doctor receiving advanced training in a specialist field of medicine in order to eventually become a consultant.

**Secondary Traumatic Stress:** The stress resulting from helping or wanting to help a traumatized or suffering person. This is a kind of stress which can be incurred when an individual is exposed to people who have been traumatized themselves, disturbing descriptions of traumatic events by a survivor, or others inflicting cruelty on one another.

**Self-care:** Self-care refers to activities in which one proactively engages for personal wellness, growth-promoting habits, and prevention.

**Specialized Unit:** These are wards or departments in MTRH that provide distinct care to the patients based on their diagnosis and are usually manned by health care workers who are trained and possess special skills that other health care workers may not have. In this study, the following units will be used; ICU/HDU, Oncology, Sexual and Gender Based Violence Centre, New Born Unit (NBU), Ophthalmology, Alcohol and Drug Abuse Rehabilitation Unit, Burns Unit, Accident and Emergency Unit, Cardiac Care Unit, Renal Unit, Labour Ward and Psychiatry Unit.

**Supervision:** An intensive, interpersonally focused relationship in which one person is designated to facilitate the development of therapeutic competence in the other person. It can be done in groups or on one-to-one basis.

**Trauma:** This study will consider trauma as any serious injury to the body (physical), resulting from violence or an accident, an emotional wound leading to psychological injury or an event that causes great distress.

**Traumatized client:** It will refer to an individual who has gone through any serious injury to the body (physical), resulting from violence or an accident, an emotional wound leading to psychological injury or an event that causes great distress.

**Vicarious trauma:** The emotional residue of exposure that counselors have from working with people as they are hearing their trauma stories and become witnesses to the pain, fear, and terror that trauma survivors have endured. Symptoms include avoiding talking or thinking about what the trauma effected client(s) have been talking about, numbness and persistent arousal state.

**Work experience:** In this study, work experience is described as the length of time that a health care professional has taken in performing a particular task. It includes years of training, knowledge, skills, exposure and professionalism of a health care professionals.

**Work Setting:** Work setting is defined by the nature of clients a health care worker handles. In this study working with gender and sexual abuse clients, the chronically ill, new born babies, substance abuse among other conditions will be used to denote work setting.

### **1.14 Chapter Summary**

Compassion fatigue can affect health care professionals physically, cognitively, spiritually, and behaviorally. The phenomenon is a serious occupational hazard for health care professionals who in an effort to view the world in the perspective of the suffering, suffer themselves leading to reduced capacity or interest in bearing the suffering of others (Figley,2002). Reviewed studies indicate that there is an imminent need for healthcare professionals to become educated on the causes, risks and preventive strategies of compassion fatigue if their capacity of being empathic and bearing the clients' suffering is to be maintained or enhanced (Merriman, 2011; Gachutha, 2006). It is on the basis of this that the objectives and justification of this study were derived. The Figley (2002) Model used in this study clearly demonstrates how compassion fatigue develops. This study therefore aimed at ascertaining whether the length of time a health care professional worked in a particular work setting and their work experience could determine whether they could develop compassion fatigue and how self-care effects experience of compassion fatigue.

## **CHAPTER TWO**

### **LITERATURE REVIEW**

#### **2.1 Chapter Overview**

This chapter presents a review of the current literature on compassion fatigue among health care professionals, thus; doctors, nurses and counselors. The construct compassion fatigue was discussed in the light of its relation to the health care professional's work experience and work setting. Empirical studies were reviewed to establish the role of these two variables as predictive factors to the development of compassion fatigue. Literature on Self- Care as a protective factor was also reviewed.

#### **2.2 Compassion**

Compassion is an awareness of another's suffering or distress with a desire to provide relief. It involves a number of components, including a desire to care for the well-being of another person (altruism), the ability to detect distress in another (affective empathy), being emotionally affected by that distress (sympathy), the ability to tolerate the emotional pain of another (distress tolerance), ability to understand the reasons for others' suffering and an understanding of what is necessary to alleviate that suffering (cognitive empathy), and a non-judgmental stance. To be meaningful, these components must be accompanied by an emotional tone of warmth while lack of any one of these components makes compassion difficult (Bowen, 2010; Gillispie, 2013; Ringenbach, 2009). Compassion differs from empathy or sympathy because it requires concern, understanding, and an active desire to impact the life of another (Figley, 2002). Empathy which is a key pillar in humanistic therapy is the ability to accurately understand what the



other person is experiencing and communicate that understanding to the individual. Fuster (2003) describes empathy as the ability of the counselor to tune in on the counselee's wave-length while in sympathy the counselor gets emotionally involved with the client leading to loss of objectivity. As health care professionals provide care to their patients, they show compassion to their suffering. Prolonged exposure to these distressing circumstances, lack or little work experience combined with situations where the health care professionals do not engage in self-care activities may lead to compassion fatigue.

### **2.2.1 Compassion Satisfaction**

Compassion satisfaction is the positive aspect of helping others which Stamm ( 2010) described as the pleasure derived from being able to do one's work well, feeling positive about relationships with colleagues, ones contribution toward the greater good of society, and one's ability to help others through own work. Compassion Satisfaction is made up of three elements: (i) the level of satisfaction that a person derives from their job; (ii) how well a person feels they are doing in their job, related to the levels of competency and control that therapists feel they have over the traumatic material they are exposed to; and (iii) the level of positive collegiate support that a person has, with aspects of structural and functional social support being particularly important (Stamm, 2009).

Despite much of the negativity surrounding the controversy of stress and the workplace environment, there are many helping professionals who derive a great deal of satisfaction from being a helper and are not burned out even after many years of service. Much of this ability to experience compassion satisfaction as Figley (2002) asserts stems from the

helping professionals' support systems and resiliency. As health care workers observe their patients regain strength and recover from their disease and injuries they experience a sense of satisfaction. This may be explained by their dedication to work despite the numerous challenges they face.

### **2.2.2 Compassion Fatigue (CF)**

Nyagaya (2014) describes Compassion Fatigue as the natural consequent behavior resulting from knowledge about a traumatizing event experienced by a significant other and the stress that results from wanting to help or helping a traumatized person. Figley (2002) defined compassion as a feeling of deep sympathy for the pain, anguish, and hardship of another person and defined Compassion stress, as a form of distress or pressure related to feelings of caring.

The term Compassion Fatigue is also referred to as Secondary Traumatic Stress (STS). Studies on compassion fatigue attribute its development to the impact of responding compassionately to clients with trauma. Vicarious Traumatization and Secondary Traumatic Stress are terms used interchangeably with compassion fatigue to describe the potential emotional impact on health care workers working with traumatized patients and clients (Nimmo & Huggard, 2013). Although a large body of literature discusses work related experiences as having negative personal effect, others suggest that these effects should be viewed as normal consequences of working in a caring and helping profession (Star, 2013, Felton, Coates & Christopher, 2013). According to Gillespie (2013), the main effects of compassion fatigue is its ability to emotionally devastate the career. Gillespie

further found that individuals in the helping professions have a propensity to have personalities that make them more susceptible to compassion fatigue and lack the ability to recognize the symptoms. Further, health care professionals work under organizational factors that make its development inevitable. They need to be equipped with knowledge that will enable them understand how their work setting, work experience and lack of self-care can progressively lead to compassion fatigue.

### **2.2.3 Stages of Compassion Fatigue**

Compassion fatigue manifests itself abruptly without warning (Portnoy, 2011). The phenomenon is usually manifested by feelings of hopelessness and loss of meaning to anything one does. The syndrome also presents with Post Traumatic Stress Disorder symptoms like strong feelings of anxiety, lack of concentration, insomnia, disturbing images, and drug or alcohol abuse (Kabunga et al, 2014).

Stages of compassion fatigue development (Cole, as cited in Kabunga et.al 2014, p. 22) are:-Compassion discomfort: this is the first stage and is considered to be temporary and can be alleviated by plenty of rest. Symptoms of this stage include weariness, lessened enthusiasm, and diminished attention. The second stage is Compassion Stress: this stage develops if the first stage is not attended to. It is characterized by high levels of stress and decreased levels of endurance. The affected person exhibits loss of energy, diminished performance, irritability and lack of concentration. If this second stage is not attended to, the condition progresses to the third stage, Compassion Fatigue, which is the

final stage. It is characterized by indifference or apathy to situations, poor judgment, defensive reactions, chronic fatigue and loss of hope.

The very act of being compassionate and empathic extracts a cost which, like as in any other kind of fatigue, reduces the care givers capacity or interest in bearing the suffering of others (Figley, 2002). Several factors are therefore associated with compassion fatigue as discussed in the next subsection.

### **2.3 Compassion Fatigue among Health Care Professionals**

Providing care to people in need can be highly rewarding, however, the demands associated with it can also be highly stressful and especially in health care delivery. Working with patients who are in critical conditions, the terminally ill, survivors of sexual and gender based violence and other forms of physical, social and psychological traumas are some of the situations that have been identified as traumatic to health care professionals. Continuous and prolonged exposure to the stress of working with these myriad of trauma-related stressors experienced by clients has been identified as key factors that lead to compassion fatigue (Figley, 2002). Figley further asserts that the symptoms of compassion fatigue can develop after one significant exposure to the trauma of another person, and may emerge without warning. However, the syndrome has proven to be highly treatable if it is recognized and acknowledged, and does not usually necessitate that an individual leave their work environment.

### **2.3.1 Compassion Fatigue among Nurses**

Compassion fatigue has been found to influence nursing care providers in a variety of specialized healthcare settings (Chatterton, 2014). Chatterton's study further revealed that nurses conceptualize compassion fatigue as a unique experience: one of impotence, isolation, and meaninglessness with varying symptoms such as decreased empathy towards patients, increased absenteeism, decreased job performance and irritability, among other symptoms. In a study on cancer nurses by Gillespie (2013), 75% of the respondents reported preoccupation with the patients they cared for while 44% and 48% respectively were unable to separate their personal lives from their lives as cancer nurses and experienced traumatic stress associated with these patients. These findings clearly reveal the impact of compassion fatigue among the nursing cadre.

A comparative study on prevalence of Compassion Fatigue among nurse educators by Gardner III (2014) revealed that younger nurse educators demonstrated high level of compassion fatigue compared to older ones. This was attributed to development of decision making and problem solving skills as they developed in their career. Inexperienced nurses were found to face an initial shock when confronted by the realities of the career they have chosen and the many decisions they have to make concerning their patient. This discomfort often leads to experiences of feelings of incompetency and uncertainty in their work. Besides experience, aspects such as a lack of supervision and training opportunities, availability of social support at work as well as availability of information within an organization, have been linked to the onset and development of burnout which if not attended to progresses on to compassion fatigue (Chatterton, 2014).

Availability of social support including nurses own peers could help them perfect their coping techniques as well as improve their problem solving and decision making skills. This could enhance compassion satisfaction which is a key strand in prevention of compassion fatigue.

Gardener III (2014) observed that nurses, regardless of their work setting, country or race often face the daily challenge of serving as healer, rescuer, and helper as they care for patients. This observation cuts across all the nursing fraternity and nurses in MTRH are not exceptional as they too are faced with the same caring demands. There is therefore a need to equip them with knowledge that will help to recognize symptoms of compassion fatigue and its management in order to care for themselves, their patients, and other service consumers in the healthcare community. This situation therefore justifies this study.

### **2.3.2 Compassion Fatigue among Doctors**

Doctors are expected to practice medicine compassionately. Indeed, as part of their professional practice statements, professional and medical regulatory bodies such as Kenya Medical Association stipulate that doctors must practice medicine compassionately. Equally, patients anticipate compassionate caring from their medical professionals where compassionate caring is associated with greater patient satisfaction, better doctor-patient relationships, and improved psychological states among patients (Fernando & Consedine, 2014). Though compassion is an essential foundation of the doctors' occupation, driving the sense of duty towards their patients and the satisfaction

gained from the alleviation of pain and suffering without appropriate safeguards can lead to compassion fatigue (Figley, 2002). Figley (2002) also noted that repeated exposure to demanding interpersonal and traumatic situations can also be a factor that puts the doctors in a high risk of developing compassion fatigue.

Studies on compassion fatigue among doctors are scarce, especially in Kenya. This could be due to the general unsupported belief that doctors are strong enough to manage their lives and failure to do so is viewed as a sign of weakness. This however does not mean that they do not experience compassion fatigue. Empirical studies have shown that up to one third of practicing clinicians could be expected to be suffering from burnout if assessed cross-sectionally, and more importantly, there has been an increasing trend in the emotional exhaustion of clinicians over the years (Bhutani, Bhutani & Balhasa, 2012). The study further showed that the emotional exhaustion and other traumatic experiences assumes a greater significance in context of clinicians involved in care of individuals diagnosed with chronic medical illnesses.

A study on Physicians in Israel which is a country with high incidents of war and terror attacks revealed high levels of Post-Traumatic Stress Disorder (PTSD) which was associated with high levels of compassion fatigue (Haber, Palgi, Hamama-Raz, Shrira, Ben-Ezra, 2013). The PTSD symptoms dulled the doctor's responses to others and the outside world. Further, a study by Kearney, Weininger, & Vachon (2009) revealed that doctors providing end-of-life care exhibited psychiatric disturbances such as depressive symptoms, anxiety and sleep disturbances with female doctors reporting high incidence

of psychological disturbance compared to their male counterpart. The nature of a physician's work was therefore found to be a potential risk factor for the development of compassion fatigue or vicarious traumatization. Literature has further revealed that physicians who provide certain types of care, such as sexual abuse therapy or HIV-AIDS treatment may be at greater risk of compassion fatigue in comparison to others (Nimmo & Haggurd, 2013).

In a study that compared the prevalence of burnout among medical practitioners in Kenyatta National Hospital which is the largest referral hospital in Kenya, Kokonya, Mburu, Kathuku and Ndeti, (2014) found that burnout prevalence rate was high at 96.7% for medical practitioners compared to that of nurses which was 94.1%. Factors such as practitioners' age, gender and years of service were found to be determinants of burnout among these practitioners. As the second largest referral hospital in Kenya, MTRH serve the same types of patients as KNH with more or less the same working conditions in terms of infrastructure and human capital. There was therefore a high likelihood of getting similar findings if the study were carried out in MTRH.

Compassion fatigue and burnout have also been associated with the experience and age of a therapist (Bhutani et al. 2012). Bhutani also found that work experience supported the patient-clinician relationship and ensured better health care from the clinician's end. Further, the study revealed that although it is expected that clinicians play host to a high level of compassion fatigue, the issues remain relatively under researched. The same scenario applies to Kenya and MTRH in particular as observed in this study where no



documented literature on compassion fatigue among doctors was found. This therefore formed the basis of this study as the researcher investigated the influence of work setting, work experience and self-care on development of compassion fatigue among doctors.

### **2.3.3 Compassion Fatigue among Counselors**

A therapeutic relationship is an intense interpersonal process between the therapist (counselor) and the client in need of help, guidance and counseling (Skovholt, 2012). For its success, the counselor must bring so much of him/herself to the meeting with the client; emotional self, intellectual self, energetic self, hopeful self, ethical self, knowledgeable and competent self, sensitive self, emotionally courageous self, trusting self, confident self, empathic self among others. These and other skills and techniques are what the counselor must actively bring into the counseling session in order to establish a working alliance with a client (Bowen, 2010; Chance, 2012).

Among behavioral health professionals working with traumatized clients, continuous and prolonged exposure to clients' traumas has been observed to lead to cardinal responses in the therapists which include burnout, compassion fatigue, and compassion satisfaction (Craig & Sprang, 2010). Research has however shown that therapists who work with trauma clients are impacted both positively and negatively with global statistics indicating that, though caring for the wounded wounds the carer to some it is a source of their satisfaction (Figley, 2002). Factors such as work environment, lack of supervisor support, the nature of clients handled and workload have been found to determine counselors' compassion (Bowen, 2010). This is consistent with the findings from a study

on UK therapists working with adult trauma clients that revealed a 70% risk of therapists developing compassion fatigue with maturity, a higher perceived supportiveness of management, and supervision being predictors for compassion satisfaction (Sodeke-Gregson et al, 2013). Some studies have further revealed that perceived low supportiveness of management, years of experience and being female predict a higher risk of compassion fatigue among therapists (Star, 2013).

A study by Nyagaya et al. (2014) on Secondary Traumatic Stress among Psychotherapists in Nairobi and Nakuru established that Secondary Traumatic Stress (STS) was high at a level of 48.2% with symptoms such as avoidance, intrusive experiences and arousal being prominent among the respondents. These findings are consistent with those of Kabunga et.al (2014) who investigated the levels of CF among practicing counselors in Eldoret Municipality. The findings of this study indicated that 48% of the respondents had low levels of CF while 52% had average levels. This study therefore sought to find out how work setting and work experience influence compassion fatigue and the role of self-care as a protective factor among counselors.

## **2.4 Factors Associated with Compassion Fatigue**

The physical and emotional impacts of caring within often stress-filled health care environments are gaining increasing attention due to continuous exposure to highly stressful circumstances in a professional capacity (Smit, 2006). Though compassion is an essential foundation of health professions, driving the sense of duty towards patients and the empathic responses associated with this care has been noted to put a lot of demands

on them. Working in such demanding and traumatizing work environments has been associated with high risks of developing compassion fatigue. Risk factors for developing CF include working with patients who have experienced traumatic events, one's own history of traumatic events, having extended relationships with patients, lack of support systems, and lack of experience, imbalance between work and personal life and absence of self-awareness (Abendroth & Flannery 2006).

Reviewed studies examined several variables associated with the development of CF. According to Star (2013) and Kabunga et.al (2014), the key factors that have a role in prediction and prevention of compassion fatigue are gender, clinician's work experience, work setting, clinical supervision and perceived organizational support. Similarly, studies by Gachutha (2006) and Merriman (2011) further showed that factors such as specialized work environments, workload, age, history of personal trauma; patient/client trauma and life demands have an influence on the development of compassion fatigue among therapists.

Incidences of compassion fatigue among doctors has also been associated with a myriad of symptoms such as reduction in empathy and compassion, reduced satisfaction in clinical work, poorer clinical judgment and apathy in care (Fernando III & Consedine, 2014). Fernando III & Consedine, (2014) further opined that lack of energy, emotional breakdown, poorer quality of care, higher patient dissatisfaction, compromised patient safety and increased medical error have also been reported risk factors for development of compassion fatigue from these studies include large caseloads, long working hours,

overtime shifts and parenting responsibilities(Bellolio, Cabrera, Sadosty, Hess, Campbell, Lohse & Sunga, 2014).

These risk factors tend to cut across all the health care professionals. Studies carried out among nurses and counselors have revealed similar results as those of compassion fatigue among doctors, other factors such as gender, organization structures and perceived management support have too been identified as contributors to compassion fatigue. Engagement in clinical supervision, social support, compassion satisfaction and self-care management activities are some of the factors that research has shown to play a role in protecting individuals from developing compassion fatigue (Kabunga et.al 2014; Bowen, 2010).

### **2.5 Work Experience as a Predictor of Compassion Fatigue**

Experience is understood as the years of training, skills, and professionalism of a caregiver (Theodore, 2011) and includes the knowledge, exposure, and repeated involvement with an event over-time. Numerous studies have indicated that there exists a relationship between years of experience and development of compassion fatigue among care givers. Hunsaker (2013) in a study on emergency care nurses found that the more years a nurse has practiced contributed to higher compassion satisfaction scores compared to those with less years of practice. These findings are consistent with those of Smit (2006) and Kokonya et al., (2014) which revealed those years of experience as a health care worker acted as a determinant to development of compassion fatigue and burnout respectively.

In a study on self-care practices, burnout and compassion fatigue among counselors, Star (2013) found that compassion satisfaction increased with age indicating a possibility that with age comes more experience and skill development, which helps clinicians better cope with job stressors. Star further postulated that with age and experience the therapists' skills improve over time making them become more capable at handling client crisis and trauma. Experience also brings with it avenues for professional networking and relationship building with other clinicians. This helps generate feelings of fulfillment to the helper.

The above findings suggest that care givers who have less experience working with traumatic material will be more susceptible to compassion fatigue which is a further indication that experience does lower the levels of compassion fatigue in care givers and that inexperienced care providers need to be aware of its effects in order to develop preventive measures (Theodore, 2011).

## **2.6 Work Setting as a Predictor of Compassion Fatigue**

As it has been discussed in this study, compassion fatigue is an occupational hazard experienced by professionals in the helping professions; namely, doctors, counselors, nurses, social workers and rescue workers among others.

In the nursing profession for example, Compassion fatigue has been found to be extremely prevalent with reviewed literature reporting moderate to severe compassion

fatigue in various areas of nursing practice such as Hospice, Labour and Delivery Room, Emergency, General Nursing, Nursing Education, and Critical Care Units (Chatterton,2014; Gardner III, 2014). The prevalence rates vary considerably across practice areas and disciplines. Caring for young patients, the critically ill and dealing with patient family grief contributed to nurses fatigue while, working in Intensive care units, emergency departments, oncology units were found to display a high level of compassion fatigue compared to those working with general patients (Mbutia, 2009 & Gardener III, 2014).

Effect and prevalence of compassion fatigue among counselors may differ based on the materials to be processed. Working with children, abused victims, clients with chronic diseases among other traumatic conditions elicit reactions depending on how the counselors appraise the situation. This means that situations that some counselors may find distressing may be satisfying to others. To some, counseling work is rewarding while to others it may be draining. In one study, counselors working with suicidal clients reported emotional distress compared to those working with addiction clients who reported satisfaction (Bowen, 2010). Bowen further compared counselors working with adults with those dealing with children and found that therapists who worked with children depicted signs of compassion fatigue compared to those working with adults.

Doctors too have been found to suffer from compassion fatigue though literature on this is scanty. Kearney (2010) posits that physicians providing end of life care are subject to a variety of stressors that may lead to burnout and compassion fatigue. This is because of

exposure to the terminally ill such as oncology patients and having to talk to patients about death and the act of watching patients die. Haber et al. (2013) found burnout and compassion fatigue to be extremely high among Israeli physicians. This was attributed to the persistent terrorist attacks and frequent wars between the country and its neighbors which lead to constant exposure to traumatic experiences.

## **2.7 Self-Care Practices as a Protective Factor of Compassion Fatigue**

Kirby and Liick (2014) in an article on physician self-care wrote:

*Many of us have worked in the interminable queues of outpatient departments. After a long day, we are greeted with the hopeful, tired faces of families with their ill loved ones. We are meant to be able to heal and cure. Yet, we often run out of options, treatments seem ineffective, and we have to hold the hands of those who are dying. Doctors have mostly been trained to cure. They make significant sacrifices in family life, sleep, personal time and hobbies to be able to pursue this ideal. Moving away from cure to compassionate care of dying patients is a paradigm shift. This can be particularly difficult when caring for children with terminal illness. It is easier to accept death in the elderly as it is part of the natural order of life. Caring for dying children can, however, be draining on both staff and families (p. 1).*

This quote provides just a glimpse of the apathy associated with health care and health care professionals. They suffer silently but behave in a manner suggesting that all is well. Studies have shown that therapists tend to disregard their own self-care needs when focusing on the needs of their clients leading to exhaustion and stress (Figley, 2002; Star, 2013). Global empirical studies have consistently revealed that as health care professionals dedicate their time, skills and their very self to patients and client work, they end up neglecting their wellbeing and that of their family. In counseling for

example, self is the central professional instrument. The counselor must therefore preserve the self in order to be able to use it for the other. The demand to be attuned, to be interested, to be energetic for the other – the other who is often in misery, anger, defiance, or hopelessness – and to continue to do it over and over again, defines the work of the therapy practitioner (Skovholt, 2012). This in itself poses a challenge of balance between self and clients.

Further review of literature has shown that self-care theory and research in nursing is divided into self-care for patients and self-care for nurses. The largest body of literature however addresses the former, highlighting how nurses can empower patients to care for self with little emphasis on nurses' own self-care (Bakibinga, 2012). The study further points that holistic self-care, which involves meeting the physical, mental, and spiritual needs of an individual, is important for health professionals if they are to be available to their clients. Simple lifestyle changes such as getting enough sleep, moderate exercise and a healthy diet can make an enormous difference to one's quality of life. This however requires an intentional step by an individual to achieve it.

Self-care among physicians has often been found wanting. A study by Kirby and Liick (2014) suggests that physicians should consider prioritizing their own health by setting time limits in their work in order to be able to engage in activities that enhance self-care. The study further observed that physicians required a strong supportive social network, and that there was a need for family and friends to understand the stresses of healthcare workers. Further, doctors were advised to hold regular meetings aimed at discussing



ethical and medical problems among them and that they should be encouraged to seek help and counseling when they are stressed, rather than self-medication and trying to present a strong front.

Counseling as a profession lays a lot more emphasis on self-care compared to other helping professions. For instance, Feltham (as cited in Gachutha, 2006, p 175) asserts that 'Clinical Supervision is a mandatory requirement for practicing counselors with some professional bodies requiring all practitioners to have regular supervision of not less than 1.5 hours per month throughout their professional career. Rodrigo (2002, p. 8) further asserts that "if helpers are being helped, helpers' clients will indirectly benefit from it, hence, the emphasis in literature on therapists' self-care and need for helpers to find a balance between clients and self-care, professional and personal life in order to provide the effective and ethical care clients have the right to expect".

Self-care practices for clinicians and therapists therefore are a critical issue that needs to be emphasized in order for them to understand its potential benefit not only for their clients but also the value it has for them and their significant others (Star, 2013). A lack of self-care can result not only in harm to the therapists and others in their personal lives, but may also affect professional competence and therefore their clients (Chance, 2012; Gachutha, 2006).

## **2.8 Summary of Literature Review**

The existing literature reveals that there is a high prevalence rate of compassion fatigue among health care professionals in this case among doctors, nurses and counselors. Factors such as age, gender, work environment, caseload, work setting and work experience are risk factors to development of compassion fatigue while self-care activities can act as protective factor. Although health care professionals were found to be among a broader occupational group of human service workers who can potentially experience high levels of compassion satisfaction, they are also vulnerable to burnout and compassion fatigue (Figley, 2002). This, Figley suggests, leads to low energy, diminished empathy and diminished personal and professional awareness resulting in diminished professional effectiveness.

Most of the studies on compassion fatigue have been done on nurses and counselors and few on doctors. Those done on nurses have focused on the field of oncology, emergency, pediatrics and critical care, while studies on counselors have focused mostly on child abuse and counselor education. The few studies on doctors have majorly focused on emergency care and end of life care. However, no single literature reviewed compares compassion fatigue among doctors, nurses and counselors. This study attempted to fill this gap.

## **CHAPTER THREE**

### **RESEARCH METHODOLOGY**

#### **3.1 Chapter Overview**

This chapter discusses the research design and methodology that was adopted in carrying out the study. The chapter comprises the following subsections: research design, target population, sample size and sampling procedures, data source and instruments, data collection procedures, data analysis and presentation and expected outcome.

#### **3.2 Research Design**

The study adapted an ex post facto research design. This design was ideal since the current study aimed at describing and establishing the relationship between predictive and protective factors and the development of compassion fatigue among Doctors, Nurses and Counselors. Ex post facto design describes an existing relationship between variables which cannot be manipulated at the time of the study and whose difference has already occurred and must be studied in retrospect. It comprises of collecting data to determine the cause, or reason for preexisting differences in groups of individuals (Fraenkeal & Wallen, 2010). The design therefore allowed investigation of the difference in the nature of association of work setting, work experience and self-care in the development of compassion fatigue among Doctors, Nurses and Counselors in MTRH hence allowing for a comparison of compassion fatigue between the three categories of health care professionals.

### **3.3 Location of the Study**

The study was conducted in Moi Teaching and Referral Hospital (MTRH), the second largest Referral hospital in Kenya after Kenyatta National Hospital, situated in Eldoret town, Uasin Gishu County. The hospital currently has a bed capacity of 1,000 and serves the entire western Kenya region and beyond.

### **3.4 Target Population**

The target population for this study comprised of 76 Doctors, 212 Nurses and 33 Counselors working in a total of 12 units offering specialized patient care in Moi Teaching and Referral Hospital – Eldoret. This population was based on the staff population records maintained by the Human Resource Department of the Hospital. The units were Intensive Care Unit (ICU)/High Dependence Unit (HDU), Sexual and Gender Based Violence Centre, Oncology Unit, New Born Unit (NBU), Ophthalmology (Eye) Unit and Alcohol and Drug Rehabilitation Unit (ADA-R), Psychiatric unit, Accident and Emergency Department, Burns Unit, Cardiac Care Unit, Renal Unit and Labour Ward.

A list of the health care professionals (doctors, nurses and counselors) working in the twelve units was obtained from the Chief Nurse Office, the office of the Deputy Director Clinical Services and the Head of Department of Psychological Counseling respectively. The researcher ensured that the sampling frame to be used for the study (the list of Doctors, Nurses and Counselors working in the twelve units) was complete and accurate by confirming the same against records kept by the Officers-in-charge of these units so that the findings from the study would be generalized beyond the sample or the sampling

frame from which the sample was drawn. Distribution of the target population is presented in Table 3.1.

**Table 3.1: Distribution of Target Population**

Health Care Professional	Total Number
Doctors	76
Nurses	212
Counselors	33
Total	321

The target population of the 312 health care professional was further distributed in the twelve health care settings as illustrated in Table 3.2.

**Table 3.2: Population Distribution of HCP by Work Setting**

Work Settings	Doctor	Nurses	Counselors
ICU	5	30	3
CAR-E	2	5	3
Oncology	11	10	3
New born	7	34	3
Ophthalmology	3	12	2
ADA-R	4	7	3
Psychiatry	8	12	3
A&E	10	40	3
Burns Unit	2	10	3
Cardiac Care	5	12	3
Renal Unit	4	15	2
Labour Ward	15	25	2
<b>Total (N)</b>	<b>76</b>	<b>212</b>	<b>33</b>

### **3.5 Sample Size and Sampling Technique**

Sampling is a process of selecting a number of individuals or objects from a population such that the selected group contains elements representative of the characteristics found in the entire group (Kombo & Tromp, 2006). Kothari (2004) suggests that as a general rule, the sample should be of an optimum size. It should neither be excessively large nor too small. He further points out that a small sample could be adopted if the population is homogenous, while a larger sample will be required if the population is heterogeneous.

The coefficient of variation formula by Nassiuma (2000) was used to determine the sample size. This formula is useful in obtaining samples from population whose underlying probability distributions are unknown. It utilizes the coefficient of variation and the error of margin which are a measure of the reliability of the sample obtained, and the measures taken on the sample (Ndung'u, 2008). He further asserts that in most surveys or experiments, a coefficient of variation in the range of 21% to 30% and a standard error in the range of 2% to 5% is usually acceptable. The lesser the coefficient of variation and the error, the more reliable the sample is.

Therefore, coefficient of variation of 21% and standard error of 2% was used in this study. The lower limit for coefficient of variation and standard error was selected so as to ensure low variability in the sample and minimize the degree of error (Ndung'u, 2008).

$$n = \frac{NCV^2}{CV^2 + (N - 1)e^2}$$

Where,

$n$  = Sample size

$N$  = Population

$CV$  = Coefficient of Variation

$e$  = error

Therefore –  $N = 321$ ;  $CV = 21\%$ ;  $e = 2\%$

$$\frac{321 \times 0.0441}{0.0441 + (320 \times 0.0004)}$$

$$\frac{14.1561}{0.1721} = 82.3 = 82$$

The sampling procedure for this study was stratified simple random technique where the obtained sample size of 82 was proportionately distributed among the three health care professional categories (strata) as shown in Table 3.3. To obtain the proportionate samples, the target population for each professional category was divided by the sum total of the target population for the three health care professionals (321). The obtained figure was then multiplied by the sample size (82). For example, target population for doctors (76) was divided by the target population for all the three professions (321) and then multiplied by the calculated sample size for this study thus  $76/321 \times 82 = 19$ . The same procedure was repeated for nurses and counselors respectively.

**Table 3.3: Sample Distribution of HCP by Profession**

<b>HCP</b>	<b>Target Population</b>	<b>Sample size</b>
Doctors	76	19
Nurses	212	54
Counselors	33	9
<b>Total</b>	<b>321(N)</b>	<b>82(n)</b>

The target population and sample population shown in Table 3.3 was further proportionately distributed among work settings as shown in Tables 3.4. To obtain the sample size of the health care profession for each work setting, a proportionate procedure was undertaken. For instance in the Oncology unit, the population for doctors, nurses and counselors was 11, 10, and 3 respectively (Table 3.2). Therefore the proportionate sample for the health care professions in the Oncology unit was arrived at by following the procedure:  $n_k = (N_k/N) n$

Where  $n_k$  = sample size of doctors/nurses/counselors in a work setting (actual participants)

$N_k$  = number of doctors/nurses/counselors in a work setting

$N$  = number of doctors/nurses/counselors in MTRH (Table 3.2)

$n$  = sample size of doctors/nurses/counselors (Table 3.2)

Doctors -  $11/76 * 19 = 3$       Nurses -  $10/212 * 54 = 3$       Counselor  $n - 3/33 * 9 = 1$

Similar procedure was undertaken in all the other work setting as shown in Table 3.4.



**Table 3.4: Sample Distribution of HCP by Work Setting**

<b>Work Settings</b>	<b>Doctor</b>	<b>Nurses</b>	<b>Counselors</b>
ICU	1	7	1
CAR-E	1	1	1
Oncology	3	3	1
New born	2	9	1
Ophthalmology	1	3	-
ADA-R	1	2	1
Psychiatry	2	3	1
A&E	2	10	1
Burns Unit	1	3	1
Cardiac Care	1	3	1
Renal Unit	1	4	-
Labour Ward	3	6	-
<b>Total (N)</b>	<b>19</b>	<b>54</b>	<b>9</b>

*N*=82

A simple random sampling procedure was used to identify the participants from the obtained samples. For instance, to identify the 3 doctors who would participate in the study from the Oncology unit, a number was assigned to each of the 11 doctors (00001 – 00011) forming the sample frame for doctors in this unit. Using a table of random numbers (see Appendix 8) the 3 doctors were identified to participate. Similar procedure was undertaken to obtain a sample of nurses and counselors in all the other work setting as shown in Table 3.4.

### **3.6 Data Sources and Instruments**

Data for this study was collected using self-administered questionnaires only (Appendix 2, 3 and 4). The questionnaires were organized in three parts. Part I was designed to gather demographic information about the respondents, part II, the Professional Quality of Life Scale version V(ProQoL- 5) was used to measure compassion fatigue while part III (Self- Care Assessment Worksheet) was used to measure participant's level of engagement in self-care activities.

The Professional Quality of Life Scale (ProQoL-5) Version 'V' is a standardized scale widely used to assess compassion fatigue and compassion satisfaction among helping professions. Developed by Stamm (2009), ProQoL-5, is a 30-item instrument that asks participants to respond based on how they have been feeling over the last 30 days on a 5-point Likert scale (1= Frequently, 2 = Really, 3 = Sometimes, 4= Often 5 = Very often). The tool has been widely used in studies on compassion fatigue.

The self-care assessment work sheet is a standardized tool with 70 items developed by Saakvitne and Pearlman (1996). The tool has also been widely used in evaluating strategies employed by care givers in managing their wellbeing. The Demographic Questionnaire was developed by the researcher.

### **3.7 Validity and Reliability of the Instruments**

Validity of an instrument indicates the degree to which an instrument measures what it is supposed to measure (Kothari, 2004). Reliability on the other hand is the ability of an instrument to provide consistent results after repeated trials (Mugenda & Mugenda,

1999). In this study the validity of the research instruments was achieved by presenting the first drafts of the instruments to the supervisors of the research for expert opinion and suggestion on the format, content and other related issues. A pre-test study was undertaken by administering twenty four questionnaires to randomly selected doctors, nurses and counselors (three respondents for each of the professions) working in Pediatrics, Medical and Surgical wards in MTRH. The responses obtained from the pre-test were used to determine whether the participants understood the questions.

The ProQoL-5 questionnaire has undergone psychometric testing to improve its reliability and validity and has been validated in over 200 research papers (Gillespie, 2013). Stamm (2010) reported psychometric properties with an  $\alpha$  reliability ranging from .84 to .90 on the three subscales (compassion fatigue, compassion satisfaction and Burnout). Cronbach's  $\alpha$  coefficients of internal consistency reliability of compassion fatigue for this study was .86. On the other hand SCAW has also been widely used in literature with an overall Cronbach's alpha of 0.98. (Saakvitne & Pearlman, 1996). Cronbach's  $\alpha$  done for this study was .92. The two instruments were therefore adopted for use in this study.

The ProQol V has also been used in studies in Kenya such as a study on 'Compassion fatigue among Medical workers at Kenyatta National Hospital, Nairobi' by Kokonya et al (2004) which gave a compassion fatigue prevalence level of 29.6%. No study was found that has used SCAW in Kenyan setting.

### 3.8 Scoring of the Instruments

The scoring information for the Professional Quality of Life version V (ProQOL - 5) and the Self Care Assessment Worksheet (SCAW) used in this study are provided as follows.

#### 3.8.1 Scoring Information for the ProQOL - 5

The ProQoL version V measures compassion fatigue, compassion satisfaction and burnout. It comprises of 30 statements, 10 relating to symptoms of each of the three measured constructs of compassion fatigue, compassion satisfaction and burnout. The scale is based on a Likert scale of 1 to 5 valued at: 1= *Never*, 2 = *rarely*, 3= *Sometimes*, 4= *Often* and 5 = *Very often*. The scale provides a standardized scoring in which 50 is the mean and 10 is the standard deviation for each construct (Stamm, 2010).

To score the ProQOL, one needs to reverse items 1, 4, 15, 17, and 29 then score the three scales (Compassion Satisfaction Scale, Burnout Scale, and Trauma/Compassion Fatigue Scale) of the ProQOL. It is important to note that 0 remains 0 when scores are reversed as it always denotes the absence of the construct (Stamm, 2010). Scoring of the instrument is provided in Table 3.5.

**Table 3.5: Scoring Information for the ProQol 5**

<b>Sums of Scores</b>	<b>Level of CF</b>
17 and below	Low
18 and above	High

The ProQOL - 5 instrument has been validated in several populations and shown to have high reliability and validity for assessing compassion fatigue. Scoring of each subcategory ranges from 5–50 with high scores indicating higher levels of Compassion Satisfaction, Burnout and Compassion Fatigue. According to the scale the average score is 13, about 25% of people score below 8 and about 25% of people score about 17. A conservative quartile method is commonly used with high (top 25%), middle 50% and low (bottom 25%). However for screening purposes the 75% quartile is adopted with a cut score of 17 (Stamm, 2005).

In this study therefore, a cutoff point of 17 was used where anyone with a score of less than 17 was classified as having low risk of compassion fatigue whereas those who scored above 17 were considered as having high risk of compassion fatigue.

### **3.8.2 Scoring Information for Self-Care Assessment Worksheet (SCAW)**

Table 3.6 illustrates each of the self-care categories on the Self Care Activity Worksheet, the corresponding number of questionnaire items that fall under each category, and the potential score range for each of the categories.

**Table 3.6: Scoring Information for Self Care Assessment Worksheet**

<b>Self-Care Category</b>	<b>Number of Items</b>	<b>Score Range</b>
Physical	15	15-75
Psychological	13	13-65
Emotional	11	11-55
Spiritual	17	17-85
Workplace/Professional	12	12-60
Balance	2	2-10

Adopted from Saakvitne & Pearlman, (1996)

The Self-Care Assessment Worksheet (SCAW) is a self-report questionnaire that measures the degree to which one engages in a spectrum of self-care activities (Star, 2013). The instrument is divided into six main categories: physical, psychological, emotional, spiritual, work, and balance (Saakvitne & Pearlman (1996). The “Physical Self-Care” category addresses exercise and nutrition. The “Psychological Self-Care” category lists activities that enhance mental wellbeing. “Emotional Self-Care” demonstrates activities that involve expression, self-understanding, and connection with others. The “Spiritual Self-Care” category consists of activities involving personal meaning and beliefs. “Work or Professional Self-Care” consists of activities that contribute to job satisfaction. Lastly, the “Balance” category considers the sense of stability throughout one’s personal and professional roles.

The scale is based on a Likert scale of 1 to 5 valued at: 1= Never occurred to me , 2= Never, 3= Rarely, 4= Occasionally, 5= Frequently. The participant responds to items by rating frequency of engagement for each activity (Saakvitne & Pearlman, 1996). Each of

the six categories consists of a different number of self-care activities which are added to determine total self-care engagement in each category. According to the rating of this tool, the higher the total scores per subscale the higher the self-care engagement for that dimension, conversely, the lower the score the lower the self-care engagement.

Though scores are totaled for each category, Saakvitne and Pearlman (1996) assert that, the SCAW is primarily used to determine overall involvement in self-care activities and does not provide psychometric indicators or determination of one's level of wellness

### **3.9 Data Collection Procedure**

Upon approval of the research proposal by Moi University School of Arts and Social Sciences, consent for conducting this study was obtained from Institutional Research Ethics Committee (IREC) of Moi University and MTRH, and the National Commission for Science, Technology and Innovation (NACOSTI) (See Appendix 6 and 7).

After a representative sample of doctors, nurses and counselors from the selected specialized units was obtained, the researcher explained to each respondent the purpose of the research and thereafter sought their consent to participate in the study. The questionnaires were administered by the researcher. Participants were required to append their signatures in the consent form that was provided. Each participant was required to individually fill in the questionnaires and any assistance required was provided by the researcher. The completed questionnaires were kept in safe custody under lock and key where they were only accessible to the researcher.

### 3.10 Data Analysis and Presentation

The completed research instruments from the field were edited by the researcher by checking each question to ensure that each had been answered and that there were no missing data. The data was first coded then entered into the computer and analyzed using the Statistical Package for Social Sciences (SPSS – version 20.0).

The analysis involved descriptive statistics to summarize the demographics of the participants which are illustrated by frequencies, mean, standard deviation and percentages. The analysis of variance (ANOVA) was performed to determine the association between work experience and compassion fatigue, t-tests were performed to examine the association between work setting and compassion fatigue while regression analysis was used to investigate the relationship between self-care and compassion fatigue. All the inferential statistics were tested at 0.05 level of significance.

The regression analysis model  $Y = \alpha + \beta_1x_1 + \beta_2x_2 + \beta_3x_3 + \varepsilon$  was used to determine the relationship between the variables, where;

$Y$  = the dependent variable – Compassion fatigue

$\alpha$  = Compassion fatigue independent of the factors under study (Y intercept)

$\beta$  (1-3) = regression coefficients

$x_1$  = Independent variable – work setting

$x_2$  = Independent variable – work experience

$x_3$  = Independent variable – self-care

$\varepsilon$  = Error term



Data is presented in percentages: frequencies and mean while graphic presentation are in form of charts, graphs and frequency tables.

### **3.11 Ethical Considerations**

This research involved collecting data from doctors, nurses and counselors using self-administered questionnaires. Use of the ProQol V is freely permitted, Stamm (2009) as long as the author is credited, no changes are made, and the instrument is not sold. Permission to use the Self-care Assessment Worksheet was obtained from W.W Norton & Company, Inc. (Appendix 5) while approval to carry out the study was obtained from the Institutional Ethics Committee (IREC), Moi University/MTRH and the National Commission for Science, Technology and Innovation (NACOSTI). (Appendixes 6&7).

To meet the requirements of Ethical Principles of research dealing with human subjects and to ensure confidentiality of the participants, the following measures were undertaken:

1. The objectives, issues, risks and benefits of the study were conveyed to the participants.
2. Formal consent was obtained from the participants prior to administration of the questionnaires.
3. The participants who agreed to participate were informed that they were free to withdraw from the study at any time.
4. The privacy of the participants and the confidentiality of data that was obtained from the participants was strictly maintained in such a manner that the participants cannot be identified in the report or any related publications.

Information about the researcher, the study and the intent of the study was provided.

### **3.12 Summary of Methodology**

This study was conducted in Moi Teaching and Referral Hospital (MTRH) a 1000 bed capacity hospital situated in Eldoret town, Uasin Gishu County. Using a quantitative approach the study adapted an ex post facto research design which describes an existing relationship between variables which cannot be manipulated at the time of the study and whose difference has already occurred and must be studied in retrospect. The coefficient of variation formula by Nassiuma (2000) was used to determine the sample size. A sample of 82 health care professionals comprising of 19 doctors, 54 nurses and 9 counselors was obtained from a target population of 76 Doctors, 212 Nurses and 33 Counselors working in a total of 12 units offering specialized patient care in the hospital. Data was collected using self-administered questionnaires which were organized in three parts. Part I was designed to gather demographic information about the respondents, part II, the Professional Quality of Life Scale version V (ProQoL- 5) was used to measure compassion fatigue while part III (Self- Care Assessment Worksheet) was used to measure participant's level of engagement in self-care activities.

The analysis involved descriptive statistics to summarize the demographics of the participants which are illustrated by frequencies, mean, standard deviation and percentages. The analysis of variance (ANOVA) and t-tests were performed to examine potential differences between variables while regression analysis was used to investigate the amount of variation caused by each independent variable. All the inferential statistics were tested at 0.05 level of significance.

## **CHAPTER FOUR**

### **DATA PRESENTATION, ANALYSIS AND INTERPRETATION**

#### **4.1 Chapter Overview**

This chapter consists of a summary of the statistical analyses and results of the study. Results of descriptive statistics which describe the demographic characteristics of the respondents are first presented. Results of each objective are discussed guided by the use of inferential statistics of analysis of variance (ANOVA), t-tests to examine potential differences between variables, while regression analysis was performed to investigate the possible existence of association between the variables in the study.

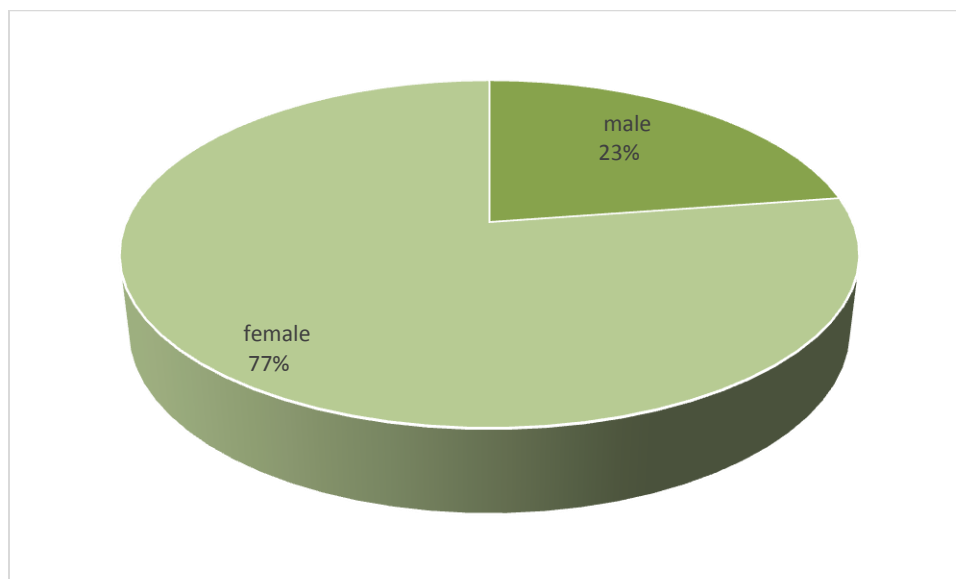
#### **4.2 Response Rate**

The response rate for this study was 91%, in that out of the 82 questionnaires that were issued 75 were returned. Mugenda and Mugenda (1999) postulated that a response rate of 60% is good while a response rate of 70% is very good for social science research. This response rate therefore met the acceptable threshold.

#### **4.3 Characteristics of the Health Care Professionals**

Demographic characteristics discussed here include respondents' gender, age in years, marital status and length of time that the health care professionals had worked in their work setting as at the time of the study.

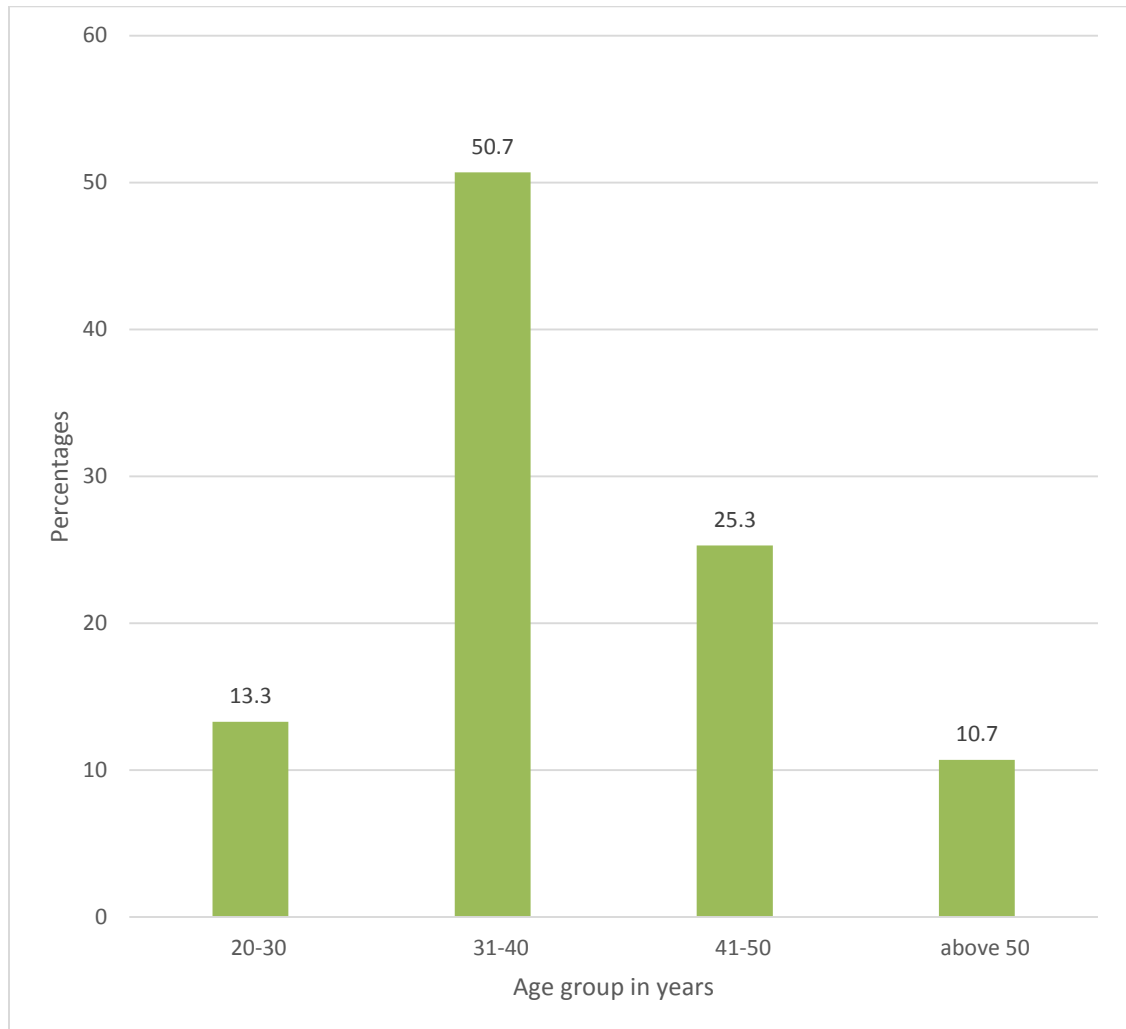
### 4.3.1 Gender of the Respondents



**Figure 4.1: Gender of the Respondents**

Figure 4.1 shows the gender of the respondents who participated in this study. Out of the 75 responses that were received, 17 respondents accounting for 22.7% were male while 58 were female accounting for 77.3%. A further observation indicated that of the 17 male respondents, 7 were doctors, 9 were nurses while 1 was a counselor. Analysis of the female gender indicated that out of the 58 female participants 42 (72.4%) were nurses while doctors and counselors had each 8 respondents accounting for 13.8% for each of the two professions. The dominance of female gender in this study is a reflection of a World Health Organization report on gender and health workforce (WHO, 2008), which showed that women workforce in the health sector comprised of over 75%, and that this percentage was skewed in favor of health care and community workers.

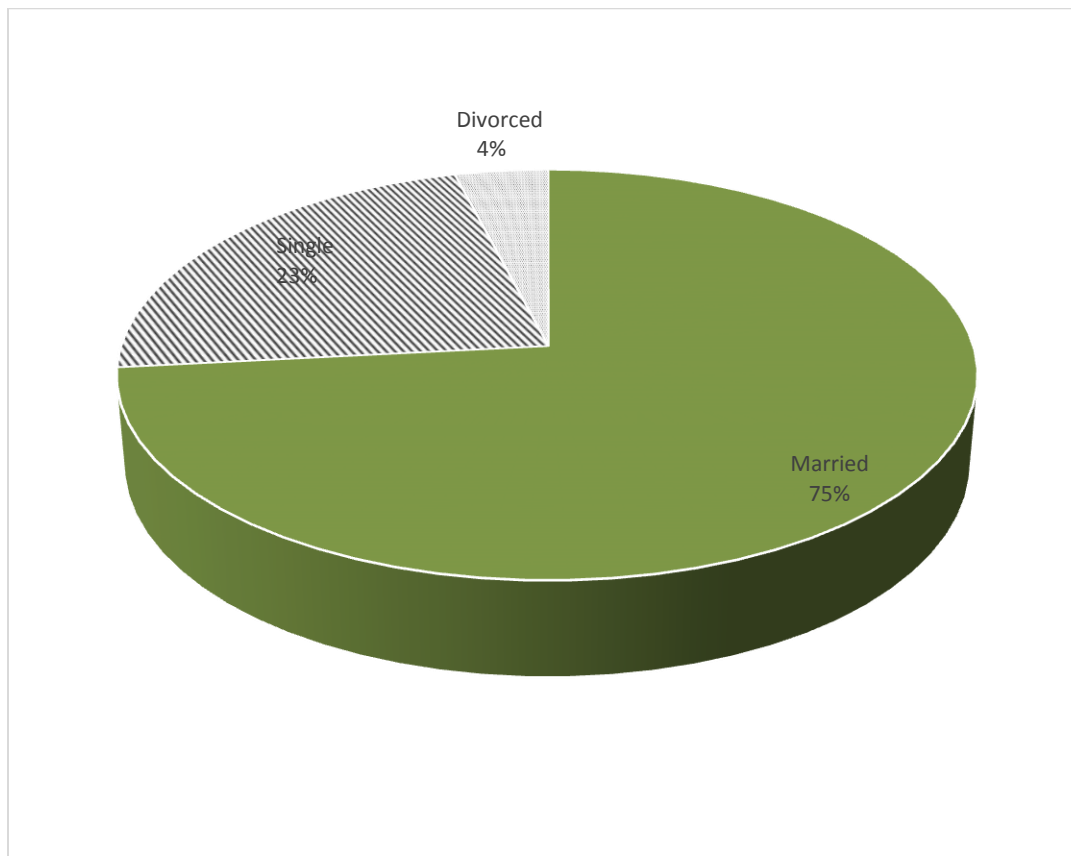
### 4.3.2 Age of the Respondents in Years



**Figure 4.2: Age of the Respondents in Years**

Age distribution among study participants indicates that most of the health care professionals were in the middle age category (31-40 years) representing slightly over 50% of the respondents as shown in Figure 4.2.

### 4.3.3 Marital Status of the Respondents



**Figure 4.3: Marital Status of the Respondents**

Majority of the respondents accounting for 73% were married, 23% were single while 4.0% were divorced. None was widowed. The findings further indicated that 90% of the counselors that participated in the study were married while 75% and 60% were nurses and doctors respectively. This implied that the majority of health care professionals in MTRH were married.

### 4.3.4 Length of Time Worked in the Unit as at the time of Study

Participants were also asked the length of time in years that they had worked in their respective units as at the time of the study. Responses are as shown in Table 4.1.

**Table 4.1: Years Worked in the Unit as at the time of Study**

<b>Variable</b>	<b>Frequency</b>	<b>Percentage</b>
<b>Years worked in current unit</b>		
5 years and below	50	66.7
6 – 10 years	18	24
Above 10 years	7	9.3
<b>Total (n)</b>	<b>75</b>	<b>100</b>

Over half of the respondents (66.7%) had worked in their current units for less than five years while 18 participants representing 24% reported that they had worked for between 6 and 10 years. Only 7 respondents representing 9.3% had worked for more than 10 years. The observation that the majority of participants had worked in the current units for 5 years and below could be a possible indication of a healthy staff management achieved through regular change over schedules. It is however important to note that although intensity of exposure to traumatic materials is a better determinant of developing compassion fatigue, the number of years that one has served in a particular unit can also serve as a guide to understanding of one's vulnerability of developing compassion fatigue considering the cumulative effect of prolonged exposure.

#### **4.3.5 Association of Compassion Fatigue and individual characteristics of the HCP**

Association of Compassion fatigue and individual characteristics of the HCP in this study was determined. The findings are as shown in Table 4.2. Female respondents were found to have higher Compassion fatigue scores ( $M= 20.9$ ) compared to their male counterpart whose mean scores were ( $M = 19.7$ ). Respondents who were single had higher compassion fatigue scores ( $M = 23.7$ ) compared to those who were married whose scores

were ( $M = 20.2$ ) and those who were divorced whose scores were ( $M = 10.3$ ). Comparing age and compassion fatigue, respondents who were above 50 years old had a higher compassion fatigue means scores ( $M = 28.1$ ) while those who were aged 31- 40 years had the least at ( $M = 19.2$ ). Counselors had the highest compassion fatigue mean scores of  $M = 23.0$  while doctor had the lowest at  $M = 16.9$ .

**Table 4.2 Compassion Fatigue and Characteristics of HCP**

<b>Variable</b>	<b><i>M</i></b>	<b><i>SD</i></b>
<b>Sex</b>		
Female	20.9	11
Male	19.7	11
<b>Marital Status</b>		
Married	20.2	10.7
Single	23.7	12.7
Divorced	10.3	0.6
<b>Age</b>		
20-30	19.7	11.6
31-40	19.2	10.8
41-50	20.7	11.6
Above 50 years	28.1	10.5
<b>Profession</b>		
Doctors	16.9	9.6
Counselors	23.0	9.8
Nurses	21.3	11.7

#### **4.4 Relationship of Variables and Testing of Hypotheses**

This section presents ANOVA and t-test results of the relationship between work experience, work setting and development of CF respectively, followed by correlation analysis of self-care and CF.



#### 4.4.1 Relationship between Work Experience of a Health Care Professional and Compassion Fatigue

The first hypothesis tested on relationship between Work Experience of a Health Care Professional and Compassion Fatigue. It was stated as follows:

$H_{01}$ : There is no significant association between Work experience and development of compassion fatigue amongst health care professionals in Moi Teaching and Referral Hospital.

Years of experience of the HCP are presented in Table 4.3

**Table 4.3: Number of Years of Experience as a Health Care Professional**

<b>Years (%)</b>	<b>Frequency</b>	<b>Percentage</b>
<5 years	19	25.3
5 – 10 years	15	20.0
11 – 15 years	18	24.0
> 15 years	23	30.7
<b>Total</b>	<b>75</b>	<b>100</b>

The findings from the this study indicated that the majority of the respondents (23) representing 30.7% had a work experience of more than15 years while the least (20%) had work experience of between 5-10 years. These findings implied that the majority of the health care professionals had acquired experience and skills that would enable them to better cope with job stressors.

**Table 4.4: Years of Experience by Profession**

<b>Years of Experience as HCP</b>	<b>Doctors</b>	<b>Counselors</b>	<b>Nurse</b>	<b>Total</b>
<5 years	2	3	14	19
5 – 10 years	1	2	12	15
11 – 15 years	4	1	13	18
> 15 years	8	3	12	23
<b>Total</b>	<b>15</b>	<b>9</b>	<b>51</b>	<b>75</b>

*n* = 75

A further breakdown on the variable work experience indicated that majority of the doctors accounting for 53.3% were found to have longer working experience (>15yrs) while few nurses (23.5%) were found in this category as shown in Table 4.4. In the less than 5 years work experience category, counselors were the majority at 33% while doctors were the least at 13%. Nurses were however found to be fairly distributed across all the work experience categories with the majority (27%) having worked less than 5 years while 23.5% had worked for over 15 years.

**Table 4.5: Association of Work Experience and Compassion Fatigue (ANOVA)**

<b>Compassion</b>	<b>Sum of</b>	<b>df</b>	<b>Mean</b>	<b>F</b>	<b>Sig.</b>
<b>Fatigue</b>	<b>Squares</b>		<b>Squares</b>		
Between Groups	1686.026	3	562.099	5.281	.002
Within Groups	7556.222	71	106.426		
<b>Total</b>	<b>9242.248</b>	<b>74</b>			

*n*=75

The ANOVA results of this study (Table 4.5) showed an  $F$  statistic of 5.281 with a  $p$  value ( $p = 0.002$ ) less than the significant value of 0.05 denoting that a statistically significant association between work experience and compassion fatigue exists. ANOVA was suitable here because it compares two means. Subsequently hypothesis one was rejected on the strength of these findings. Therefore there is a significant association between work experience and development of compassion fatigue among health care professionals in MTRH. This association of the number of years of work experience and compassion fatigue is further explained in the findings shown in Table 4.6.

**Table 4.6: Multiple Comparison of Compassion Fatigue of HCP as per the Number of Years of Work Experience**

(I) NOE	(J) NOE	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
<5 yrs	5-10 yrs	5.762	3.563	0.376	-3.61	15.14
	11-15 yrs	10.951	3.393	0.010	2.02	19.88
	>15 yrs	11.460	3.198	0.003	3.05	12.87

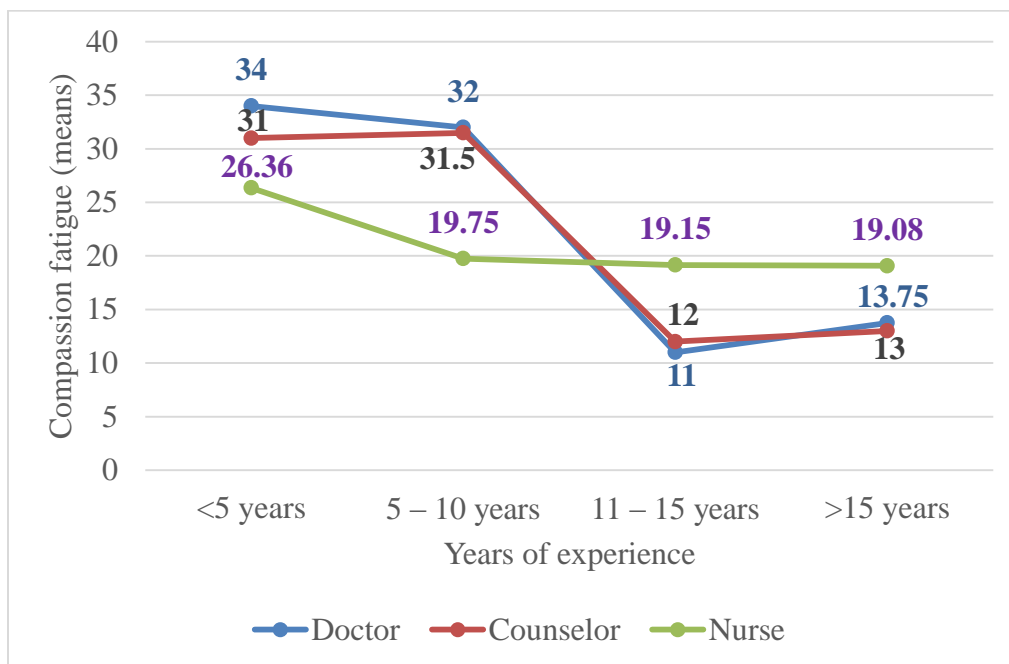
**NOE = Number of Years of Experience as a Health Professional**

**(I) & (J) are mean score of Compassion Fatigue of NOE**

To find which pairs of means differed significantly, a pairwise multiple comparisons was undertaken as presented in Table 4.5. Those health care professionals that had a working experience of less than 5 years had 5.762, 10.45 and 11.460 scores of compassion fatigue higher than those of the 5 – 10, 11 – 15 and over 15 years categories respectively. The

difference in means of those in categories 11 – 15 years and over 15 years indicate that their average compassion fatigue differs significantly from that of <5 years category at 0.05 level of significance ( $p = 0.01$  and  $0.003$  respectively). The 95% Confidence Interval for the average difference in compassion fatigue between health care professional in <5 years category and 11 – 15 years category extends from 2.02 to 19.88 scores; the interval for the difference with >15 years category from 3.05 to 19.87 scores.

A comparison of compassion fatigue among the three professions was further conducted as shown in Figure 4.4. The results showed that nurses had a less dramatic change in compassion fatigue scores as the years of experience increased compared to doctors and counselors and more specifically between 11 and 15 years of experience. Their scores (nurses) however stabilized and remained high even as those of the doctors and counselors dropped with increase in number of years of experience. Doctors with < 5 years of experience were noted to have highest scores compared to nurses and counselors and the scores remained higher even for those doctors whose experience was between 5-10 years. A slight increase in the scores was evidenced in the category of doctors whose experience was more than 15 years. A similar trend close to that of doctors was portrayed by the counselors save that counselors depicted lesser scores at the 10 years and below category.



**Figure 4.4: Association between Profession and Compassion Fatigue (Based on Years of Experience)**

#### 4.4.2 Association between Work Setting and Development of Compassion Fatigue

The second hypothesis tested for the association between Work Setting and Compassion Fatigue. It was stated,

H<sub>02</sub>: There is no significant difference between work settings and development of compassion fatigue amongst health care professionals in Moi Teaching and Referral Hospital.

The variable work setting was determined by the nature of clients or patients that a health care provider dealt with.

There were 12 work settings sampled for this study namely ICU, Accident/Emergency, Cardiac Care Unit, Burns unit, Oncology, Sexual and Gender based violence centre,

Psychiatry unit, Alcohol and drug rehabilitation unit, Renal Unit, Labour ward, Ophthalmology and NBU. For the purpose of analysis and comparison of findings these work settings were grouped into two categories based on perceived severity of exposure to traumatic materials; less traumatizing and more traumatizing. Units categorized as more traumatizing were; ICU, Accident and Emergency, Cardiac Unit, Oncology, Sexual and Gender Based Violence Centre and Burns Unit, while Alcohol and Drug Rehabilitation Unit, Renal Unit, Labour Ward, Ophthalmology and New Born Unit were categorized as less traumatizing.

**Table 4.7: Association of Work Setting and Compassion Fatigue**

	<b>Work Setting (Regression)</b>	<i>N</i>	<i>M</i>	<i>SD</i>	<i>SE</i>
Compassion	Less Traumatizing	38	14.11	7.640	1.239
Fatigue	More Traumatizing	37	27.27	10.319	1.696

Findings of this study revealed that health care professional working in areas perceived to be more traumatizing registered higher scores of compassion fatigue with a mean of 27.3 and a standard deviation of 10.3 as compared to those working in areas perceived to be less traumatizing who had a compassion fatigue mean score of 14.11 and a standard deviation of 7.640 (Table 4.7). The above results were subjected to a *t*-test and the results are given in Table 4.8.

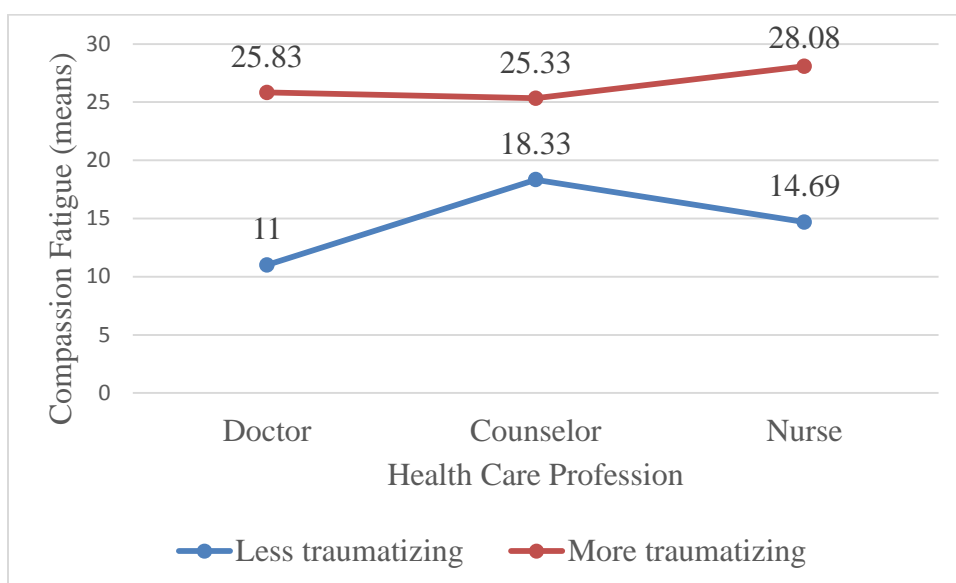
**Table 4.8: Work setting and compassion fatigue (t -test)**

		<i>t</i>	<i>df</i>	Sig. 2-tailed	Mean Difference	Std. Error	95% Confidence Interval	
							Lower Bound	Upper Bound
Compassion Fatigue	Equal Variance not assured	6.26	66.309	.000	-13.165	2.101	-17.359	-8.970

***n=75***

The result showed a statistically significant difference between work setting and development of compassion fatigue with a *t* of 6.266 and a *p* of <0.05 as shown in Table 4.8. Hypothesis two was therefore rejected on the strength that the results of the work setting variable on compassion fatigue did not support the null hypothesis. According to the results therefore, there is a significant association between work setting and development of compassion fatigue amongst health care professionals in Moi Teaching and Referral Hospital.

A further analysis of the relationship between work setting and compassion is presented in Figure 4.5.



**Figure 4.5: Association between HCP and Compassion Fatigue (Based on Work Setting)**

The analysis indicated that nurses had a higher mean score of compassion fatigue than doctors in both work settings. Counselors on the other hand had a higher mean score in less traumatizing work settings than doctors and nurses but lower score than doctors and nurses in more traumatizing work setting. It is also evidently clear from Figure 4.5 that compassion fatigue scores are much higher in the more traumatizing work settings compared to the less traumatizing work setting. Another key observation from these findings was that counselors had consistently high scores in both work settings with a small difference between the two means; 18.33 in the less traumatizing work settings and 25.33 in the more traumatizing work settings as compared to doctors whose scores more than doubled (11 and 25.83) between the two work settings. The difference in mean scores for the two professions could be explained by the fact that unlike doctors,



counselors are exposed to monthly clinical supervision which are scheduled from their department.

#### **4.4.3 Association between Self-Care and Compassion Fatigue**

The third hypothesis tested for self-care and Compassion Fatigue. The hypothesis stated:

H<sub>03</sub>: There is no significant association between self-care and development of compassion fatigue amongst health care professionals in Moi Teaching and Referral Hospital

Self-Care, a protective factor of compassion fatigue was measured using Self-Care Assessment Worksheet (SCAW) whose primary purpose is to determine the participants overall engagement in Self-Care activities. Engagement in self-care has been shown to considerably ameliorate development of compassion fatigue among health care professionals (Star, 2013). Scores on self-care can range between 70 and 350 (Saakvitne & Pearlman, 1996) and are divided into 6 subgroups thus, physical, psychological, emotional, spiritual, work and balance. Higher scores denote higher involvement in self-care while low scores are an indication of low involvement in self-care activities.

In the current study, participants total scores ranged between 80 and 236. These scores show the amount of self-care engaged by the participants for each of the self-care category as shown in Table 4.9.

**Table 4.9: Involvement in Self-Care Activities among HCP**

	<b>Physical Self-care</b>	<b>Psychological Self-care</b>	<b>Emotional Self-care</b>	<b>Spiritual Self-care</b>	<b>Workplace Self-care</b>	<b>Balance Self-care</b>
Mean	29.55	31.29	20.97	33.68	20.80	4.55
SD	9.030	8.256	6.806	14.823	7.288	1.825
Min	15	14	11	17	11	2
Max	53	46	41	75	41	9

First, the physical self-care subscale has a total of 15 items and the scores range from 15 to 75. In the current study, participants' physical self-care scores ranged between 15 and 53 with a mean score of 29.55 and a standard deviation of 9.030. With these results (mean = 29.55 and SD = 9.03 and a range of 15 - 53) the health care professionals were found to engage in physical self-care activities but only at an average level. This is considering their mean score in comparison to the maximum expected score of 53.

Secondly, the psychological scale has 13 items with a range of 13 to 65. Participants scored between 14 and 46 with a mean of 31.29 and a standard deviation of 8.256 indicating a higher engagement in psychological self-care. In the third category, participants were asked to respond to the level of their emotional self-care engagement. The subscale contained 11 items with a score range of 11 to 55. Results indicate that participants' scores ranged from 11 to 41 with a mean score of 20.97 and a standard deviation of 6.806. Responses in this category fell below average. Most of the health care professionals were therefore found not to take care of their emotional needs as much considering that the mean score for all participants was 20.97 for this subscale.

The spiritual self-care subscale has 17 items and its scores can range from 17 to 85. Participants' scores in the current study ranged from 17 to 75 with a mean score of 33.68 and a standard deviation of 14.823. Despite the results indicating an average spiritual engagement with a mean score of 33.68, there seems to be a disparity in the scores as suggested by a relatively high standard deviation of about 15.

The next self-care subscale was on workplace which has 11 items. In this subscale scores range from 11 to 60. Just as the findings from the other self-care subsets in this study participants' workplace self-care was below average as supported by a mean score of 20.80 and a standard deviation of 7.288 with a range of 11 to 41. Lastly, the balance subscale contains 2 items and a score range between 2 and 10. Participants scored between 2 and 9, a mean of 4.55 and a standard deviation of 1.825, similarly suggesting an average level of a balance in self-care engagement of work-life, family, relationship, play and rest.

The general outlook of the results across all categories indicates an average self-care involvement across all self-care categories among the health care professionals. This in essence indicates that health care professionals averagely utilize self-care which is a key factor in the reduction of compassion fatigue.

**Table 4.10: Correlation of Self-care and Compassion Fatigue**

	Compassion Fatigue	Self-care
Pearson Correlation	1	-.766
Compassion Fatigue Sig. (2-tailed)		.000
<i>N</i>	75	75

These descriptive results of association between self-care and compassion fatigue were further supported by the Pearson correlation analysis that revealed a significant negative correlation between compassion fatigue and self-care engagement at  $r = -0.766$ ,  $p = 0.001$  as shown in Table 4.10. The negative correlation indicates that the higher the self-care scores the lesser the self-care activities engagement by the health care profession. Consequently, the lesser the self-care activities engagement, the higher the level of compassion fatigue among the health care professionals.

Hypothesis three was therefore rejected on the strength of the variable self-care having  $p = 0.000$  (Table 4.10)

#### **4.5 Regression Analysis of Compassion Fatigue against its Determinants (Work Setting, Work Experience and Self-care)**

In estimating how well the independent variable predicts the dependent variable and the relative contribution of each independent variable, regression analysis was conducted as shown in Table 4.11.

**Table 4.11: Regression Coefficients for the Model**

<b>Variables</b>	<b>Coefficients</b>	<b>Std. Error</b>	<b><i>t</i></b>	<b>Sig.</b>
(Constant)	47.059	3.222	14.607	.000
Work setting	6.582	1.449	4.544	.000
Experience(regression)	-2424	.579	-4.188	.000
Self-care	-.183	.019	-9.641	.000

*n*=75

The fitted model is compassion fatigue = 47.059 + 6.582for work setting – 2.424 work experience – 0.183 self-care.

According to the final model, compassion fatigue in MTRH independent of the factors under study (namely work setting, work experience and self-care) was found to have a  $\beta$  value of 47.059. Work setting, work experience and self-care on the other hand had a  $\beta$  of 6.582, -2.424 and -0.183 respectively.

Holding experience and self-care constant, HCP working in units categorized as more traumatizing were found to be 6.582 times more likely to develop compassion fatigue than those working in less traumatizing units. Similarly, holding work setting and self-care constant, for every additional 5 years working experience, compassion fatigue amongst HCP was found to decrease by 2.424 scores. Finally, holding work setting and work experience variables constant, for every additional score in self-care by an individual, compassion fatigue decreases by 0.183 score.

The  $t$  statistics further indicate that self-care was found to be a stronger determinant of compassion fatigue with  $t = - 9.641$  followed by work setting with  $t = 4.544$  and work experience with  $t = - 4.188$ . Individually, all the three variables were found to be significant in explaining compassion fatigue with  $p = 0.000$ .

ANOVA analysis was performed to determine individual contribution of the variables to CF among the health care professionals as shown Table 4:12.

**Table 4.12: Variable Contribution to Compassion Fatigue**

Source of variation	Type III Sum of Squares	<i>df</i>	Mean Square	<i>F</i>	Sig.	Partial eta Squared
Corrected Model	7032.824 <sup>a</sup>	5	1406.565	43.927	.000	.761
Work experience	643.676	3	214.559	6.701	.000	.226
Work settings	626.478	1	626.478	19.565	.000	.221
Self-care	2899.597	1	2899.597	90.554	.000	.568
Error	2209.424	69	32.021			
Total	41069.660	75				

*n*=75

The results produced an overall  $R^2$  of 0.761 with  $F = 43.927$  and  $p < 0.05$ . This suggests that the data could explain about 76% of the variation on compassion fatigue development in MTRH.

The participants' work experience significantly affected the level of compassion fatigue with,  $F(3, 71) = 6.70$ ,  $p = 0.000$ . Individually with an  $R^2$  of 0.226, work experience explained 22.6% of the total variations of compassion fatigue in MTRH as shown in Table 4.12. Similarly, participants' work setting significantly affected the level of compassion fatigue with,  $F(1, 71) = 19.57$ ,  $p = 0.000$ . With an  $R^2$  of 0.221, work setting explained 22.1% of the total variation of compassion fatigue in MTRH. Self-care had the highest individual contribution to the level of compassion fatigue in MTRH with an  $R^2$  of 0.568 suggesting an explanation of 56.8% of the total variation. This was highly significant with,  $F(1, 71) = 90.55$ ,  $p = 0.000$ . Notably both work experience and self-

care had a negative  $t$ -value denoting an inverse relationship between the variable and compassion fatigue. This means that with increase in work experience the level of compassion fatigue decreases. Similarly, as one improves in self-care activities, the level of compassion fatigue reduces.

#### **4.6 Other Methods used to Minimize Compassion Fatigue**

This question was asked with an aim of determining whether there are other methods apart from those included in the six self-care subscales provided in the SCAW which individual participants could be using to minimize compassion fatigue. The researcher felt that proposing such methods could help in enhancing the self-care assessment tool in future where researchers can pick on these variables and carry out empirical investigation with a view of developing a self-assessment tool that reflects activities that are locally undertaken.

Three possible methods were therefore proposed and the results are as shown in Table 4.13.

**Table 4.13: Methods used by HCP to minimize Compassion Fatigue**

<b>Method</b>	<b>Frequency</b>	<b>Percentage</b>
Team Building Activities	54	72.0
Networking	37	49.3
Substance use	8	10.7



Out of the three possible methods proposed, 72 % of the participants reported use of team building activities, 49.3 % reported that they use networking, 10.7% reported using substances of abuse as means of self-care. The researcher also sought to find out which methods the participants overally found effective. Team building was found effective by 37% of the respondents, religious activities 36.2%, while 13.8 % found networking effective. Support groups and meditation was found effective by 10.3% of the total respondents while substance use, debriefing, team work and exercise had 1.7% responses each. Interesting to note here is that substance use which is a negative coping mechanism was rated together with debriefing which is a professional activity and team work which is a prerequisite to effective work performance. Similarly, studies by Bowen (2010); Bechtel (2009) and Gachutha (2006) also found that health care professionals utilize methods such as debriefing, co-worker support and supervision to ameliorate compassion fatigue and job stress.

The following are some of the reasons advanced for choice of particular methods reported verbatim from some respondents:

***Religious activities and meditation:*** *I find engagement in religious activities and meditation encouraging, comforting, energizing and that it provides me with power to continue with the journey. It also helps me find meaning in life.*

*Team building: I prefer team building because I regard it as a means of improving communication and developing decision making and problem solving skills among the teams. It also provides an avenue for exercises and relaxing hence keeping me healthy.*

Support groups according to the respondents were used as avenues of relieving stress through sharing with professionals and meeting with friends.

Individual responses on choice of self-care methods indicated that participants utilized team building, support group, religious activities and networking as avenues of self-expression from work and familiar environments that they associated with traumatic experiences. These activities were viewed as a time to share, know each other, and cope with work related stresses. Exercises for example were attributed to healthy living. As observed in the reviewed body of research, health care professionals work in challenging work environment in the midst of high expectations from their patients/clients Gardener III (2014). These experiences often lead to emotional disturbances as well as physical fatigue. An individual's ability to recognize these symptoms and make a deliberate step of self-care is viewed as a step towards wellness. The relatively high utilization of self-care activities among the respondents as noted in this study could be an indication of increased self-awareness on this need.

#### **4.7 Chapter Summary**

In this chapter, data analysis for the variables within the context of the three objectives of this study has been presented. A description of the data and corresponding analyses of

demographic variables, the three hypotheses and the descriptive analysis of the variables are provided.

Results indicated that gender ratio distribution in the study was skewed towards female at 77.3% of the total respondents. Percentages of female respondents across the HCP were; 82.4% for Nurses, 89% for Counselors and 53% for Doctors. On marital status and age, 73.3% of the respondents were married and 50.7% were aged between 31 and 40 years.

The study further found that work experience, work setting and self-care were determinant of development of compassion fatigue, where participants with less years of experience had high compassion fatigue scores with a significant value of  $p = 0.002$ , working in areas perceived to be more traumatizing had a significant value of  $p = 0.000$  and Pearson correlation analysis on self-care gave a value of  $r = -0.76$ . All the three hypotheses were therefore rejected.

## **CHAPTER FIVE**

### **SUMMARY OF FINDINGS, DISCUSSION, CONCLUSIONS AND RECOMMENDATIONS**

#### **5.1 Chapter Overview**

The purpose of this study was to determine the relationship between work experience, work setting, self-care and compassion fatigue among health care professionals in MTRH. Demographic characteristics such as age, gender, marital status and length of time worked for a health care professional were analyzed in order to support the results. This chapter presents a discussion of the findings and the detailed results presented in chapter 4. The conclusions and recommendations presented in this chapter are also guided by the findings.

#### **5.2 Summary of Findings and Discussions**

In this section of the study, the predictive and protective factors of compassion fatigue and the demographic characteristics of the health care professionals in MTRH are discussed.

##### **5.2.1 Demographic Characteristic of the Health Care Professionals**

As observed from reviewed studies and further supported by a World Health Organization report on Gender and Healthcare Workforce (WHO, 2008) which states that women workforce in the health sector comprised of over 75% , gender ratio distribution in the current study was evidently skewed towards female at 77.3%.This percentage was

further skewed in favor of nursing where of the 51 nurses who participated in the study 42 were female while 9 were male giving a percentage of 82.4% and 17.6% respectively. These findings again agree with the WHO (2008) report which indicates that the female gender distribution is skewed towards the nursing profession as compared to other caring professions. These findings therefore help draw a conclusion that health care is a female dominated field even in MTRH since the same gender parity was evidenced among counselors where out of the 9 counselors who participated in the study 8 were female and only 1 was male representing 89% and 11% respectively. Gender distribution among doctors was almost equal at 8 female and 7 male accounting for 53% and 47% respectively. The fact that women are carers by their natural predisposition could help explain the observed gender parity among these health care professionals especially among nurses and counselors.

On marital status and age, the majority (73.3%) of the respondents were married and only 4% were divorced while age distribution of the respondents showed that the majority (50.7%) were 31 years and above with only 10.7 % in the >50 years age bracket. Association of gender, marital status, age and compassion fatigue revealed that females had higher compassion fatigue scores compared to male while on age, it was observed that compassion fatigue scores tended to increase with age as evidenced by the high mean score of 28.1 among respondents aged >50 years compared to those who were younger. Against the expectation based on this trend, participants of age 31-40 years were found to have lower compassion fatigue mean scores than those whose age was 20-30 years at 19.2 and 19.7 respectively. Participants in the 20-30 years category were also found to

less engage in self-care activities (mean of 41.9) as compared to a mean of 36.6 registered among participants in the 31-40 years group.

The likely explanation to this could be lack of awareness on the need for self-care coupled with limited work experience and age. Professionals at this age often lack adequate skills to cope with the demands put on them by their work, supervisors and to some good extend demand by self. Figley (2002) asserts that the therapist's effort to view the world from the perspective of suffering client attracts a cost which in this case translates to the suffering of the therapist. Health care professionals and especially beginners often feel that every encounter with a client must produce positive results. Failure to achieve such desired outcomes may often lead to feelings of dissatisfaction and incompetence. These feelings can also occur at any stage of life or age of a care giver depending on their physical, emotional and psychological wellness at the time. Other characteristics evidenced among the inexperienced health care professionals include the urgency to meet deadlines, poor judgment and lack or minimum self-management skills which lead to performance anxiety.

The rise in compassion fatigue scores in relation to age in this study are inconsistent with findings of other studies where high scores were detected among younger professionals (Kabunga et al., 2014; Kiwol et al., 2012) while those who were older reported low compassion fatigue scores. The variation noted in the current study could be attributed to other individual factors such as personal traumas, personality and major life changes (Star, 2013).

Studies by (Chatterton, 2014; Star, 2013 & Kiwol et al., 2012) revealed that marital status has a statistically significant effect on development of compassion fatigue among nurses and counselors where those respondents who were married reported higher compassion fatigue compared to those who were single. Divorced or separated nurses further reported higher compassion fatigue scores compared to those who were married or single. Findings in the current study however indicated that respondents who were single had higher compassion fatigue scores as compared to those who were married. If singleness was associated with age one could draw a conclusion that most of these respondents may have been young. This however may not be so since singleness can run across the entire human lifespan. One can be single at 20 years yet another can be at 30 years, 40 and even 60 years of age and beyond. This therefore advances a further explanation that singlehood is not void of the common life challenges that affect human beings across the lifespan. This study further observed that participants who were divorced had a mean score of 10.3 signifying a low risk of compassion fatigue. This could probably be due to resilience developed as a result of their traumatic experience.

The current study also sought to describe the participants based on their professional affiliation where association between compassion fatigue and individual profession was analyzed. A comparison of compassion fatigue mean scores for doctors, nurses and counselors revealed higher mean scores among counselors (23.0) compared to nurses (21.3) while doctors had the lowest mean score (16.9). Doctors were therefore found to be at a lower risk of developing compassion fatigue in comparison to nurses and counselors.

This could probably be due to the magnitude of exposure to traumatic materials based on frequency and intensity where in comparison to nurses and counselors, doctors are likely to take less time with their patients as compared to counselors and nurses.

Comparing engagement in self-care activities among the three professions, doctors were found to less engage in self-care activities (146.4) followed by nurses (142, 5) while counselors were found to have a higher engagement (122.1). The high compassion mean scores among counselors and nurses could probably be explained by the amount of time the two professions spend with their patients. Compared to doctors, nurses spend more hours with their patients. For instance patients in critical units such as ICU, Accident and Emergency and Cardiac Care units usually require a nurse at the bedside to closely monitor their condition which leads to intense exposure to traumatic experiences. Counselors too spend a lot of time listening and processing clients' traumatic experiences which leads to disruption of their cognitions. The low engagement in self-care noted among doctors could probably be attributed to lack of awareness. Kearney et al., (2009) asserts that self-awareness involves both a combination of self-knowledge and development of a dual-awareness that permits a clinician to simultaneously attend to and monitor the needs of the patient, the work environment and his or her own subjective experience. A clinician's ability to develop self-awareness may act as an opening to appreciating the role of self-care in an individual's wellbeing.

The findings of this study on the association of compassion fatigue and health care profession are consistent with those of Hunsaker (2014) which showed that working in



critical areas, long working hours, and long shifts lead to compassion fatigue among nurses. Studies on counselors too have shown that features of compassion fatigue manifest as counselors respond to the emotional pain, exposure to traumatic material and the high caseloads that they handle (Merriman, 2011; Star, 2013). The observation that doctors in this study have less risk of developing compassion fatigue were also found consistent with those of a study by Smit (2006) who found that doctors experience lower levels of compassion fatigue than nurses. Results from the study suggested that doctors strongly viewed stress due to extra-organizational sources strongly correlated with emotional exhaustion and compassion fatigue than organizational stressors such as high case load and long working hours which they perceived as “part of the job”.

### **5.2.2 Association of Work Experience and Compassion Fatigue**

The first objective in this study sought to establish the predictive role of work experience in the development of compassion fatigue among health care professionals in MTRH. The findings showed a significant association between work experience and compassion fatigue with respondents who had less number of years of experience as health care professionals showing high compassion fatigue scores compared to those who had more years of experience.

Analysis indicated that 53.3% of the doctors had worked for more than 15 years while only few nurses (23.5%) were found in this category. In the less than 5 years work experience category, counselors were the majority at 33% while doctors were the least at 13%. Nurses were however found to be fairly distributed across all the work experience

categories with the majority (27%) having worked less than 5 years while 23.5% had worked for over 15 years. The high number of doctors with long working experience would explain their low scores of compassion fatigue found in this study while the high percentage of nurses and counselors with less work experience would explain their high scores of compassion fatigue.

Individually, contribution of work experience to the development of compassion fatigue was found to be 22.6% of the overall compassion fatigue scores. This level of compassion fatigue is quite significant and cannot be ignored especially considering the fact that there will always be new professionals joining the health care service at every given time. Such health care workers would require early sensitization and training on self-care in order to reduce the risk and develop skills required to prevent and manage compassion fatigue.

The observation that nurses have high compassion fatigue scores which were sustained across their years of experience compared to those of doctors and counselors is an issue of concern. One would interpret this as an indication that competence development that comes with experience may not necessarily translate to development of coping skills among nurses. Alternatively, these findings could be explained by considering the length of time nurses spend with patients which indisputably increases exposure intensity. Together with these assertions, the fact that nursing is a predominantly female profession as evidenced in the current study could also explain the high compassion scores among nurses regardless of their work experience. Other factors that could be attributed to the

high prevalence of compassion fatigue among women are the female gender roles. Women continue to juggle multiple roles, including those roles related to the home and family, for which they have sole or major responsibility (Jennings, 2008). A combination of factors, some inherent to the health profession, but key being the work experience could therefore be responsible for the high compassion fatigue scores registered among the health care professionals in this study.

### **5.2.3 Association of Work Setting and Compassion Fatigue**

The second objective sought to determine the role of work setting as a predictive factor in the development of compassion fatigue among health care professionals in MTRH. Important to note here is that people working as health care professionals are required to spend considerable face-to-face time with clients who need their support. In the course of this interaction, the care givers are always confronted by death and dying patients a situation which they have to learn to live with. Smit (2006) opined that working with victims of trauma makes health professionals vulnerable to secondary traumatic stress reactions.

This is quite agreeable with findings of this study which showed that working in units that dealt with critically ill patients such as Accident and Emergency Unit, ICU/HDU/, CCU, Burns unit, as well as dealing with clients who had undergone intense traumatic experiences such as Sexual and Gender Based Violence survivors, was associated with high compassion fatigue scores. The findings further agree with studies by Chatterton(2014), Gardner III (2014), Mbuthia (2009) and Bowen (2010) who found that

working in Hospice, Emergency Departments, Critical Care Units, caring for young patients, dealing with patients' family grief and providing therapy to suicidal patients led to high compassion fatigue among nurse and counselors.

Working in units that were grouped under perceived less traumatizing such as Renal Unit, Alcohol and Drug Rehabilitation unit, Labour ward, Ophthalmology and New Born Unit posted low compassion fatigue scores. These findings could be attributed to patient management outcome related factors such as satisfaction gained after successful delivery of a live baby in Labour Ward, successful rehabilitation of persons with Substance Use Disorders and successful renal dialysis and transplants among others. In comparison to the experience of caring for the critically ill and dying, caring for patients with good prognosis can be more satisfying to the care givers due to the optimism that it provides.

Association of compassion fatigue and work setting in the general linear model in the current study revealed the individual contribution of the variable work setting to the development of compassion fatigue was 22.1% which is quite significant. This shows the effect that work settings have on the health care professionals and by extension the cost of caring.

#### **5.2.4 Association of Self Care and Compassion Fatigue**

The third objective aimed at determining the role of self-care as a protective factor against development of compassion fatigue. Correlation analysis of self-care and compassion fatigue done in this study revealed a significant negative correlation between

compassion fatigue and self-care engagement. Similar findings were reported in studies by (Bakibinga, 2012; Star, 2013) where negative correlation between self-care engagement and development of compassion fatigue was found. Individuals who engaged more in self-care activities were found to have lowered self-report of compassion fatigue compared to those who were less involved. The role of self-care in prevention of compassion fatigue can therefore not be ignored. As observed, self-care activities reduce ones vulnerability to compassion fatigue by acting both as a protective and a management factor. As a protective and management factor, engagement in self-care activities improves an individual's wellbeing. Physical activities prevent development of health conditions such as arthritis and heart diseases and boosts mental functioning among other benefits. Physical activities are also used as both prevention and management of stress. Spiritual self-care helps one find meaning of life as well as finding a place in service to mankind which provides life fulfillment. These benefits are applicable to all other methods of self-care discussed in this study.

A comparison of self-care scores between the two work settings also showed that participants in the more traumatizing work settings engaged less in self-care activities as compared to those in the less traumatizing work settings. This is further evidenced by the compassion fatigue trend in the two work settings where high scores were registered in the high traumatizing work settings. The high compassion fatigue scores can therefore be attributed to high exposure to traumatic materials and lack of adequate self-care among the health care professional.

The overall contribution of the construct self-care in the regression model was significantly high. Based on these results, it would therefore be prudent to confidently assert that if health care professionals increased their engagement in self-care activities, compassion fatigue would reduce considerably which would have a positive impact in both the individuals' lives and their life in the world of work. Reviewed literature in this study lays emphasis on the role of self – care. Feltham (as cited in Gachutha, 2006, p 175) asserts that 'Clinical Supervision is a mandatory requirement for practicing counselors with some professional bodies requiring all practitioners to have regular supervision of not less than 1.5 hours per month throughout their professional career.' Rodrigo (2002, p. 8) further asserts that "if helpers are being helped, helpers' clients will indirectly benefit from it, hence, the emphasis in literature on therapists' self-care and need for helpers to find a balance between clients and self-care, professional and personal life in order to provide the effective and ethical care clients have the right to expect".

### **5.3 Conclusions**

This study has clearly demonstrated the predictive role of work experience and work setting in development of compassion fatigue among health care professionals in MTRH and has also demonstrated the protective role of self-care in the development of compassion fatigue.

1. Work experience was found to have an influence in the development of compassion fatigue where participants who had less experience (< 5 years) registered a higher level of compassion fatigue ( $M = 27.9$ ) compared to those who were more experienced

(>15 years) whose mean scores were ( $M = 16.4$ ). Work experience is therefore a protective factor for the development of compassion fatigue.

2. The association between work setting and development of compassion fatigue revealed that participants who worked in more traumatizing work settings had nearly twice as high compassion fatigue mean scores ( $M= 27.3$ ) as compared to those who worked in less traumatizing areas who registered a mean score of ( $M = 14.1$ ). These findings imply that work setting is a strong predictor of compassion fatigue as denoted by the high mean scores registered among health care professionals working in more traumatizing work settings in MTRH.
3. Correlation results of the association between self-care and compassion fatigue was  $r(75) = 0.766, p = 0.001$ . The implication here is that as participants increase their engagement in self-care, compassion fatigue scores reduce. These negative findings lead to a conclusion that self-care is a protective factor for the development of compassion fatigue among health care professionals.

Regression analysis further showed that the independent variables explained about 76% of the total variation on the dependent variable (compassion fatigue) where self-care had the highest individual variation contribution explained by 56.8% and work setting registering the lowest variation contribution of 22.1%. This means that self-care activities play a major role as a protective factor to the development of compassion fatigue. Health

care professionals should therefore be encouraged to participate more in self-care activities in order to improve their wellbeing and to prevent compassion fatigue.

Studies among nurses for example, show that self-care theory and research in nursing is divided into self-care for patients and self-care for nurses. The largest body of literature however addresses the former, highlighting how nurses can empower patients to care for self with little emphasis on nurses' own self-care (Bakibinga, 2012). These findings clearly indicate that there need to a change of approach geared towards striking a balance that will focus not only on the patient/clients but also the care providers. A study by Kirby and Liick (2014) suggests that physicians should consider prioritizing their own health by setting time limits in their work in order to be able to engage in activities that enhance self-care.

Simple lifestyle changes such as getting enough sleep, moderate exercise and a healthy diet can make an enormous difference to one's quality of life, though this however requires an intentional step by an individual to achieve it.

In this study work setting and work experience were found to be determinants of compassion fatigue where respondents working in settings perceived to be more traumatizing and those with less years of experience registered higher compassion fatigue scores compared to those in less traumatizing work settings and those with more years of experience. Encouraging self-care would therefore prevent development of compassion fatigue.



## 5.4 Recommendations

In line with the findings and conclusions of the study, the following recommendations are made as a precursor to minimizing compassion fatigue among health care professions in MTRH and by extension to employers and other stakeholders:

1. Health care professionals need to be aware of their own emotional and psychological health in order to be able to recognize signs and symptoms of compassion fatigue seek support and initiate early intervention. Regular training on self-care that encompasses all the six subsets of self-care (Physical, Spiritual, Emotional, Psychological, and Workplace Balance) should be introduced in the work place. This will help in both preventing compassion fatigue and managing it whenever it occurs. Participation in self-care activities is set to improve the health professionals' wellbeing, boost their moral which will in turn lead to improved productivity.
2. The findings of this study revealed that health care professionals with less number of years of experience had higher compassion fatigue scores compared to those who were more experience. This therefore calls for concerted efforts to train these professional in self-care during training and when they enter employment. This can be done through Continuous Profession Development (CPD) at personal and cooperate level.
3. Though all health care professionals need to practice self-care, more emphasis need to focus on health care professionals working in areas with high intensity of

exposure to traumatic materials. This can be geared towards both prevention and management of compassion fatigue among this HCP.

4. The findings of this research indicated that health care professionals in MTRH have compassion fatigue. This is a matter of concern considering that employee wellness impacts negatively on service delivery and customer satisfaction. MTRH management therefore needs to put in place employee focused strategies that will ensure a working environment that promotes self-care activities. This includes providing time for personal development and other self-care activities. Where possible regular changeovers should be instituted. This will ensure that health care professionals are not continuously working in traumatizing work settings. Where changeovers are not possible due to skill requirements work shifts should be made in such a way that they allow adequate time off and rest.
  
5. In matters of policy health sector legislations should include employee wellness in their plans. This will ensure that training budgets are included in the plans in order to cater for employee wellness needs. Professional licensing bodies such as Kenya Medical Association, Kenya Psychology and Counseling Association, Nursing Council of Kenya which license doctors, counselors and nurses respectively should include self-care, wellness and impairment in their respective curricula. This should also be done in curricula of other helping professions and be included in their respective codes of ethics. It is hoped that this measure will not only ensure the

wellbeing of their members but also protect clients against malpractice which may occur as a result of compassion fatigue.

### **5.5 Suggestions for Further Research**

A study of this magnitude cannot be exhaustive in covering all the predictors and protectors of compassion fatigue. As mentioned elsewhere in this report this study was limited to doctors, nurses and counselors who were working in the selected specialized units. The study therefore identifies the following as areas for further research:

1. A study to compare compassion fatigue among staff working in areas such as Surgical Wards, Medical Wards and Paediatrics Wards.
2. This study adopted a quantitative approach. A mixed method approach could be undertaken in order to compare quantitative and qualitative results.
3. A similar study in other referral hospitals in Kenya could be undertaken to compare results and also contribute to a national policy implementation.

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## **APPENDICES**

### **APPENDIX 1: CONSENT FORM**

#### **Letter to Respondents (Introduction Letter)**

#### **STUDY TITLE: PREDICTIVE AND PROTECTIVE FACTORS OF COMPASSION FATIGUE AMONG HEALTH CARE PROFESSIONALS IN MOI TEACHING AND REFERRAL HOSPITAL.**

##### **Introduction**

Sir/Madam. My name is JANE KARIUKI a postgraduate student from Moi University main campus Eldoret. I wish to invite you to participate in this research study. This research has been approved by the Institutional Research and Ethics Committee (IREC) and National Commission for Science and Technology (NACOSTI) and Moi University.

##### **Study Purpose**

The purpose of the study is to determine Predictive and Protective factors of compassion fatigue among doctors, nurses and counselors in MTRH. This study seeks to determine whether there exists any relationship between a health care professionals' (doctor, nurse, and counselor) work setting and work experiences and development of compassion fatigue in MTRH. Further the study seeks to determine whether engaging in self-care activities is a protective factor to the development of compassion fatigue among these health care professionals.

All information you provide will remain confidential and will not be accessed by any unauthorized person irrespective of his/her position in the society

**How to participate**

If you agree to participate in this study voluntarily, you will be given three (3) questionnaires which will take you about 30 minutes to fill.

**Benefits for participating in the study**

The findings of this study will be used to sensitize health care professionals in practice and those in training on the preventive and protective factors of Compassion Fatigue. The findings will also bring to the attention of employing agencies the importance of supporting their employees in order to prevent or minimize the development of compassion fatigue.

**Risk for participating in the study**

Confidentiality and high standard of professionalism will be adhered to. Every information you give will be kept private and confidential. If you choose not to participate, it will not affect you in anyway. You may therefore choose to withdraw from the study at any time. If you have any further questions during the period and in the future, please do not hesitate to contact the researcher through this number **0733787341**

**Costs:** You will not be responsible for any study-specific costs

**Payment:** You will not receive payment for taking part in this study

**Date:**.....

**Thank you for participating.**

Contacts of the researcher,

Jane Kariuki Cell Phone No. 0733787341

P.O BOX 3-30100 Eldoret, Kenya

**E- Mail address;** [janekariuki05@yahoo.com](mailto:janekariuki05@yahoo.com)

## APPENDIX 2: DEMOGRAPHIC QUESTIONNAIRE

**Please read each statement carefully and circle the letter next to your choice.**

**Thank you for your time and participation.**

1 Gender (please tick one):

Male  Female

2. Your age bracket in years

20- 30  31-40  41-50  Above 50

3. Marital status

Married  single  Divorced  Separated

4. Your profession (please tick one):

Doctor  Counselor  Nurse

5. Current work setting

Critical Care Unit  Oncology  New Born Unit

Sexual and Gender Based Centre  Ophthalmology Unit

Rehabilitation Unit  Psychiatric Unit  Accident & Emergency Unit

Burns Unit  Cardiac Unit  Renal Unit  Labour Ward

6. Number of years of experience as a health care profession

< 5yrs  5-10yrs  11-15yrs  >15yrs

7. Length of time worked in the current unit

5 year and below  between 6 – 10years  Above 10 years

### APPENDIX 3: PROFESSIONAL QUALITY OF LIFE SCALE (PROQOL)

#### *Compassion Satisfaction and Compassion Fatigue (ProQOL) Version 5 (2009)*

When you *help* people you have direct contact with their lives. As you may have found, your compassion for those you *help* can affect you in positive and negative ways. Below are some questions about your experiences, both positive and negative, as a *helper*. Consider each of the following questions about you and your current work situation. Select the number that honestly reflects how frequently you experienced these things in the *last 30 days*.

1=Never      2=Rarely      3=Sometimes      4=Often      5=Very Often

Items	1	2	3	4	5
1. I am happy					
2. I am preoccupied with more than one person I help.					
3. I get satisfaction from being able to help people.					
4. I feel connected to others					
5. I jump or am startled by unexpected sounds.					
6. I feel invigorated after working with those I help.					
7. I find it difficult to separate my personal life from my life as a helper.					
8. I am not as productive at work because I am losing sleep over traumatic experiences of a person I help.					
9. I think that I might have been affected by the traumatic stress of those I help.					
10. I feel trapped by my job as a helper.					
11. Because of my helping, I have felt "on edge" about various things.					
12. I like my work as a helper.					

13. I feel depressed because of the traumatic experiences of the people I help.					
14. I feel as though I am experiencing the trauma of someone I have helped.					
15. I have beliefs that sustain me.					
16. I am pleased with how I am able to keep up with helping techniques and protocols.					
17. I am the person I always wanted to be.					
18. My work makes me feel satisfied.					
19. I feel worn out because of my work as a helper.					
20. I have happy thoughts and feelings about those I help and how I could help them.					
21. I feel overwhelmed because my case work load seems endless					
22. I believe I can make a difference through my work.					
23. I avoid certain activities or situations because they remind me of frightening experiences of the people I help.					
24. I am proud of what I can do to help.					
25. As a result of my helping, I have intrusive, frightening thoughts					
26. I feel “bogged down” by the system.					
27. I have thoughts that I am a “success” as a helper.					
28. I can’t recall important parts of my work with trauma victims.					
29. I am a very caring person					
30. I am happy that I chose to do this work.					

Adapted from Hudnall Stamm, 2009. *Professional Quality of Life: Compassion Satisfaction and Fatigue Version V (ProQoL)*.

<http://www.isu.edu/~bhstamm> or [www.proqol.org](http://www.proqol.org). This test may be freely copied as long as (a) author is credited, (b) no changes are made, and (c) it is not sold.

## APPENDIX 4: SELF – CARE QUESTIONNAIRE

### Section 1: The Self-Care Assessment Worksheet

This assessment tool provides an overview of effective strategies to maintain self-care. Rate the following areas of self-care in terms of frequency by circling *one* response under each item:

**1=It never occurred to me    2= Never 3= Rarely 4= Occasionally 5= Frequently**

Item	1	2	3	4	5
<b>Physical Self-Care</b>					
1. I eat regularly (e.g., breakfast, lunch, and supper)					
2. I eat healthy					
3. Exercise					
4. I get regular medical care for prevention					
5. I get regular medical care when needed					
6. I take time off when needed					
7. I dance, swim, walk, run, play sports, sing, or do some other physical activity that is fun					
8. I take time to be built close relationships that I need					
9. I get enough sleep					
10. I get massages from friends and relatives					
11. I wear clothes I like					
12. I take leave from work when required					
13. I visit friends and relatives to have fun					
14. I make time away from telephones					
15. Others, please specify					
<b>Psychological Self-Care</b>					
1. I make time for self-reflection					
2. I have my own personal counselor					
3. I write journal- Record my daily experiences					

4. I read literature that is unrelated to work					
5. I do something at which I am are not expert or in charge					
6. I decrease stress in my life					
7. I let others know different aspects of me					
8. I notice my inner experience—listen to my thoughts, judgments, beliefs, attitudes, and feelings					
9. I engage my intelligence in a new area, e.g., go to an art museum, sports event, music concerts					
10. I practice receiving from others(gifts, help)					
11. I am curious					
12. I say “no” to extra responsibilities sometimes					
13. Others, please specify					
<b>Emotional Self-Care</b>					
1. I Spend time with others whose company I enjoy					
2. I Stay in contact with important people in my life					
3. I give myself affirmations, praise myself					
4. I Love myself					
5. I re-read favorite books, re-view favorite movies					
6. I identify comforting activities, objects, people, relationships, places and seek them out					
7. I allow myself to cry					
8. I find things that make me laugh					
9. I play with children					
10. I express my outrage in social action, letters					

and donations, marches, protests					
11. Others, please explain					
<b>Spiritual Self-Care</b>					
1. I make time for self-reflection					
2. I spend time with nature(taking walks, Gardening)					
3. I find a spiritual connection or community					
4. I am open to inspiration					
5. I cherish my optimism and hope					
6. I am aware of nonmaterial aspects of life					
7. I try at times not to be in charge or the expert					
8. I am open to not knowing					
9. I identify what is meaningful to me and notice its place in my life					
10. I Meditate					
11. I Pray					
12. I Sing					
13. I spend time with children					
14. I have experiences of awe (amazement)					
15. I Contribute to causes in which I believe					
16. I read inspirational literature (talks, music, etc.)					
17. Others, please explain					
<b>Workplace or Professional Self-Care</b>					
1. I take a break during the workday (e.g., lunch)					
2. I take time to chat with co-workers					
3. I make quiet time to complete tasks					
4. I identify projects or tasks that are exciting and rewarding					



5. I set limits with my clients and colleagues					
6. I balance my caseload so that no one day or part of a day is “too much”					
7. I arrange my work space so it is comfortable and comforting					
8. I get regular supervision or consultation					
9. I negotiate for my needs (benefits, pay raise)					
10. I have a peer support group					
11. Others					
<b>Balance</b>					
1.I strive for balance within my work-life and workday					
2. I strive for balance among work, family, relationships, play and rest					

Adapted from TRANSFORMING THE PAIN: A WORKBOOK ON VICARIOUS TRAUMATIZATION by Karen W. Saakvitne and Laurie Anne Pearlman. Copyright © 1996 by the Traumatic Stress Institute/Center for Adult & Adolescent Psychotherapy LLC.

## Section 2

*Kindly fill in the blank spaces provided. You may use extra sheet of paper if need be.*

People take care of their well-being in many different ways based on their interest, hobbies and time among other factors. Below are some of the methods used to minimize compassion fatigue. Tick the ones you have personally used.

- Team building activities
- Networking
- Substance Use

Of the methods you have used, which ones have you found effective? Why?

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Which methods are used in your unit as a means of minimizing compassion fatigue?\_\_\_\_\_

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Thank you for your participation.

## APPENDIX 5: PERMISSION LETTER TO USE THE SELF-ASSESSMENT WORKSHEET (SCAW) questionnaire

Gmail - RE: WW Norton - Permissions Inquiry <https://mail.google.com/mail/u/0/?ui=2&ik=761c279473&view=pt&s>

 **jane kariuki <njerikaje@gmail.com>**

---

**RE: WW Norton - Permissions Inquiry**  
1 message

---

**Shatzkin, Robert <rshatzkin@wwnorton.com>**  
To: "njerikaje@gmail.com" <njerikaje@gmail.com> Tue, May 5, 2015 at 11:11 AM

May 5th, 2015

Kariuki Jane Njeri  
P.O. Box 4686  
Eldoret, 30100  
Kenya

Re: TRANSFORMING THE PAIN: A WORKBOOK ON VICARIOUS TRAUMATIZATION

Dear Kariuki Jane Njeri:

Thank you for your request to use TRANSFORMING THE PAIN in your thesis PREDICTIVE AND PROTECTIVE FACTORS OF COMPASSION FATIGUE AMONG HEALTH CARE PROVIDER IN MOI TEACHING AND REFERRAL HOSPITAL- KENYA. This letter will grant you one time, nonexclusive rights to use the material in your thesis, and in all copies to meet university requirements, subject to the following conditions:

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**State:** KENYA  
**Zip:** 30100  
**Phone:** 0733-78-73-41  
**Fax:**  
**Email:** njerikaje@gmail.com

**Book Information ...**

**Publisher:** Norton  
**Author/Editor:** Karen W. Saakvitne and Laurie Anne Pearlman  
**ISBN:**  
**Title:** TRANSFORMING THE PAIN: A WORKBOOK ON VICARIOUS TRAUMATIZATION  
**Copyright Line:** Copyright © 1996 by the Traumatic Stress Institute/Center for Adult & Adolescent Psychotherapy LLC.  
**Pages on which excerpt appears:** NOT SURE  
**Title of Selection:** Self Care Aessment Worksheet  
**Total no of Pages:** 6  
**Total Words:** 966  
**Total Lines:** 155  
**Total no of Illus:**

**Your Publication ...**

**Title:** PREDICTIVE AND PROTECTIVE FACTORS OF COMPASSION FATIGUE AMONG HEALTH CARE PROVIDER IN MOI TEACHING AND REFERRAL HOSPITAL- KENYA

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**Author/Editor** KARIUKI JANE NJERI  
**Publisher** UNPUBLISHED  
**Publication Date:** UNPUBLISHED  
**Publication Format:** RESEARCH PROPOSAL  
**Number of Pages:** 120  
**Amount of First Print Run:** NOT APPLICABLE  
**Price:** NOT APPLICABLE  
**Territory:** KENYA- EAST AFRICA

**Comments:** I SEEK PERMISSION TO USE THE SELF CARE ASSESSMENT WORKSHEET AS A DATA COLLECTION TOOL FOR MY MASTERS THESIS IN MOI UNIVERSITY SCHOOL OF ARTS AND SOCIAL SCIENCES, DEPARTMENT OF SOCIOLOGY AND PSYCHOLOGY WHERE I AM UNDERTAKING A POST GRADUATE DEGREE IN COUNSELING PSYCHOLOGY. LOOKING FORWARD TO YOUR PERMISSION TO USE THE WORKSHEET. THANK YOU

## APPENDIX 6: IREC APPROVAL



MOI TEACHING AND REFERRAL HOSPITAL  
P.O. BOX 3  
ELDORET  
Tel: 33471/2/3



### INSTITUTIONAL RESEARCH AND ETHICS COMMITTEE (IREC)

MOI UNIVERSITY  
SCHOOL OF MEDICINE  
P.O. BOX 4606  
ELDORET

Reference: IREC/2015/256  
**Approval Number: 0001555**

28<sup>th</sup> January, 2016

Ms. Kariuki Jane Njeri,  
Moi University,  
School of Arts and Social Sciences,  
P.O. Box 3900-30100,  
**ELDORET-KENYA.**



Dear Ms. Kariuki,

#### **RE: FORMAL APPROVAL**

The Institutional Research and Ethics Committee has reviewed your research proposal titled:-

***"Predictive and Protective Factors of Compassion Fatigue among Health Care Professionals in Moi Teaching and Referral Hospital."***

Your proposal has been granted a Formal Approval Number: **FAN: IREC 1555** on 28<sup>th</sup> January, 2016. You are therefore permitted to begin your investigations.

Note that this approval is for 1 year; it will thus expire on 27<sup>th</sup> January, 2017. If it is necessary to continue with this research beyond the expiry date, a request for continuation should be made in writing to IREC Secretariat two months prior to the expiry date.

You are required to submit progress report(s) regularly as dictated by your proposal. Furthermore, you must notify the Committee of any proposal change (s) or amendment (s), serious or unexpected outcomes related to the conduct of the study, or study termination for any reason. The Committee expects to receive a final report at the end of the study.

Sincerely,

**PROF. E. WERE**  
**CHAIRMAN**  
**INSTITUTIONAL RESEARCH AND ETHICS COMMITTEE**

cc	Director - MTRH	Dean - SOP	Dean - SOM
	Principal - CHS	Dean - SON	Dean - SOD

**APPENDIX 7: NACOSTI APPROVAL**



**NATIONAL COMMISSION FOR SCIENCE,  
TECHNOLOGY AND INNOVATION**

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Uhuru Highway  
P.O. Box 30623-00100  
NAIROBI-KENYA

Ref. No. **NACOSTI/P/16/38302/9417**

Date:

**4<sup>th</sup> April, 2016**

Jane Njeri Kariuki  
Moi University  
P.O. Box 3900-30100  
**ELDORET.**

**RE: RESEARCH AUTHORIZATION**

Following your application for authority to carry out research on "*Predictive and protective factors of compassion fatigue among health care professionals in Moi Teaching and Referral Hospital,*" I am pleased to inform you that you have been authorized to undertake research in **Uasin-Gishu County** for a period ending **1<sup>st</sup> April, 2017**.

You are advised to report to **the County Commissioner, the County Director of Education and the County Coordinator of Health, Uasin-Gishu County** before embarking on the research project.

On completion of the research, you are expected to submit **two hard copies and one soft copy in pdf** of the research report/thesis to our office.

**BONIFACE WANYAMA.  
FOR: DIRECTOR-GENERAL/CEO**

Copy to:

The County Commissioner  
Uasin-Gishu County.

The County Director of Education  
Uasin-Gishu County.

The County Coordinator of Health  
Uasin-Gishu County.



## APPENDIX 8: RANDOM NUMBER TABLE

### Random Number Table

13962	70992	65172	28053	02190	83634	66012	70305	66761	88344
43905	46941	72300	11641	43548	30455	07686	31840	03261	89139
00504	48658	38051	59408	16508	82979	92002	63606	41078	86326
61274	57238	47267	35303	29066	02140	60867	39847	50968	96719
43753	21159	16239	50595	62509	61207	86816	29902	23395	72640
83503	51662	21636	68192	84294	38754	84755	34053	94582	29215
36807	71420	35804	44862	23577	79551	42003	58684	09271	68396
19110	55680	18792	41487	16614	83053	00812	16749	45347	88199
82615	86984	93290	87971	60022	35415	20852	02909	99476	45568
05621	26584	36493	63013	68181	57702	49510	75304	38724	15712
06936	37293	55875	71213	83025	46063	74665	12178	10741	58362
84981	60458	16194	92403	80951	80068	47076	23310	74899	87929
66354	88441	96191	04794	14714	64749	43097	83976	83281	72038
49602	94109	36460	62353	00721	66980	82554	90270	12312	56299
78430	72391	96973	70437	97803	78683	04670	70667	58912	21883
33331	51803	15934	75807	46561	80188	78984	29317	27971	16440
62843	84445	56652	91797	45284	25842	96246	73504	21631	81223
19528	15445	77764	33446	41204	70067	33354	70680	66664	75486
16737	01887	50934	43306	75190	86997	56561	79018	34273	25196
99389	06685	45945	62000	76228	60645	87750	46329	46544	95665
36160	38196	77705	28891	12106	56281	86222	66116	39626	06080
05505	45420	44016	79662	92069	27628	50002	32540	19848	27319
85962	19758	92795	00458	71289	05884	37963	23322	73243	98185
28763	04900	54460	22083	89279	43492	00066	40857	86568	49336
42222	40446	82240	79159	44168	38213	46839	26598	29983	67645
43626	40039	51492	36488	70280	24218	14596	04744	89336	35630
97761	43444	95895	24102	07006	71923	04800	32062	41425	66862
49275	44270	52512	03951	21651	53867	73531	70073	45542	22831
15797	75134	39856	73527	78417	36208	59510	76913	22499	68467
04497	24853	43879	07613	26400	17180	18880	66083	02196	10638
95468	87411	30647	88711	01765	57688	60665	57636	36070	37285
01420	74218	71047	14401	74537	14820	45248	78007	65911	38583
74633	40171	97092	79137	30698	97915	36305	42613	87251	75608
46662	99688	59576	04887	02310	35508	69481	30300	94047	57096
10853	10393	03013	90372	89639	65800	88532	71789	59964	50681
68583	01032	67938	29733	71176	35699	10551	15091	52947	20134
75818	78982	24258	93051	02081	83890	66944	99856	87950	13952
16395	16837	00538	57133	89398	78205	72122	99655	25294	20941
53892	15105	40963	69267	85534	00533	27130	90420	72584	84576
66009	26869	91829	65078	89616	49016	14200	97469	88307	92282
45292	93427	92326	70206	15847	14302	60043	30530	57149	08642
34033	45008	41621	79437	98745	84455	66769	94729	17975	50963
13364	09937	00535	88122	47278	90758	23542	35273	67912	97670
03343	62593	93332	09921	25306	57483	98115	33460	55304	43572
46145	24476	62507	19530	41257	97919	02290	40357	38408	50031
37703	51658	17420	30593	39637	64220	45486	03698	80220	12139
12622	98083	17689	59677	56603	93316	79858	52548	67367	72416
56043	00251	70085	28067	78135	53000	18138	40564	77086	49557
43401	35924	28308	55140	07515	53854	23023	70268	80435	24269
18053	53460	32125	81357	26935	67234	78460	47833	20496	35645

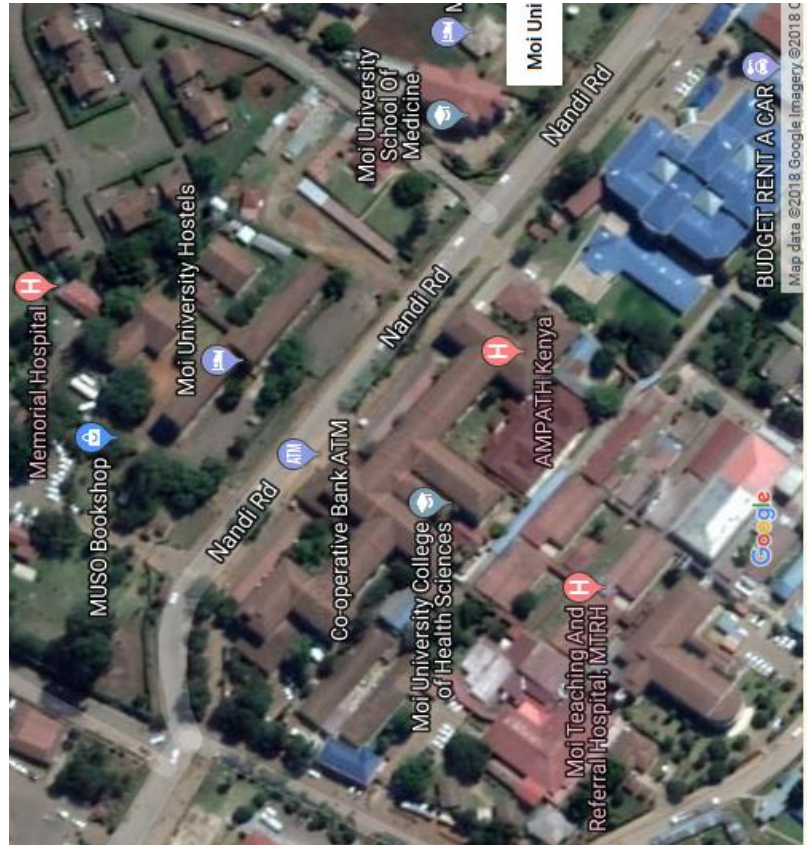
Source: The Rand Corporation, A Million Random Digits with 100,000 Normal Deviates

(New York: The Free Press, 1955). Retrieved from [teorica.fis.ucm.es/ft8/tablern2.pdf](http://teorica.fis.ucm.es/ft8/tablern2.pdf) 10

th November 2015



**APPENDIX 9: MAP OF ELDORET SHOWING LOCATION OF MOI TEACHING AND REFERRAL HOSPITAL**



Source: Google Map 2018

**APPENDIX10: MAP OF KENYA SHOWING LOCATION OF ELDORET TOWN**



Source: Surveys of Kenya 2012