PREVALENCE OF VICARIOUS TRAUMATIZATION AMONG STUDENTS AT KENYA MEDICAL TRAINING COLLEGE AT THE NAIROBI CAMPUS

A DISSERTATION IN PARTIAL FULFILLMENT OF THE REQUIREMENT FOR THE AWARD OF THE DEGREE OF MASTER OF SCIENCE IN CLINICAL PSYCHOLOGY OF THE UNIVERSITY OF NAIROBI

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DECLARATION FORM

I Monica Wawira Kariuki do declare that this dissertation is my original work. It has not been presented in any other university for the purpose of obtaining a degree or diploma.

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ABBREVIATIONS AND ACRONYMS

CF	Compassion Fatigue
CSDT	Constructivist Self Development Theory
DSM-IV TR	Diagnostic Statistical Manual fourth edition Text Revision
KMTC	Kenya Medical Training College
KNH	Kenyatta National Hospital
PTSD	Post Traumatic Stress Disorder
SATC	Sexual Assault Trauma Counselors
STS	Secondary Traumatic Stress
TABS	Trauma and Attachment Belief Scale
VT	Vicarious Traumatization

DEFINITION OF SIGNIFICANT TERMS

Vicarious trauma: Inner negative transformation as a result of empathic engagement with trauma material of survivors.

Posttraumatic stress disorder: A condition suffered by a survivor, occurring four weeks following a traumatic experience.

Secondary trauma: Consequent behaviors' and emotions resulting from knowledge about a traumatizing event experience by a significant other.

Burnout: A state of physical, emotional and mental exhaustion caused by prolonged involvement in emotionally demanding situations. A situation of being emotionally drained depersonalized and reduced personal accomplishment.

Compassion fatigue: A term applied to those who suffer as a result of serving in a helping capacity. Feeling of deep sympathy and sorrow for another person who is stricken by suffering or misfortune accompanied by the desire to alleviate the pain or remove the cause.

Cognitive schemas: This refers to the conscious and unconscious beliefs and expectations individuals have about self and others.

Psychological needs: These are the five psychological needs namely; safety, trust, esteem, intimacy and control that the constructivist self- development theory focuses on.

Spirituality: It comprises of orientation to the future, sense of meaning in life, sense of connection with a higher power and a relation to non- material aspect of existence.

Safety: The need to feel secure for self or others.

Esteem: The need to feel valued by self and others and to value others.

Trust: The need to have confidence in one's own perceptions and judgment and to depend on others.

Intimacy: The need to feel connected to oneself and to others.

Control: The need to feel in control of one's thoughts, feelings, behaviour and also control the behaviour of others.

Academic performance: This is outcome of learning as evaluated using examinations.

Helper: This will mean one who provides care to the trauma survivors and in this study will be a health professional.

ABSTRACT

Introduction: Vicarious traumatization is the negative transformative cumulative effect on the clinician inner experiences for being exposed to the trauma material presented in the clinical sessions by the traumatized clients.[1,2] This transformation involves "significant disruptions in one's sense of meaning, connection, identity, and world view, as well as in one's affect tolerance, psychological needs, beliefs about self and others, interpersonal relationships, and sensory memory, including imagery" The helpers' sense of self is disrupted and permanently altered.[2]

Objective: The objective of the study was to determine the prevalence rate of vicarious traumatization among students of Kenya Medical Training College Nairobi Campus

Site: The study was carried out in Kenya Medical Training College Nairobi Campus which is a middle level medical college.

Design: This was a cross sectional descriptive study. The study variables included vicarious trauma as the dependent variable while the independent variables were age, gender, year of study, religion, duration of clinical experience, type of the training and vicarious trauma among others. A structured socio-demographic questionnaire and Trauma Attachment Belief Scale instruments were used to assess for vicarious traumatization.

Study Population and sampling method: The students of nursing, clinical medicine and physiotherapy participated in the study. Only the students who had worked in the clinical area were interviewed. Sample population was 250 participants. Systematic random sampling was used to identify the participants.

Results: Data was analyzed using SPSS version 20.0 and presented at 95% Confidence Interval. 250 study participants were recruited into the study. 129 (51.6%) were male and 121 (48.4%) were female. The mean age was 24.41 and the standard deviation was 5.841.

5(2.0%) of the participants had mild VT, 75(30.0%) had moderate, while 170(68. %) had severe. There was a positive correlation between VT and intrusive recollections of the trauma with a p- value of 0.017, and reliving the trauma (flash backs) with a p- value of 0.035.

Conclusion:

VT affects those who care for the traumatized persons whether young or old in the profession of caring. The study demonstrated a high prevalence rate of VT 68% severe, 30%moderate and 2% mild and a correlation of VT and intrusive recollections of the trauma with a p-0.017 and relieving the trauma(flash backs) with a p-0.035.

CHAPTER ONE

1.0 INTRODUCTION

1.1 Introduction and Background of the study.

Trauma has been experienced for thousands of years but its only in late 1980s that it begun to receive widespread professional and public attention.[3,4,5] Traumatic experiences shake the foundations of our beliefs about safety, and shatter our assumptions of trust. Pearlman and Saakvitne, who coined the term Vicarious Traumatization, defined it as the permanent ‘‘transformation in the therapist's inner experiences resulting from (the cumulative) empathic engagement with clients' traumatic material’’.[2,6,7]

This transformation involves "significant disruptions in one's sense of meaning, connection, identity, and world view, as well as in one's affect tolerance, psychological needs, beliefs about self and others, interpersonal relationships, and sensory memory, including imagery." The helpers’ sense of self is disrupted and permanently altered[2,8,9.] The care giver may experience same signs and symptoms as those experienced by his/her client, these symptoms include the symptoms of post-traumatic stress disorder. [2,10,11]Trauma reactions may include intrusive imagery and thoughts, avoidance and emotional numbing, hyper-arousal symptoms, somatization, physical and alcohol use. These reactions are similar to those experienced by direct trauma survivors. Working with trauma survivors may lead to changes in self-identity, world-view, spirituality, and general psychological functioning.[4,12,13]

The DSM-IVTR,[14] diagnostic criteria for post-traumatic stress disorder (PTSD) does, acknowledge that learning about traumatic events experienced by others can cause symptoms that resemble those of PTSD in others. The DSM-1VTR,[14] outlines the events experienced by others that have learnt about the event as those which include,

but not limited to, violent personal assault, serious accident, or serious injury, experienced by a family member or a close friend; learning about a life threatening disease. According to Pearlman in Stamm,[15] management of vicarious trauma involves; self-care, self-awareness, balancing work, play and rest, and connection with other people. Psychiatric mental health nurses and their clients are at risk of permanent damage from vicarious traumatization, yet this hazard remains largely unrecognized and unaddressed within the profession.[14,15,16,17,18,19]

The profound psychological effects of vicarious trauma can be disruptive and painful and can persist for months or years after working with traumatized persons.[1b,3,20,21] Vicarious traumatization can affect anyone who engages empathically with trauma survivors such as emergency room personnel, journalists, prison guards, clergy, attorneys and researchers.[2]

Historically, the concepts of compassion fatigue, secondary traumatic stress and burnout have been used to describe the experience of the clinician in the therapeutic encounter. However, vicarious traumatization differs from the three in that neither of these concepts adequately accounts for the effect of the graphic material presented by the traumatized client.[2,22]Compassion fatigue, a word coined by Figley is generally applied to anyone who suffers as a result of serving in the helping capacity. Burnout on the other hand describes anyone whose health is suffering or whose outlook on life has turned negative because of the impact or overload of their work. Burnout is a gradual process that occurs as a result of prolonged work and includes symptoms of emotional exhaustion resulting from job strain, erosion of idealism and a reduced sense of accomplishment and achievement[23,24,25]

The Secondary traumatic stress is the response resulting from knowledge of a traumatizing event experienced by a significant other. Secondary Traumatic Stress

can occur suddenly and without warning unlike vicarious traumatization which is cumulative.[15] Compassion fatigue, secondary traumatic stress and burnout do not take into account the specific cognitive and psychological changes that vicarious traumatization emphasizes. It is the accumulation of memories of clients' traumatic material that affects the helpers' view of the world. Vicarious traumatization is based on the Constructivist Self Development Theory (CSDT) unlike the other three. [2,22,26]

1.2 Problem statement

Vicarious trauma is a world-wide phenomenon which affects caregivers who are directly involved in the case management of traumatized individuals. War and violence have affected the lives of many people living on earth such as the Kenya post-election violence of 2007, natural disasters such as Indian ocean Tsunami of 2004, hurricane Katrina of 2005; terrorist attacks of September 2001 in USA; Nairobi USA Embassy bombing of 1998; the Sanchangwan and Nakumatt super market fire incidents in 2009; severe motor vehicles accidents, physical assaults [27], etc.Survivors from such traumatic events always land in health care facilities where they are managed by the medical personnel. The management includes psychological care whereby the survivor narrates the traumatic event to the health care personnel.

Under the vision 2030 Kenya intends to restructure the health care delivery system and shift the emphasis to promotive care in order to ease the disease burden. Vicarious traumatization affects not only the health worker but the delivery of care; yet it can be prevented or its impact minimized.

The students of Nursing, Clinical medicine and Physiotherapy are usually placed in trauma areas such as casualty and surgical wards where patients who have survived traumatic events such as Road traffic accidents, fires, rape, domestic violence, bomb blasts and others are managed. These students participate actively in the care of these

patients and due to their daily exposure to the survivors' trauma material, like any other health professional they may be at risk of vicarious traumatization.

The data in the Kenya Medical Training College(KMTC) students clinic show that between the year 2010 and 2011 a total of 89 students were treated for psychological disorders such as anxiety, depression and substance use disorders. These kinds of disorders may be associated with vicarious trauma. In the counseling office, a total of 100 students were attended and majorities who were from nursing and clinical medicine, complained of disturbed sleep, fear, anger, night mares and loss of control. Others complained of disturbing memories of the patients they had managed in the clinical areas while others had alcohol related problems. The symptoms experienced by these students are similar to the symptoms of vicarious trauma documented by Pearlman and Saakvitne[28].It is for this reason that the researcher wants to find out whether vicarious traumatization is present among these students. It is also important to establish the effects of vicarious trauma with the aim of helping the institution come up with preventive measures and management strategies for those who may be affected.

1.3 Purpose of the study

The purpose of this study is to determine the prevalence rate of Vicarious Trauma among the students of Kenya medical training college Nairobi campus.

1.4 Significance of the study

This study will provide data that will enable the government to formulate policies that address issues of vicarious trauma and develop treatment strategies for the same. The Motto of KMTC which is "A healthy mind in a healthy body," and its Core values which are student recognition, responsiveness and quality. For realization of this

motto and the core values, prevention of psychological trauma particularly vicarious traumatization is important. Data from this study will enable KMTC develop mechanisms that can address the preventive, promotive and curative aspects of vicarious traumatization. Using the knowledge on vicarious trauma the lecturers were able to identify students with vicarious trauma and refer them for intervention. This study will provide students with knowledge on vicarious trauma and hence equip them with the necessary skills to deal with it. The findings derived from the study will also enable other institutions training health workers to develop programs that address vicarious traumatization. Other researchers may also use this study as a springboard for further research.

1.5 Rationale of the study

Most of the studies carried out worldwide on vicarious traumatization in medical institutions focus on qualified personnel such as psychotherapists, doctors, nurses and midwives. In Kenya studies on vicarious traumatization have been done among care givers who are not students and other students in institution of higher learning who are not medical students. No study on VT among students in medical institutions has been carried out in Kenya.

KMTC started training health workers in 1927 and over the years no study on vicarious traumatization among students has ever been carried out. The students especially those in Nursing, Clinical Medicine and Physiotherapy provide care to trauma victims who seek treatment in the health institution where these students are placed to provide care. Like any other health profession the students interact with trauma material from survivors, hence their venerability to develop vicarious traumatization. This research aims to assess the prevalence rate of vicarious traumatization among these students.

The findings from this study will provide KMTC and other health training institutions with data to enable them to develop strategies in relation to prevention and treatment of vicarious traumatization.

1.6 Research Scope

1.6.1 Hypothesis:

1.6.1.1Null hypothesis:

There is no statistically significant difference on the prevalence of vicarious traumatization among students of clinical medicine, physiotherapy and nursing in KMTC- Nairobi and that found among other health workers.

1.6.1.2 Alternate hypothesis:

There is statistically significant difference of the prevalence of vicarious traumatization among students of clinical medicine, nursing and physiotherapy in KMTC- Nairobi and that found among other health workers.

1.6.2 Objectives of the study

The objectives of this study were:

Main objective

The main objective of the study is to determine the prevalence rate of VT among students of clinical medicine, nursing and physiotherapy in KMTC Nairobi.

Specific objectives to:

1. Determine the levels of VT among students of clinical medicine, nursing and physiotherapy in KMTC Nairobi.
2. Determine the association between VT and socio-demographic factors.
3. Compare the prevalence of VT among students of clinical medicine, nursing and physiotherapy in KMTC Nairobi to that found in other studies on VT.

1.6.3 Research question

1. What is the prevalence rate of vicarious traumatization among students of clinical medicine, nursing and physiotherapy in KMTC-Nairobi?
2. Is the prevalence rate of vicarious traumatization among students of clinical medicine, nursing and physiotherapy in KMTC-Nairobi different from that found among other health workers?

1.6.4 Assumptions of the study

The following were the assumptions of this study:

- The prevalence rate of vicarious trauma among students at KMTC- Nairobi campus is higher than that found among other Kenyan health workers.
- That vicarious trauma impacts negatively on students' performance.
- The students were willing to give true and uninfluenced answers.
- That Trauma and Attachment Belief scale is a good measure for vicarious trauma.

CHAPTER TWO

2.0 LITERATURE REVIEW

2.1 Introduction

This chapter is divided into the following parts; epidemiology of vicarious traumatization, concept of vicarious trauma, effects of vicarious on cognition, psychological effects of vicarious trauma, effects of vicarious trauma on esteem, safety, trust and intimacy, effects of vicarious trauma on spirituality, effects vicarious trauma in relation to previous trauma history and age, effects of Vicarious trauma in relation to workload, education and experience, effects of vicarious trauma on academic performance, effects of vicarious in relation to previous trauma history and age, and finally special clinical issues arising as a result of vicarious trauma.

2.2 Epidemiology of vicarious trauma.

There is literature available on the prevalence and psychological effects of sexual abuse, gender based violence and other forms of trauma and their treatments. On the other hand Cunningham, [29] denotes that little effort has been dedicated to clinicians who might be at risk of exhibiting symptoms of VT similar to those of clients they have treated. Figley [30] reported that few studies have been done on compassion fatigue among caring professionals who provide mental health services to survivors of traumatic events.

Bride [31]in his study on Prevalence of Secondary Traumatic Stress among Social Workers found that social workers involved in managing traumatized patients are at risk of developing symptoms of vicarious traumatization. In a survey by Follette, [32] among 558 mental health and law enforcement officers, they found that 29.8% of therapists and 19.6% of officers with history of child abuse reported significantly higher levels of symptoms that have been associated with trauma survivors. Further,

studies indicate that individuals exposed to trauma have psychological problems which persist over time. They also found that the occurrence of vicarious traumatization among child welfare workers was higher than in other social service fields.[33,34,35] Blanchard,[36] on their study of VT among college students following September 11 attacks found a VT prevalence of 9.9% for females and 4.8%for males. In a research dissertation by Kokonya, [37]on compassion fatigue and burnout syndrome among the medical workers at KNH the prevalence rate of compassion fatigue among nurses was found to be 32.9% while among doctors it was 29.9%. In a study on prevalence of vicarious traumatization among caretakers in Kakuma refugees' camp, in Kenya, by Mbatha, [38]the prevalence rate of Vicarious Traumatization was found to be 37% (low to moderate levels of VT) and 63% (extremely high levels of VT).

2.3 Concept of vicarious trauma.

Research literature describes the adverse impact of working with clients who have a history of trauma (e.g., sexual and physical abuse, military combat, and community disaster) under a variety of terms: vicarious traumatization, compassion fatigue, and secondary traumatic stress. Vicarious traumatization can be defined as "bearing the suffering of trauma survivors, those with life threatening chronic illnesses like cancer" and "the consequent behaviors and emotions resulting from knowing about a traumatizing event experienced by another person." [23]Health care providers who intervene in severe crises or bear witness to human tragedy can be emotionally impacted by the trauma material and hence be predisposed to VT.

2.4 Effects of vicarious trauma on cognition

Although for traumatization to occur, often direct exposure to a traumatic event is required however research has shown that traumatic events do not need to be experienced. [39,40]Vicarious traumatization has lasting negative transformation of

cognitions.[1] Verbal exposure to traumatic materials tentatively causes changes in intellectual capacities as well as memory systems.[41] These changes which present as flashbacks of the event, nightmares and disturbed judgments in turn impede the individuals functioning in their psycho-socio environment.[1,41]

Silver, [42]worked with the victims of the September 11th terrorists attack on the US world trade Centre and asserted that, persons with mental and physical health problems are particularly at risk of trauma when they watch traumatic events on the media.

Cunningham, [43]reported that there were more cognition disruptions in health professionals who cared for the sexually abused than in those who cared for the clients suffering from cancer. Sinclair and Hamill [44] proposed that hearing patients talk about their traumatic experiences such as cancer illnesses predisposes an individual to vicarious traumatization. According to a study by Kinyanjui [45]on vicarious trauma among University students;85% reported that there were things they distaste to see or hear while 48% reported that watching or reading about violence distracts their concentration in class.

2.5 Psychological effects of vicarious trauma

Sabo [46] indicated that negative emotions have been observed among healthcare professionals providing terminal care. He continued to say that compassion fatigue, secondary traumatic stress, burnout and vicarious traumatization are often associated with the adverse effects of caring work

2.6 Effects of vicarious trauma on esteem, safety, trust and intimacy

A study by Iliffe [47]to explore the impact of vicarious trauma on counselors working with domestic violence clients revealed that the eighteen counselors with high case loads, of Domestic Violence clients, reported typical symptoms of vicarious trauma in

cognitive schema, safety, world view, together with matters of gender power. In a study by Mbatha,[38] on Vicarious Traumatization among caretakers; results indicated that 63% had extremely high VT levels while 37% had low to moderate levels of VT. Age variable was found to be of statistical significance with severity of VT where caretakers above the age of 28 years had elevated TABS score. Within the VT subscales substantial disruption was found in safety subscale -both self -subscale (mean = 67) and other subscales, self- esteem subscale (mean = 68) and self-control subscale (mean = 70).

In an article by Clark and Gioro,[48]on impact of indirect trauma on nurses, they observed that nurses who were informed about vicarious trauma were in a better position to vigorously shield their clients from negative effects of trauma and maintain a stable personal and professional life.

2.7 Effects of vicarious trauma on spirituality

Spirituality, life's meaning, personal values, and attitudes are greatly affected by VT. Mclean,[49]in a study of 116 Australian therapists working primarily with traumatized clients, measured vicarious traumatization (VT), burnout and trauma symptomatology like thought intrusion and avoidance of trauma provoking events. A measure of beliefs about the therapeutic process was also constructed and the results concluded that the therapists' spiritual system had been altered due to exposure to VT and burnout.

A study on The Effects of Vicarious Trauma on Female Counselors Working with Sexual Violence Survivors by Schauben and Frazier,[50]found that counselors who had heavier caseloads of sexual abuse survivors experienced an interruption on trust and more symptoms of PTSD and consequently exhibited symptoms of VT. It was also noted that the counselors' trauma symptomatology was not related to their own

history of victimization. Their study results were consistent with a study done by Brady,[10]which found that the therapists who saw more sexually abused clients had higher levels of VT and consequently altered spiritual beliefs.

2.8 Effects of vicarious trauma on academic performance

Exposure to violence was found to affect cognitive development among urban, minority children in the United States of America.[51,52]Children's development in the area of academic, socio interactions, self-esteem, cognitive abilities and behaviour was negatively affected by violence. Other effects of violence on students can include challenging behavioral functioning or traumatic stress responses, such as hostility which may impede their academic performance and may predispose them to antisocial behaviour.[53]

Swenson andJohnson,[54]in their study on the effects of vicarious exposure to the September 11, terrorist attacks in an academic community, found that distress could interfere with academic performance, personal health, and relationship stability. According to a study by Kinyanjui,[45]results indicate that violence from the media affected 48% of the students' concentration in class while 90% agreed that watching and reading about violence had an impact on their daily life.

2.9 Effects of Vicarious trauma in relation to workload, education and experience

Studies have shown that the amount of work load, the level of education and the experience one has in dealing with trauma has an effect on the levels of VT reported. A study by Dawnette.[55]on effects of vicarious trauma on 37 nurses, in South Africa, indicated that age and duration of time in the career was significantly related to vicarious trauma.

Dominguez-Gomez & Rutledge,[56]in their study on trauma, results indicated that 54% of the nurses reported having Arousal symptoms while 52% had Avoidance symptoms and 46% had Intrusion symptoms. The researcher notes that these symptoms found in the study are consistent with PTSD symptomatology and that they are also similar to symptoms of VT.

Maina,[57]in his study on stress among health workers in Kenyatta National Hospital found that nurses who spent more time with patients had higher levels of VT at 32% while doctors who spent less time with the patients had lower levels of VT at 11.4%. Pearlman and MacIan,[58]found that therapists who had less practice in the field were more likely to experience psychological problems than those with more practice, as measured by the Traumatic Stress Institute Belief Scale.

2.10 Effects of vicarious trauma in relation to previous trauma history and age

Studies have shown that age and previous history of trauma has an impact on vulnerability to VT. Younger age and having gone through trauma previously predicts higher levels of VT.

In a study on trauma therapists, Pearlman and Mac Ian,[58]found that those with a history of trauma were predisposed to more negative psychological effects than those without a trauma history. They also found that 60% of therapists, who had a history of trauma, had higher symptoms of VT unlike those without a trauma history. In a study on Predictors of secondary trauma by Ghahramanlou and Brodbeck,[59] the study indicated that the risk factors to VT were personal trauma history and younger age.

2.11 Special clinical issues arising as a result of vicarious trauma

There are destructive behaviors that arise in an individual as a result of traumatization. Substance use, like the indulgence in alcohol, bhang, khat and other psychoactive drugs; challenging behavior and antisocial activities; suicidal and Para-suicidal

attempts and affective disorders are some of the special clinical issues arising from traumatization.

Self-mutilation, self-harm and suicidal ideation aggressiveness and antisocial behaviour arising from the emotional pain are also special clinical issues arising from VT.[1,8] A sense of worthlessness, feelings of depression, hopelessness and guilt are also attributed to VT. Cognitive disturbances associated with inhibition of thoughts, intrusive thoughts and feelings about the traumatic experiences often result in long term health problems. Psychosomatic symptoms like physical pain, pseudo-neurological symptoms, loss of interest and motivation in previously enjoyed activities may also be experienced by persons with VT.

In addition to the above, addictive behaviors such as gaming and betting; self-medication arise in an attempt to manage pain and the symptoms of VT that the individual is experiencing.[23,28]

A study done by Muriungi,[60]on effectiveness of psycho-education on common mental disorders in students of KMTC; found that second year students had higher prevalence of substance use than first years in the baseline assessment.

2.12 Theoretical framework

The concept of vicarious traumatization is based in the Constructivist Self Development Theory (CSDT) which says that the traumatic experiences impact a person in the context of his/her developing self. In the face of trauma, each person will adapt and cope given her/his current context and early experiences namely intrapersonal, intra-psychic, familial, and socio-cultural. Within these contexts, the theory outlines the impact of trauma on the self.[1,2]

The CSDT model proposes that through ones' traumatic experiences and how they appraise and consequently adapt to the event, one learns how to cope and adapt. However, in the case where one is accosted by new traumatic events beyond their mental schemas for coping, one is prone to maladaptation, through the use of irrational beliefs, altered unreasonable thinking, which helps to shield the therapist from harm caused by the traumatic material. This maladaptation is therefore referred to as vicarious traumatization.[28]

CSDT emphasizes adaptation and construction of meaning on the care givers part. Its components of self-include: Frame of reference; which entails sense of identity, world view and spirituality that informs the individuals' perception of himself, his world, his relationships and his experiences. Self-capacities: These are strongly shaped by an individual's capacities for inner balance such as how to manage feelings of love and awareness of caring for others. Ego resources: These include individuals' abilities to negotiate interpersonal situations, ability to make good decisions, psychological needs and cognitive schemas. The five major needs that are sensitive to traumatic events are: safety, esteem, trust, control and intimacy.

Any experience is processed and recalled through several modalities e.g. cognitive (narrative), visual, affective (emotional), somatic and sensory, and interpersonal (behavioral). Traumatic memories often involve dissociation or disconnection of different aspects of experiences. The resulting memory is fragmented for example; the narrative may be recalled without the feelings or images (panic, terror, or flashbacks).[28]

CHAPTER THREE

3.0 RESEARCH DESIGN AND METHODOLOGY

3.1 Study design

This was a cross sectional descriptive study.

3.2 Study site

The study was carried out in KMTC Nairobi campus which is situated in Nairobi city, near KNH, off Ngong road; about three kilometers from the city Center. KMTC is a middle level medical college which started training health workers in 1927. Nairobi campus is the oldest among the KMTC Campuses and has the largest capacity of students (3200).

It offers basic diploma courses in 14 disciplines, which are: clinical medicine, nursing, physiotherapy, pharmacy, medical laboratory, medical imaging, occupational therapy, medical engineering, health records and information, orthopaedic technology, dental technology, community oral health, optical technology and neurophysiology.

3.3 Reasons for choosing the study site

KMTC Nairobi borders and shares some facilities with KNH. The students of KMTC Nairobi campus usually get their trauma and emergency, surgical and medical clinical experiences mainly from KNH which is one of the main national referral and teaching hospital in Kenya. KNH also receives patients from other parts of Africa and also provides a medical research environment. Its medical workers are frequently and unexpectedly exposed to high levels of emergency and complicated cases and it handles heavy workloads.

The hospital unpredictably and unexpectedly handles huge number of patients due to frequent disasters such as the 1998 US Embassy Bomb blast in Nairobi, and the 2009 Nakumatt super market fire in Nairobi. It also handles emergencies like road traffic

accidents occurring in and around Nairobi. The researcher assumed that students placed in KNH, due to caring for the survivors as they empathically interact with the survivors they may end up suffering from vicarious traumatization.

3.4 Study population

The study population of Nairobi campus department of Nursing, clinical medicine and physiotherapy was 1000 as indicated in table 3.1.

3.4.1 Table: students' population of KMTC Nairobi by departments

DEPARTMENT	NUMBER OF STUDENTS
Clinical Medicine	250
Nursing	500
Physiotherapy	250
Total	1000

The study reference frame included the students of Clinical Medicine, Nursing and Physiotherapy who were enrolled in the basic diploma program and who had been placed in the clinical area. The clinical placement experience was important because those who had not been exposed to the clinical area may not have been exposed to the trauma material from trauma survivors and therefore their trauma scores were likely to be low. The students from the three departments are usually involved in the management of patients who have experienced trauma and are engaged with them for longer periods than others.

The population of the basic diploma students from these three departments was one thousand students (1000). The participants of the study were those who were having their clinical experience in KNH. They were recruited using the clinical area placement lists provided by the KMTC heads of departments or the class coordinators or the clinical area placement coordinators. The participants who met the inclusion

criteria were explained about the research and they were given an opportunity to decide whether they wanted to participate in the study. Those who were willing to participate voluntarily signed a consent form. The social demographic and TABS were self-administered and the researcher adhered to confidentiality by ensuring that they were stored away in safe custody. All ethical considerations were adhered to.

3.5 Inclusion criteria

- All KMTC students taking basic diploma in Nursing, Clinical Medicine and physiotherapy placed in KNH for practical placement.
- All KMTC students taking basic diploma in Nursing, Clinical Medicine and physiotherapy placed in KNH for practical placement who gave consent.

3.6 Exclusion criteria

- All KMTC students taking basic diploma in Nursing, Clinical Medicine, and physiotherapy who were not in KNH for practical placement during the study.
- All KMTC students taking basic diploma in Nursing, Clinical Medicine, and physiotherapy who were in KNH for practical placement during the study but did not sign the consent form.

3.7 Sample size determination and Sampling method

Systematic random sampling was used in this study whereby those who met the inclusion criteria were randomly chosen for the study as this guarantees equal chances of being chosen when one meets the criteria.

The Kenyan studies on vicarious trauma, have a prevalence rate of 37% Mbatha,[38] and 39% by Kokonya.[37]The average for the two being 38.5% ; therefore the prevalence rate for this study was 40% which was the rounded up figure. Therefore this was taken as the VT prevalence rate among Kenyan health workers for this study.

Sample population will be calculated using the formula by Cochran.[61]

$$n_o = \frac{Z^2pq}{e^2}$$

n_o = Desired sample size

Z^2 =The standard normal at the required confidence level

P =Proportion in the target population estimated to have the characteristic being measured.

q= (1-p)

e =Level of statistical significance set

Z=1.96

P=0.4

P=1-p(0.6)

e =0.05

$$N_o = \frac{(1.96)^2 (0.4) (0.6)}{(0.05)} = \frac{0.921984}{0.0025} = 368 \text{ participants}$$

Therefore the sample size for this study was to be 368 participants.

Therefore, following the target population, the percentages were substituted to form a representative sample size as shown in table 3.2

3.7.1 Table: target population and percentage

Department	Target Population	Percentage	Participants
A)Clinical medicine	250	25	92

B) Physiotherapy	250	25	92
C) Nursing	500	50	184
TOTAL	1000	100	368

Therefore:-

- clinical medicine 25% = 92 participants
- physiotherapy 25% = 92 participants
- nursing 50% = 184 participants
- Total sample will be 368 participants.

The representative sample under the study was to be 368 participants

3.8 Recruitment and consenting procedures

Systematic random sampling method was used. The class coordinators provided the clinical placement lists. The researcher randomized the list of the 1000 participants. Using randomized clinical placement lists of 1000 participants of the study, the sample size which was determined to be 368 was used to determine the sampling interval by dividing the total population by it, which was: (1000/368=2.72. therefore 3 will be the interval) Then blindly, the researcher selected from the table the random numbers which were the starting point; the researcher then selected every third person. The process was continued until the desired sample size was achieved.

Those to participate were explained about the research and allowed to ask questions. They were assured of confidentiality. When they were satisfied those willing to participate voluntarily signed the consent form and went on to complete the socio-demographic questionnaire and TABS questionnaire.

The researcher expects that the study participants provided unbiased and authentic answers in the study. The participants will be willingly took part in the study. The

researcher collected the completed questionnaire and analyzed the data using SPSS version 20.0.

3.9.0 Data collection instruments

Data were collected using structured socio-demographic questionnaire developed by the researcher and Trauma and Attachment Belief Scale (TABS) by Pearlman which measures vicarious trauma. In 1991 TABS was known as Trauma Stress Institute Belief Scale. It was developed by Pearlman and McCann in 1988 based on Constructivist Self Development Theory, was renamed TABS in 2003 after refinement. TABS is a highly useful instrument to assess the long lasting psychological impact of traumatic life events. It assesses five areas sensitive to effects of trauma. It comprises of 84 items, is a self-report paper and pencil test. It assesses beliefs about self and others that are related to the five needs commonly affected by trauma effects. These needs are safety, trust, esteem, intimacy and control. The measure yields a total TABS score and scores on ten subscales: 1) Self-Safety, 2) Other-Safety, 3) Self Trust, 4) Other-Trust, 5) Self-Esteem, 6) Other-Esteem, 7) Self-Intimacy, 8) Other-Intimacy, 9)Self-Control,and10)Other-Control.

TABS scale is an easily understandable instrument which takes on average twenty minutes to complete. The respondent rates each item on a scale of 1-6; 1= disagree strongly and 6= agree strongly. Numerous studies have been conducted using TABS to measure the effects of VT with clinicians and have found evidence of validity of measure with this population. Other populations for which TABS have demonstrated evidence of reliability and validity include: physical abuse, sexual abuse, domestic violence, medical trauma, natural disasters, and community violence.[62]

3.9.1 Scoring of vicarious traumatization

Table 3.9.1.1 shows the scoring of vicarious traumatization using TABS

3.9.1.1 Table: VT Scoring.

SCORE	LEVEL OF RISK
<29	EXTREMELY LOW
30-39	VERY LOW
40-44	LOW AVERAGE
45-55	AVERAGE
56-59	HIGH AVERAGE
60-69	VERY HIGH
>70	EXTREMELY HIGH

3.10Socio Demographic questionnaire

A socio demographic questionnaire was formulated by the researcher to get the students socio demographic information such as age, gender, year of study, work load, length of care provision, type of patients and trauma symptoms among others.

3.11.0 Data management and statistical analysis

Data was coded, entered and managed in a pre-designed Microsoft Access database. Data entry was done continuously in the course of data collection. Data cleaning was done and data analyzed using SPSS version 20.0. All statistical tests were performed at 5%level of significance(95% confidence interval) Results are presented in tables, pie charts and graphs. Data collection was done between February and March, a period of two months.

3.11.1State of raw data at the study conclusion: At the conclusion of the study, the researcher destroys the questionnaires containing the raw data by shredding and burning. The raw data stored in the flash disk and the CD ROM is stored in a secure

locker under key and lock, accessible only to the researcher. This ensures that the participants' information remains confidential.

3.11.2 Study variables: the study variables used are; age, gender, year of study, religion, type of course, which are independent variables while vicarious trauma was the dependent variable.

3.11.2.1 Description of analysis of study variables:

3.11.2.2 Table:Analysis of study variables

Socio demographic variables	Mild levels of VT (%)	Moderate levels of VT (%)	Severe levels of VT (%)	Chi square test
Age				
Gender				
Religion				
Year of study				
Type of course				
Duration of clinical placement				

An analysis showing the different levels of VT e. g. mild, moderate and severe VT levels.

An analysis on the relationship between the ages of the study participants and the levels of VT.

An analysis of data on the relationship between gender and levels of VT.

An analysis showing the relationship between religion and the levels of VT.

An analysis showing the relationship between the year of study and the levels of VT.

An analysis showing the relationship between the type of course one is taking and the levels of VT.

An analysis showing the duration of clinical placement and the levels of VT.

Analysis of data using the chi-square test.

At the conclusion of the study, information from the data collected provides evidence on the status of vicarious trauma among students in KMTC Nairobi.

Information from the data has been used to make recommendations to KMTC and other medical training institutions whose students are constantly exposed to trauma material.

Data from this study will guide policy formulation on the management of VT.

Data from the study will also create a basis for further research in the area of VT. Information from the research can also be used by other researchers in the field of trauma.

3.12 Limitations of the study

There was a financial constraint as this study was self-financed and therefore the researcher only interview students and significant personnel like the lecturers and other staff in KMTC were not interviewed.

3.13 Ethical considerations

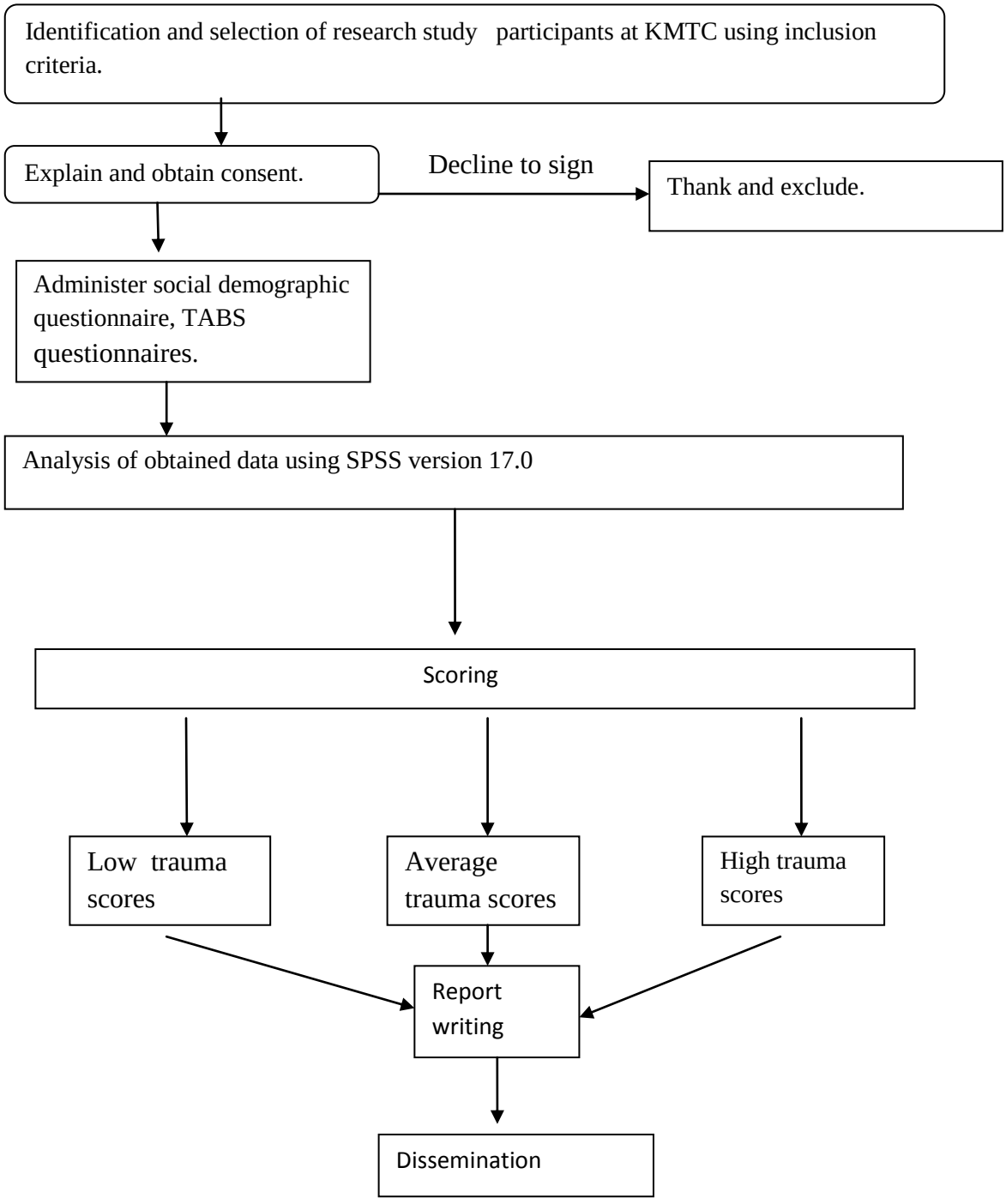
Before commencing the study, approval was sought from the Department of Psychiatry, the Research and Ethics committee of KNH, the Research and Ethics Committee of KMTC. All the respondents were explained the purpose of the research and a written consent obtained from each respondent. Those who wanted to withdraw from the study were allowed to do so without being victimized or denied any benefit from the study. All ethical issues regarding personal information were treated with confidentiality.

The researcher endeavored to ensure that ethics of confidentiality and volunteerism were adhered to in accordance to the KNH & UoN ethics committee

3.14 Risks of the study

In this study none of the participants reported experienced re-traumatization as a result of filling in the study questionnaires.

FLOW CHART ILLUSTRATING METHODOLOGY



CHAPTER FOUR

RESULTS

4.1 Introduction

The main objective of the study was to determine the prevalence rate of VT among students of clinical medicine, nursing and physiotherapy in KMTC Nairobi.

Specific objectives were to:

- Determine the levels of VT among students of clinical medicine, nursing and physiotherapy in KMTC Nairobi.
- Determine the association between VT and socio-demographic factors.
- Compare the prevalence of VT among students of clinical medicine, nursing and physiotherapy in KMTC Nairobi to that found in other studies on VT.

4.2 Questionnaire return rate.

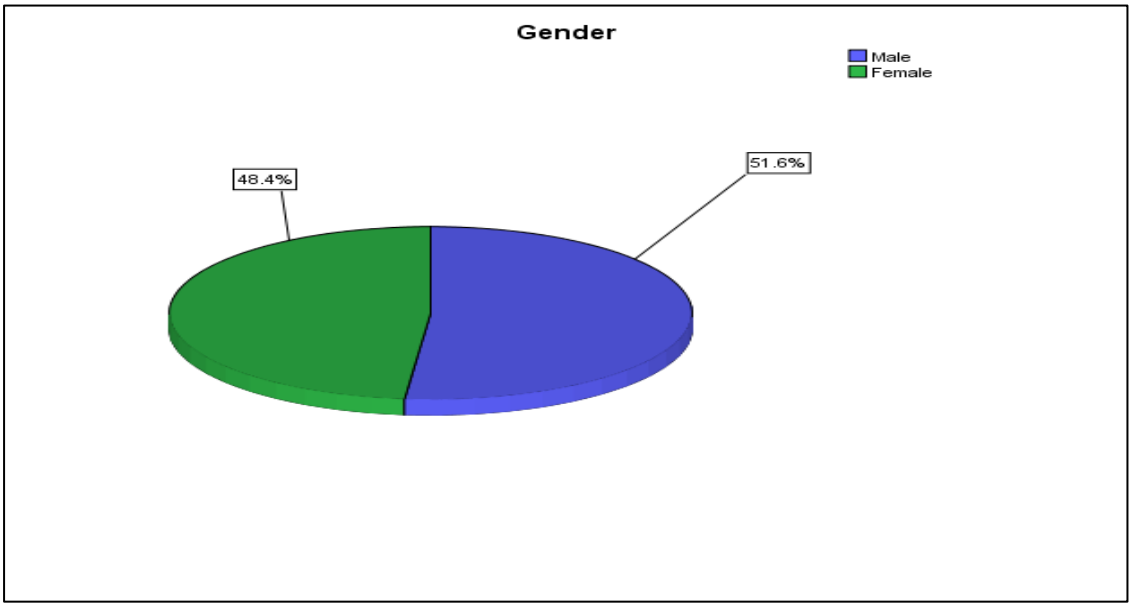
The study targeted 368 students. However a total number of 280 students were issued with the questionnaires because all first years had not gone to their clinical area by the time of data collection as they had their learning schedules interfered with by various political factors such as voter registration, voting etc. A total number of 250 students returned their questionnaires which was 89% which was found to be adequate but there was a problem with 30 questionnaires, out of these 20 were poorly filed and 10 were not returned and efforts to follow on them were unfruitful.

The participants comprised of 121 female students and 129 male students, the ratio of 11: 12 female and male respectively.

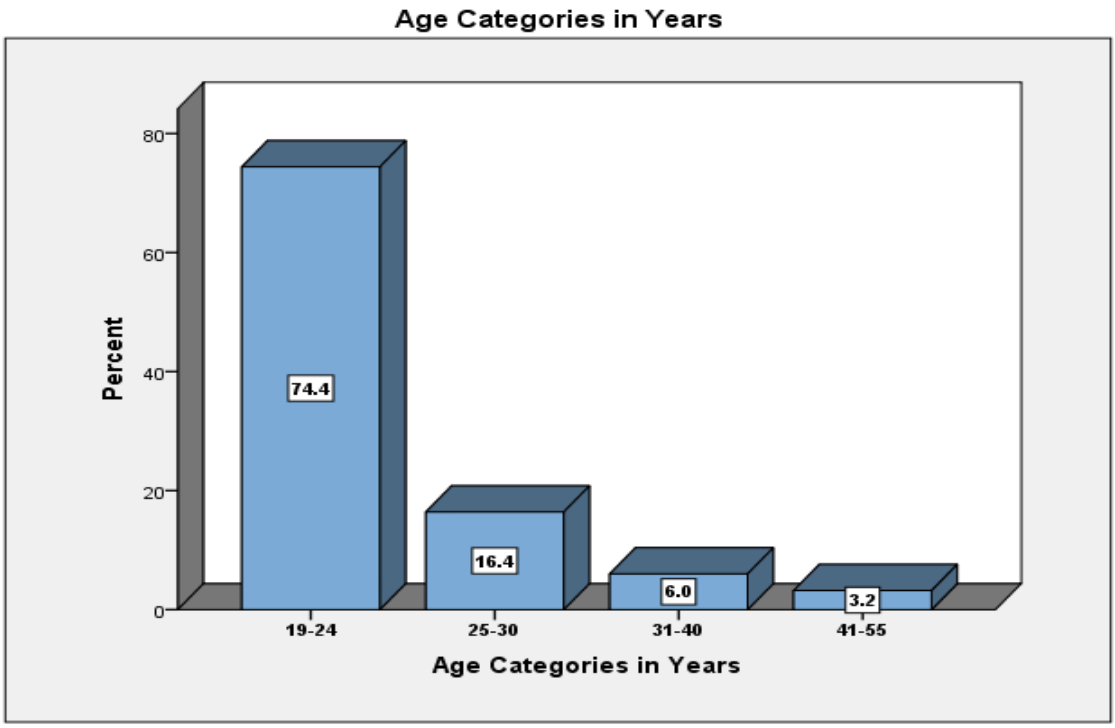
4.3 Socio- demographic characteristics of participants

Results indicate that both male and female students were fairly represented with 51.6% being males and 48.4% being females. The ratio of male to females was 12 : 11. The figure 4.3.1 below shows these findings.

4.3.1 Figure 1:Pie chart: Gender of respondents



4.3.1 Figure 2 Bar chart: Respondents age categories in years



Majority of respondents 186(74.4%) were between the age of 19-24 years, 41(16.4%) were between 25-30years, 15(6.0%) were in 31-40 years bracket while only a few

8(3.2%) were in the age of 41-55 years. The mean age was 24.4, Standard deviation 5.8, Range 33.0, mode 22 and the median was 23.

4.3.1 Table 1: Religion of respondents

Religion of respondents	Frequency	Percent
Protestant	***162***	***64.8***
Catholic	***72***	***28.8***
Muslim	***14***	***5.6***
Any other	***2***	***0.8***
Total	***250***	***100.0***

162 (64.8%) of the respondents were protestants, 72 (28.8%) were Catholics, 14 (5.4%) were Muslim while 2(0.8%) belonged to other religions

4.3.2 Table 2 : Courses taken by respondents.

Course being taken	Frequency	Percent
Nursing	***109***	***43.6***
Clinical Medicine	***69***	***27.6***
Physiotherapy	***72***	***28.8***
Total	***250***	***100.0***

Nursing respondents were 109(43.6%); Clinical medicine 69(27.6%) while Physiotherapy were72 (28.8%)

4.3.3 Table 3: Respondents level of training

Respondents level of training	Frequency	Percent
Second year	***97***	***38.8***
Third year	***90***	***36.0***
Fourth year	***40***	***16.0***
Upgrading	***23***	***9.2***
Total	***250***	***100.0***

97(38.8%) were in 2nd year of training, 90(36.0%) were in 3rd year, 40(16.0) were in 4th year while 23(9.2%) were upgrading from certificate to basic diploma.

4.3.4 Table 4: clinical placement areas

Clinical area where respondents had been placed for experience	Whether placed in the specified clinical area		Total
	Those who had been in the specified area	Those who had not been placed in the specified area	
	Frequency (%)	**Frequency (%)**	**Frequency (%)**
Surgical wards	196 (78.4)	54 (21.6)	250 (100)
Medical wards	207 (82.8)	43 (17.2)	250 (100)
Burns ward/unit	56 (22.4)	192 (77.6)	250 (100)
Critical care unit	34 (13.6)	216 (86.2)	250 (100)
Oncology wards	45 (18.0)	205 **(**82)	250 (100)

2007(82.2%) respondents had undergone experience in the medical wards, 196(78.4%) had undergone surgical ward experience, 98(39.2%) had undergone casualty (Trauma and Emergency) area experience, 56(22.4%) had undergone burns

ward experience, 45(18%) had gone through oncology wards and 34(13.6%) had had critical care unit experience.

4.3.5 Table 5:Duration of clinical placement

Placement duration in weeks	Frequency	(%)
0-4	***92***	***(36.8)***
4-8	***42***	***(16.8)***
9-12	***32***	***32 (12.8)***
12-16	***26***	***26 (10.4)***
Above 16	***58***	***58 (23.2)***
Total	***250***	***250 (100)***

92 (36.8%) had been in the clinical area for a period of 0-4 weeks, 42 (36.8%) for 4-8 weeks, 32 (12.8%) 9-12 weeks, 26 (10.4%) 12-16 weeks and 58 (23.2) over 16 weeks. The mean was 2.66, median 2, mode 1, standard deviation 1.60 and the range was 4

4.3.6 Table 6: Patients attended to by respondent

Patients attend to in a day	Frequency	Percent
1-4 patients	***86***	***34.4***
5-8 patients	***63***	***25.2***
9-12 patients	***45***	***18.0***
13-16 patients	***45***	***18.0***
Above 16 patients	***11***	***4.4***
Total	***250***	***100.0***

Majority of respondents 86(34.4%) attended 1-4 trauma patients in a day, 63(25.2%) attended 5-8, 45(18.0%) attended 9-12 patients, another 45(18.0%) attended 13-16

patients and 11(4.4) attended over 16 patients in a day. The mean was 2.33, median 2, mode 1, Standard deviation 4

4.3.7: Vicarious Trauma

VT was measured by TABS and it levels were, Mild = 30-44; Moderate = 45-59; Severe = 60 - >_70.

Table 4.3.8below shows the prevalence of VT among respondents.

4.3.8 Table 7: Prevalence of VT

Vicarious Trauma	Frequency	Percent
Mild(30-44)	5	2.0
Moderate(45-59)	75	30.0
Severe(60->70)	170	68.0
Total	**250**	**100.0**

170(68%) of respondents had severe VT, 75(30%) had moderate and 5(2%) had mild VT

4.3.9 Table 8: Association between Socio –demographic characteristics and VT

Variable		**VT**					
		Mild		**Moderate**		**Severe**	
		No.	**%**	**No.**	**%**	**No.**	**%**
Gender	**Male**	***2***	***.8***	***44***	***17.6***	***83***	***33.2***
	Female	***3***	***1.2***	***31***	***12.4***	***87***	***34.8***
	Total	***5***	***2.0***	***75***	***30.0***	***170***	***68.0***
Course Being taken	**Nursing**	***2***	***.8***	***32***	***12.8***	***75***	***30.0***
	Clinical Med	***0***	***.0***	***25***	***10.0***	***44***	***17.6***
	Physiotherapy	***3***	***1.2***	***18***	***7.2***	***51***	***20.4***
	Total	***5***	***2.0***	***75***	***30.0***	***170***	***68.0***
Religion	**Protestant**	***3***	***1.2***	***46***	***18.4***	***113***	***45.2***

	Catholic	***1***	***0.4***	***26***	***10.4***	***45***	***18.0***
	Muslim	***1***	***0.4***	***3***	***1.2***	***10***	***4.0***
	Any other	***0***	***0.0***	***0***	***0.0***	***2***	***0.8***
	Total	***5***	***2***	***75***	***30***	***170***	***68***
Age Categories in Years	**19-24**	***3***	***1.2***	***56***	***22.4***	***127***	***50.8***
	25-30	***2***	***.8***	***10***	***4.0***	***29***	***11.6***
	31-40	***0***	***.0***	***6***	***2.4***	***9***	***3.6***
	41-55	***0***	***.0***	***3***	***1.2***	***5***	***2.0***
	Total	***5***	***2.0***	***75***	***30.0***	***170***	***68.0***
Level of training	**2nd year**	**2**	**0.8**	**26**	**10.4**	***69***	***27.6***
	3rd year	**2**	**0.8**	**30**	**12.0**	**58**	***23.2***
	4th year	***1***	***0.4***	**10**	***4.0***	***29***	**11.6**
	Upgrading	***0***	***.0***	***9***	***3.6***	***14***	*5.4*
	Total	5	***2.0***	***85***	***30.0***	***170***	***68.0***
Duration of Clinical Placement in Weeks	**0-4**	***5***	***2.0***	***23***	***9.2***	***64***	***25.6***
	4-8	***0***	***.0***	***9***	***3.6***	***33***	***13.2***
	9-12	***0***	***.0***	***11***	***4.4***	***21***	***8.4***
	12-16	***0***	***.0***	***9***	***3.6***	***17***	***6.8***
	Above 16	***0***	***.0***	***23***	***9.2***	***35***	***14.0***
	Total	***5***	***2.0***	***75***	***30.0***	***170***	***68.0***
Patients attended in a day	**1-4**	***1***	***.4***	***24***	***9.6***	***61***	***24.4***
	5-8	***2***	***.8***	***19***	***7.6***	***42***	***16.8***
	9-12	***2***	***.8***	***13***	***5.2***	***30***	***12.0***
	13-16	***0***	***.0***	***13***	***5.2***	***32***	***12.8***
	Any Other	***0***	***.0***	***6***	***2.4***	***5***	***2.0***
	Total	***5***	***2.0***	***75***	***30.0***	***170***	***68.0***

2(0.8%) 0f the Males had Mild VT level, 44(17.6%) had Moderate and 83(33.2%) had Severe VT level.

In females 3(1.2%) had Mild, 31(12.4%) had Moderate while 87(34.8%) had Severe level of VT.

The respondents taking a course in Nursing, 2(0.8%) had Mild VT, 32(12.8) had Moderate while 75(30.0%) had severe level of VT. In Clinical medicine 25(10.0%) had Moderate VT, 44(17.6%) had severe VT. In Physiotherapy 3(1.2) had Mild VT, 18(7.2%) had Moderate VT while 51(20.4%) had severe VT.

On religion, among protestants 3(1.2%) had Mild VT, 46(18.4%) had Moderate VT and 113(45.2%) had Severe VT. Among Catholics 1(0.4%) had Mild VT, 26(10.4) had Moderate VT, 45(18.0) had Severe VT. Among Muslim, 1(0.4%) had Mild VT, 3(1.2%) had Moderate and 10(4.0%) had Severe VT. Any other religion had only 2(0.8%) had severe VT.

Those in 19-24 years; 3(1.2%) had Mild VT, 56(22.4%) had Moderate VT, 127(50.8%) had severe VT. 25-30 years; 2(0.8%) had Mild VT, 10(4.0) had Moderate, 29(11.6%) had severe VT. 31-40 years; 6(2.4%) had Moderate VT while 9(3.6%) had Severe VT. 41-55 years; 3(1.2%) had Moderate VT while 5(2.0%) had Severe VT.

On the level of training those in 2nd year; 2(0.8%) had Mild VT, 26(10.4) had Moderate and 69(27.6%) had severe VT. In 3rd year; 2(0.8%) had Mild VT, 30(12.0%) had Moderate and 58(23.2) had severe VT. In 4th year; 1(0.4%) had Mild VT, 10(4.0%) had Moderate VT and 29(11.6%) had severe VT. Those upgrading from certificate to basic diploma; 9(3.6%) had Moderate VT while 14(5.4%) had severe VT.

On clinical experience the participants who had been to the clinical are for 0-4 weeks; 1(0.4%) had Mild VT, 24(9.6%) had Moderate while 64(25.6%) had severe VT.

Those who had 4-8 weeks;9(3.6%) had Moderate VT, 33(13.2%) had severe VT. Those who had had 9-12 weeks, 11(4.4%) had Moderate VT while 21(8.4%) had severe VT. Those who had 12-16 weeks; 9(3.6%) had Moderate VT and 17(6.8%) had Sever VT. And those had above 16 weeks of experience; 23(9.25%) had Moderate VT while 35(14.0%) had sever VT.

On work load the participants who attended an average of 1-4 patients daily; 1(0.4) had Mild VT, 24(9.6%) had Moderate VT and 61(24.4%) had severe VT.

Those who attended 5-8 patients 2(0.8) had Mild VT, 19(7.6%) had Moderate VT while 42(16.8%) had severe VT.

Those who attended 9-12 patients; 2(0.8%) had Mild VT, 13(5.2%) had Moderate VT and 30(12.0%) had Severe VT.

Those who attended 13-16 patients; 13(5.2%) had Moderate VT, while 32(12.8%) had Severe VT.

Those who had attended more than 16 patients; 6(2.4%) had Moderate VT and 5(2.0%) had Severe VT.

4.3.10 Table 9: Correlation between socio-demographic variables and VT

		VT						Correlation Statistics
		Mild		Moderate		Severe		
		No.	%	No.	%	No.	%	
Gender	**Male**	***2***	***.8***	***44***	***17.6***	***83***	***33.2***	x^2=2.294 and the p-value=0.318
	Female	***3***	***1.2***	***31***	***12.4***	***87***	***34.8***	
	Total	***5***	***2.0***	***75***	***30.0***	***170***	***68.0***	
Course Being taken	**Nursing**	***2***	***.8***	***32***	***12.8***	***75***	***30.0***	x^2=4.870 and the p-value=0.301
	Clinical Medicine	***0***	***.0***	***25***	***10.0***	***44***	***17.6***	
	Physiotherapy	***3***	***1.2***	***18***	***7.2***	***51***	***20.4***	
	Total	***5***	***2.0***	***75***	***30.0***	***170***	***68.0***	
Duration of Clinical Placement in Weeks	**0-4**	***5***	***2.0***	***23***	***9.2***	***64***	***25.6***	x^2=13.849 and the p-value=0.086
	4-8	***0***	***.0***	***9***	***3.6***	***33***	***13.2***	
	9-12	***0***	***.0***	***11***	***4.4***	***21***	***8.4***	
	12-16	***0***	***.0***	***9***	***3.6***	***17***	***6.8***	
	Above 16	***0***	***.0***	***23***	***9.2***	***35***	***14.0***	
	Total	***5***	***2.0***	***75***	***30.0***	***170***	***68.0***	
Age Categories in Years	**19-24**	***3***	***1.2***	***56***	***22.4***	***127***	***50.8***	x^2=3.602 and the p-value=0.730
	25-30	***2***	***.8***	***10***	***4.0***	***29***	***11.6***	
	31-40	***0***	***.0***	***6***	***2.4***	***9***	***3.6***	
	41-55	***0***	***.0***	***3***	***1.2***	***5***	***2.0***	
	Total	***5***	***2.0***	***75***	***30.0***	***170***	***68.0***	
Patients attended in a	**1-4**	***1***	***.4***	***24***	***9.6***	***61***	***24.4***	x^2= 6.596
	5-8	***2***	***.8***	***19***	***7.6***	***42***	***16.8***	

day	**9-12**	***2***	***.8***	***13***	***5.2***	***30***	***12.0***	and the p-value=0.581
	13-16	***0***	***.0***	***13***	***5.2***	***32***	***12.8***	
	17 -20	***0***	***.0***	***6***	***2.4***	***5***	***2.0***	
	Total	***5***	***2.0***	***75***	***30.0***	***170***	***68.0***	

There was no significance correlation between socio-demographic variables and VT.

4 .3.11 Table 10: Correlation between PTSD symptoms and VT

Variable	**Response**	***mild***		***moderate***		***severe***		**Correlation Statistics**
		No	***%***	***No***	***%***	***No***	***%***	
Intrusive recollections of trauma symptoms experienced by respondents	**Yes**	***0***	***.0***	***26***	***10.4***	***83***	***33.2***	x^2=8.186 and the p-value=0.017*
	No	***5***	***2.0***	***49***	***19.6***	***87***	***34.8***	
	Total	***5***	***2.0***	***75***	***30.0***	***170***	***68.0***	
Respondents who experienced Nightmares	**Yes**	***1***	***.4***	***8***	***3.2***	***34***	***13.6***	x^2= 3.211 and the p-value=0.201
	No	***4***	***1.6***	***67***	***26.8***	***136***	***54.4***	
	Total	***5***	***2.0***	***75***	***30.0***	***170***	***68.0***	
Reliving the trauma(flash backs)symptoms	**Yes**	***4***	***1.6***	***31***	***12.4***	***97***	***38.8***	x^2= 6.679 and the p-value= 0.035*
	No	***1***	***.4***	***44***	***17.6***	***73***	***29.2***	
	Total	***5***	***2.0***	***75***	***30.0***	***170***	***68.0***	

There was significance level of correlation between the VT and intrusive recollections of the trauma with x^2=8.186 and the p-0.017, and reliving the trauma (flash backs) with x^2=6.679 and the p- 0.035. These two variables are the ones demonstrated in the study that they can form a base for screening patients for VT.

CHAPTER FIVE

5.1 DISCUSSION

The study was conducted in KMTC Nairobi and the participants were Nursing students, Clinical Medicine students and Physiotherapy students. The study involved students who were undertaking their clinical experience in KNH. The participants completed self –administered socio-demographic questionnaire and TABS scale.

The current study observed that both male and female were well represented with males being 129 (51.6%) and females being 121 (48.4%).

Blanchard [36] in his study on vicarious traumatization among college students, following September 2011 attacks, showed males as having 4.8% and females 9.9%. The prevalence rate of VT among Males 33.2%(83) severe 17.6%(44) moderate and 0.8%(2) mild, while for the females it was 34.8%(87) (sever level), 12.4%(31) moderate and 1.2%(3) mild in this study was found to be much higher.

Time a care provider takes with trauma patients determines the severity of VT. In this study the Nursing students who spend more time in the care of patients had a higher prevalence rate of VT; 30% (75) severe, 12.8%(32) moderate, 0.8%(2) mild compared to Physiotherapy who had 20.4%(51) severe, 7.7%(18) moderate and 1.2%(3) mild and Clinical Medicine who had 17.6%(44) severe, 10.0%(25) moderate. This prevalence is higher than that found by Kokonya[37] where the prevalence rate among nurses was 32.9% and also in the study by Maina[57] on stress among health care workers in KNH where he found the prevalence rate of 32% among nurses.

The prevalence of VT among KMTC students in Nairobi in this study is 68.0 %(170) severe, 30.0 %(75) moderate and 2.0 %(5) mild. The prevalence in the severe level is

higher than that found by Mbatha (2004) in her study among caretakers in Kakuma refugee camp which was 63%.

According Pearlman and Saakvitne[2] the care giver is a witness and a participant of the trauma re-enactments within and outside the health facility and they also inform that VT is cumulative. Therefore the high prevalence rate of VT found in this study may have several explanations:

1. Kenya witnessed post - election violence in 2007 and the participants in this study being natives and residents in this country may have witnessed the traumatic events that were associated with it. Also the country has experienced several bomb blast attacks, inter- tribal attacks to name a few. All these can predispose to VT
2. The media both national and international has been writing and airing traumatic events and according to a study by Kinyanjui [45] on VT among university students found that watching and reading about violence had an impact on the students daily life.
3. By the time of data collection, that is in February and early March Kenya was about to conduct its general election and this could have reawakened the re-enactments' of the 2007 post- election violence.
4. The firs years were missed in the study and their finds probably would have altered the results of the high prevalence.
5. Only basic diploma students were involved in the study probably involvement of the higher diploma students would have made a difference in the results.

Ghahramanlau and Brodbeck[59] in their study found that young age was a risk factor to VT, their results corresponds with the current study where younger respondents 127(50.8%) had severe VT.

Experience in management of patients is gained from one level of training to the other and in this study 2nd year respondents have the least experience while upgrading would be the most experienced. Pearlman and Mac Ian [58] in their study found that therapists with less practice were more likely to experience psychological problems. The findings in the current study indicate that 2nd year who were the lowest level of training had higher level 69(27.6%) of severe VT. These findings also correspond with findings by Pearlman and Saakvitne[2] indicate that intrusive imagery is experienced early in a carers life with trauma survivors, the results where the participants are relatively new in the field of caring, have demonstrated significant correlation between the VT and intrusive recollections of the trauma with a p-0.017, and reliving the trauma (flash backs) with a p- 0.035. Jeckins and Baird [41] indicate that verbal exposure to traumatic materials causes change in the intellectual capacities and memory systems of the caregiver which presents as flash backs (reliving the trauma).

5.2 CONCLUSION

VT affects those who care for the traumatized persons whether young or old in the profession of caring. The study demonstrated a high prevalence rate of VT 68% severe, 30%moderate and 2% mild and a correlation of VT and intrusive recollections of the trauma with a p-0.017 and relieving the trauma(flash backs) with a p-0.035.

5.3 RECOMMENDATIONS

As a result of the findings of high VT levels in this study the researcher recommends that:-

1) Policies are formulated to manage and mitigate VT among students in KMTC Nairobi and other medical colleges.

2) Further research is carried out involving students in first year of training and students from other medical courses.
3) Further research may be carried out to assess the quality of life for those with severe VT.
4) Further research may be carried out to identify the effects of VT on academic performance.
5) The two variables, intrusive recollections and reliving the trauma (flash backs) demonstrated to have significant correlation with VT with P-value of 0.017and 0.035 respectively in the study can form a base for screening patients for VT.

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APPENDICES

APPENDIX: 1 SOCIO-DEMOGRAPHIC QUESTIONNAIRE

1) Which course are you taking?

A) Nursing

B) Clinical medicine

C) Physiotherapy

2) What is your gender?

A) Male

B) Female

3) What is your age?

_____

4) What is your religion?

A) Protestant

B) Catholic

C) Muslim

D) Any other specify

5) What level are you in your training?

A) First year

B) Second year

C) Third year

D) Forth year

1) Which clinical areas have so far been placed in to provide care to patients since you started clinical experience?

A) Trauma and emergency
B) Oncology wards
C) Surgical wards
D) Medical wards
E) Burns ward and unit
F) Critical care unit

2) How many patients do you usually attend to in a day?

A) 1-4
B) 5-8
C) 9-12
D) 13-16
E) Any other specify_____

3) How long have you been in clinical placement?

A) 0-4weeks
B) 4-8 weeks
C) 8-12 weeks
D) 12-16 weeks
E) Above 16 weeks

4) In your work with patients, have you experienced intense emotions that result in feeling Powerless to protect the patient?

A) Yes
B) No

5) In your work with the patients have you experienced memories or feelings similar to the ones of the patients you have managed?

A) Yes

B) No

6) Have you ever had any of the following symptoms after treating your patient? **(**Tick as many as are applicable to you in A, B. and C)

A) Re-experiencing symptoms

I. Intrusive recollections of trauma in your mind (replay in your mind)
II. Traumatic nightmares
III. Flash backs(feel like you are reliving the trauma)
IV. Physiological reactions like racing pulse, rapid breathing or sweating

B) Avoidant/ numbing symptoms

I. Cannot remember the details of the trauma
II. Diminishing interest in social activities
III. Feeling detached in relationships with other people
IV. Efforts to avoid activities, places or people associated with the trauma
V. Efforts to avoid feelings and conversations related to trauma
VI. Limited or restricted range of emotions

C) Hyper-arousal

I. Difficulty falling or staying asleep
II. Irritability or outbursts of anger
III. Obsessed with fear about personal safety
IV. Exaggerated startle response to any un expected noise

7) For what duration of time have you experienced the symptoms you have indicated above in question 7? Choose one response

A) Few days

B) 1 week

C) 2 weeks

D) 3 weeks

E) Over one month

8) Indicate if you have experienced any of the following traumas in your life?

A) Physical abuse

B) Loss of a loved one

C) Sexual abuse

D) Life threatening illness

E) Physical injury e.g. burns, accidents etc.

9) Do you feel like you would change your course?

A) Yes

B) No

10) If you answered YES to the question 9 above, what course would you rather do?

A) A different medical course

B) A non-medical course

11) Has managing patients who have gone through trauma affected your learning in a negative way such as inability to concentrate?

A) Yes

B) No

12) Has managing patients who have gone through trauma affected your learning in a negative way such as inability to make decision or take control?

A) Yes

B) No

13) When in the clinical area do you get the lecturers / clinical area staff put you in groups and allowed you talk about your clinical experiences?

A) Very often

B) Once in a while

C) Rarely

D) Never

14) What do you do for your leisure,

A) Sporting activities like ball games, swimming etc.

B) College club activities

C) Going to socio places like night clubs etc.

D) Going to socio places like picnic sites

E) Others please specify _____

15) What is your suggestion on how students should be managed when they experience trauma in the clinical area?

A) Have students managed in the KMTC clinic

B) Have the students managed by the counseling section

C) Have students referred to Kenyatta National Hospital youth Centre or patients' support Centre

D) Any others specify----------

APPENDIX: 2TABS

BELIEF SCALE

AutoScore™ Form

Laurie Anne Pearlman, Ph.D.

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Directions

This questionnaire is used to learn how individuals view themselves and others. As people differ from one another in many ways, there are no right or wrong answers. Please circle the number next to each item which you feel most clearly matches your own beliefs about yourself and your world. Try to complete every item. Use the following response scale.

1 = Disagree Strongly
2 = Disagree
3 = Disagree Somewhat
4 = Agree Somewhat
5 = Agree
6 = Agree Strongly

If you want to change your answer, cross it out with an **X**, and circle the number for your new answer.

PLEASE PRESS HARD WHEN MARKING YOUR RESPONSES.

Name:_____ Date:_____ Age:_____

ID #:_____ Education (highest grade level completed):_____ Gender: ☐ Male ☐ Fem

Race/Ethnicity: ☐ American Indian/Alaska Native ☐ Asian ☐ Black/African American ☐ Hispanic/Lat
☐ Native Hawaiian/Pacific Islander ☐ White ☐ Other _____

1 = Disagree Strongly	2 = Disagree	3 = Disagree Somewhat	4 = Agree Somewhat	5 = Agree	6 = Agree Strongly

1. I believe I am safe.	1	2	3	4	5	(6)
2. You can't trust anyone.	1	2	3	4	5	6
3. I don't feel like I deserve much.	1	2	3	4	5	6
4. Even when I am with friends and family, I don't feel like I belong.	1	2	3	4	5	6
5. I can't be myself around people.	1	2	3	4	5	6
6. I never think anyone is safe from danger.	1	2	3	4	5	6
7. I can trust my own judgment.	1	2	3	4	5	6
8. People are wonderful.	1	2	3	4	5	6
9. When my feelings are hurt, I can make myself feel better.	1	2	3	4	5	6
10. I am uncomfortable when someone else is the leader.	1	2	3	4	5	6
11. I feel like people are hurting me all the time.	1	2	3	4	5	6
12. If I need them, people will come through for me.	1	2	3	4	5	6
13. I have bad feelings about myself.	1	2	3	4	5	6
14. Some of my happiest times are with other people.	1	2	3	4	5	6
15. I feel like I can't control myself.	1	2	3	4	5	6
16. I could do serious damage to someone.	1	2	3	4	5	6
17. When I am alone, I don't feel safe.	1	2	3	4	5	6
18. Most people ruin what they care about.	1	2	3	4	5	6
19. I don't trust my instincts.	1	2	3	4	5	6
20. I feel close to lots of people.	1	2	3	4	5	6
21. I feel good about myself most days.	1	2	3	4	5	6
22. My friends don't listen to my opinion.	1	2	3	4	5	6
23. I feel hollow inside when I am alone.	1	2	3	4	5	6
24. I can't stop worrying about others' safety.	1	2	3	4	5	6
25. I wish I didn't have feelings.	1	2	3	4	5	6
26. Trusting people is not smart.	1	2	3	4	5	6
27. I would never hurt myself.	1	2	3	4	5	6
28. I often think the worst of others.	1	2	3	4	5	6
29. I can control whether I harm others.	1	2	3	4	5	6
30. I'm not worth much.	1	2	3	4	5	6
31. I don't believe what people tell me.	1	2	3	4	5	6
32. The world is dangerous.	1	2	3	4	5	6
33. I am often in conflicts with other people.	1	2	3	4	5	6
34. I have a hard time making decisions.	1	2	3	4	5	6
35. I feel cut off from people.	1	2	3	4	5	6
36. I feel jealous of people who are always in control.	1	2	3	4	5	6
37. The important people in my life are in danger.	1	2	3	4	5	6
38. I can keep myself safe.	1	2	3	4	5	6
39. People are no good.	1	2	3	4	5	6
40. I keep busy to avoid my feelings.	1	2	3	4	5	6
41. People shouldn't trust their friends.	1	2	3	4	5	6
42. I deserve to have good things happen to me.	1	2	3	4	5	6

Continue on back

1 = Disagree Strongly	2 = Disagree	3 = Disagree Somewhat	4 = Agree Somewhat	5 = Agree	6 = Agree Strongly

43. I worry about what other people will do to me.	1	2	3	4	5	6
44. I like people.	1	2	3	4	5	6
45. I must be in control of myself.	1	2	3	4	5	6
46. I feel helpless around adults.	1	2	3	4	5	6
47. Even if I think about hurting myself, I won't do it.	1	2	3	4	5	6
48. I don't feel much love from anyone.	1	2	3	4	5	6
49. I have good judgment.	1	2	3	4	5	6
50. Strong people don't need to ask for help.	1	2	3	4	5	6
51. I am a good person.	1	2	3	4	5	6
52. People don't keep their promises.	1	2	3	4	5	6
53. I hate to be alone.	1	2	3	4	5	6
54. I feel threatened by others.	1	2	3	4	5	6
55. When I am with people, I feel alone.	1	2	3	4	5	6
56. I have problems with self-control.	1	2	3	4	5	6
57. The world is full of people with mental problems.	1	2	3	4	5	6
58. I can make good decisions.	1	2	3	4	5	6
59. I often feel people are trying to control me.	1	2	3	4	5	6
60. I am afraid of what I might do to myself.	1	2	3	4	5	6
61. People who trust others are stupid.	1	2	3	4	5	6
62. I am my own best friend.	1	2	3	4	5	6
63. When people I love aren't with me, I believe they are in danger.	1	2	3	4	5	6
64. Bad things happen to me because I am a bad person.	1	2	3	4	5	6
65. I feel safe when I am alone.	1	2	3	4	5	6
66. To feel okay, I need to be in charge.	1	2	3	4	5	6
67. I often doubt myself.	1	2	3	4	5	6
68. Most people are good at heart.	1	2	3	4	5	6
69. I feel bad about myself when I need help.	1	2	3	4	5	6
70. My friends are there when I need them.	1	2	3	4	5	6
71. I believe that someone is going to hurt me.	1	2	3	4	5	6
72. I do things that put other people in danger.	1	2	3	4	5	6
73. There is an evil force inside of me.	1	2	3	4	5	6
74. No one really knows me.	1	2	3	4	5	6
75. When I am alone, it's as if there's no one there, not even me.	1	2	3	4	5	6
76. I don't respect the people I know best.	1	2	3	4	5	6
77. I can usually figure out what's going on with people.	1	2	3	4	5	6
78. I can't do good work unless I am the leader.	1	2	3	4	5	6
79. I can't relax.	1	2	3	4	5	6
80. I have physically hurt people.	1	2	3	4	5	6
81. I am afraid I will harm myself.	1	2	3	4	5	6
82. I feel left out everywhere.	1	2	3	4	5	6
83. If people really knew me, they wouldn't like me.	1	2	3	4	5	6
84. I look forward to time I spend alone.	1	2	3	4	5	6

APPENDIX: 3 INFORMED CONSENT EXPLANATION FOR RESEARCH ON VICARIOUS TRAUMATIZATION

Introduction:

My name is Monica Wawira Kariuki, a clinical psychology student at the University of Nairobi. I am doing a study entitled the prevalence of vicarious Trauma among KMTC students as part of my Master's degree in Clinical Psychology. My supervisors are Dr. (Major) Dammas Kathuku and Dr. Fredrick Owiti from the department of psychiatry, university of Nairobi.

Objectives of the study:

The objectives of this study are to determine the prevalence of vicarious traumatization among students of KMTC Nairobi campus and also determine the association between vicarious traumatization and socio-demographic factors.

Benefits:

Participating in the study enables you to contribute to the findings of the study. The results of this study will be used by KMTC to develop policies on vicarious traumatization which in turn will benefit you as a student of this institution. It is hoped that the information emanating from this study will enable better understanding and management of students with vicarious trauma and hence achieve the assertion of a healthy mind in a healthy body.

Risks:

The study questionnaires pose no risks. In case you experience a reawakening of a previous trauma after you fill the questionnaires please bring it to my attention and I shall refer you to the youth center or patient support Centre in KNH for help.

Voluntarism:

Your participation in this study is voluntary. You can withdraw from the study at any point and you will not be victimized. Refusal to participate will involve no penalty or loss of benefit in which you are otherwise entitled.

Expected time in the study:

Filling the questionnaires may take about 30-40 minutes.

Confidentiality:

All the information obtained from you in this study will be regarded with outmost confidentiality, and your name will not be recorded anywhere in the study or in the resulting publications.

Questions:

You are allowed to ask questions about the study or where you need clarification.

Consent:

If you agree to participate in the study kindly give your consent by signing the consent form that is attached.

Contacts:

For further inquiry about the research you can contact the following:

- Monica Kariuki the researcher
  0724214747
- Dr. Dammas Musau Kathuku: 1st supervisor
  0723400799
- Dr Fredrick Owiti: 2nd supervisor
  0733610978
- Dr M.W. Kuria: Chairman psychiatry department
  0722755681
- Professor A.N. Guantai: Secretary, KNH/UoN- ERC
  2726300-9

APPENDIX: 4 CONSENT FORM

I do hereby volunteer to participate in this research on vicarious traumatization among students at KMTC Nairobi campus, under the direction of Mrs. Monica Kariuki.

The implication of my voluntary participation the nature, and purpose of the study and the methods by which it will be completed have been explained to me by ……..

I have been given an opportunity to ask questions concerning the study and my questions have been answered to my full satisfaction.

I understand that I may at any time during the study revoke my consent and withdraw from the study without penalty or loss of benefits.

I understand that my responses will be treated with confidentiality and I will be identified with number only.

Participant: Signed _____ Date _____

Witness: Signed _____Date_____

APPENDIX: 5 TIMELINE

Month/ activity	**April 2012**	**June 2012**	**July 2012**	**January 2013**	**February 2013**	**July 2013**
Proposal development						
Approval by psychiatry department						
Approval by ethics Committee						
Data collection, analysis, and report writing						
Results presentation and dissemination.						

APPENDIX: 6 BUDGET

ITEMS	**COST**
Ethics Research committee fees	1,000
Purchase of Stationery	15,000
Printing and photocopy	40,000
Data analysis	40,000
Binding	15,000
Miscellaneous	5,000
Total	**106,000=**

APPENDIX 7: LETTER OF AUTHORITY BY KMTC

Telegrams: "MEDTRAIN" Nairobi
TELEPHONE: NAIROBI 2725191, 2725711/14
Fax:2722907 Email: info@kmtc.ac.ke
Please address all correspondence to:
The Director
When replying please quote
KMTC/ADM/74/VOL.II/(42)
Ref: No. .....

KENYA MEDICAL TRAINING COLLEGE
P.O BOX 30195-00100
NAIROBI

18th February, 2013
Date.....

Monica W. Kariuki
Kenya Medical Training College
P O Box 30195
NAIROBI

RESEARCH AUTHORIZATION

We acknowledge receipt of your letter dated 4th February, 2013 requesting for authorization to carry out your research proposal on "***Prevalence of Vicarious Traumatization among Students at KMTC (Nairobi Campus)"*** with thanks.

This is to inform you that your request has been granted. Please note that you are required to report to the Principal's Office before embarking on the study.

On completion of the study, you are expected to submit one (1) Hard and a Soft copy of the research report to the Director's office.

Thank you.

Kipturgo K. M
FOR: DIRECTOR

Copy to: The Principal
KMTC Nairobi Campus

" Prof. A. N. Guantai
Secretary, KNH/UON-ERC
University of Nairobi
P O Box 19676–00202
NAIROBI

APPENDIX 8: LETTER OF APPROVAL BY KNH/UON ERC

UNIVERSITY OF NAIROBI
COLLEGE OF HEALTH SCIENCES
P O BOX 19676 Code 00202
Telegrams: varsity
(254-020) 2726300 Ext 44355
Ref: KNH-ERC/A/18

KENYATTA NATIONAL HOSPITAL
APPROVED
31 FEB 2013
ETHICS & RESEARCH COMMITTEE

KNH/UON-ERC
Email: uonknh_erc@uonbi.ac.ke
Website: www.uonbi.ac.ke
Link:www.uonbi.ac.ke/activities/KNHUoN

KENYATTA NATIONAL HOSPITAL
P O BOX 20723 Code 00202
Tel: 726300-9
Fax: 725272
Telegrams: MEDSUP, Nairobi
1st February 2013

Monica Wawira Kariuki
Dept.of Psychiatry
School of Medicine
University of Nairobi

Dear Monica

RESEARCH PROPOSAL: PREVALENCE OF VICARIOUS TRAUMATIZATION AMONG STUDENTS AT KENYA MEDICAL TRAINING COLLEGE AT THE NAIROBI CAMPUS (P455/08/2012)

This is to inform you that the KNH/UoN-Ethics & Research Committee (KNH/UoN-ERC) has reviewed and **approved** your above revised proposal. The approval periods are 1st February 2013 to 31st January 2014.

This approval is subject to compliance with the following requirements:

a) Only approved documents (informed consents, study instruments, advertising materials etc) will be used.
b) All changes (amendments, deviations, violations etc) are submitted for review and approval by KNH/UoN ERC before implementation.
c) Death and life threatening problems and severe adverse events (SAEs) or unexpected adverse events whether related or unrelated to the study must be reported to the KNH/UoN ERC within 72 hours of notification.
d) Any changes, anticipated or otherwise that may increase the risks or affect safety or welfare of study participants and others or affect the integrity of the research must be reported to KNH/UoN ERC within 72 hours.
e) Submission of a request for renewal of approval at least 60 days prior to expiry of the approval period. (*Attach a comprehensive progress report to support the renewal*).
f) Clearance for export of biological specimens must be obtained from KNH/UoN-Ethics & Research Committee for each batch of shipment.
g) Submission of an *executive summary* report within 90 days upon completion of the study This information will form part of the data base that will be consulted in future when processing related research studies so as to minimize chances of study duplication and/or plagiarism.

For more details consult the KNH/UoN ERC website **www.uonbi.ac.ke/activities/KNHUoN**

"Protect to Discover"

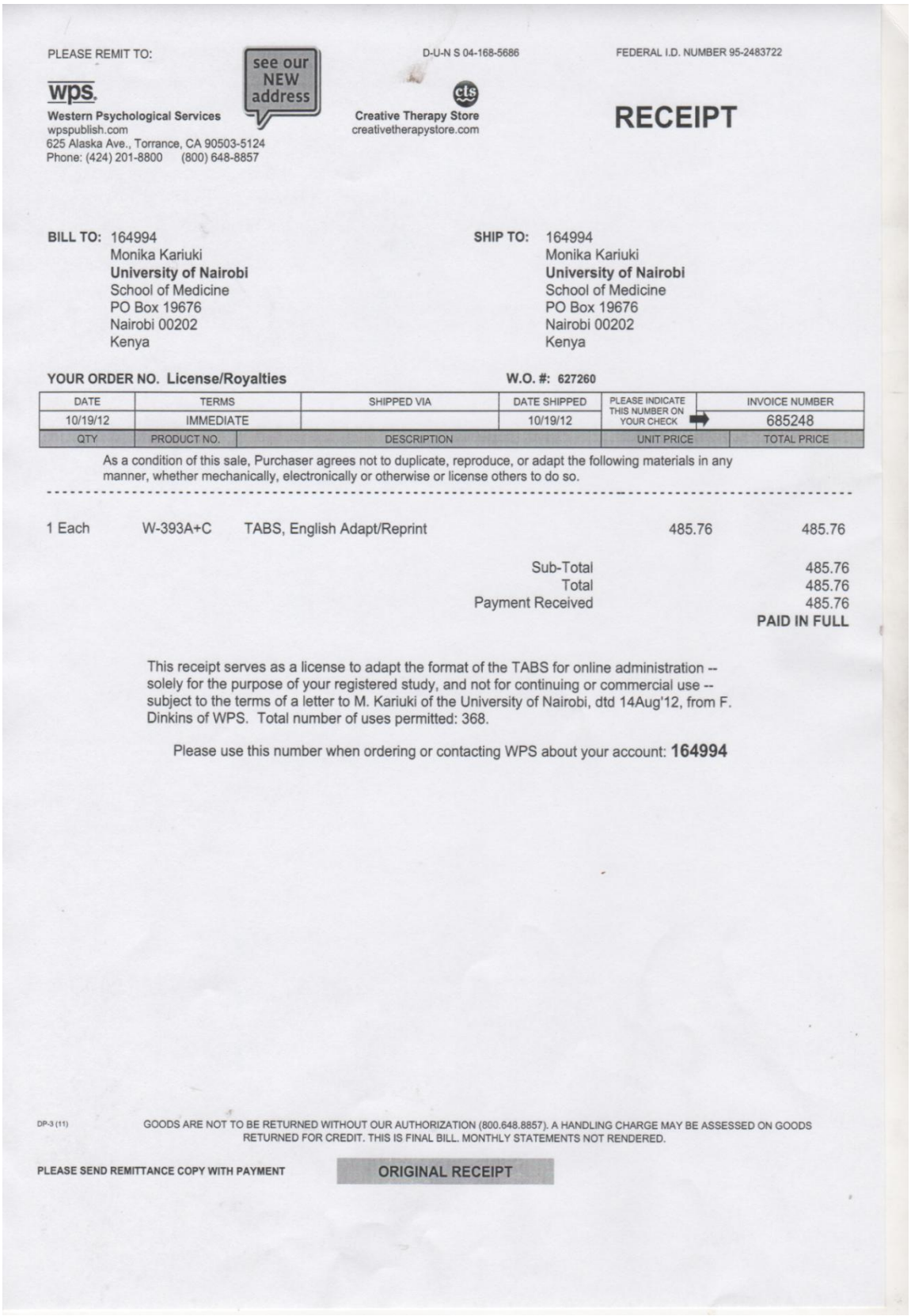
Yours sincerely

PROF. A.N. GUANTAI
SECRETARY, KNH/UON-ERC

c.c. The Deputy Director CS, KNH
The Principal, College of Health Sciences, UoN
The Dean, School of Medicine, UoN
The Chairman, Dept. of Psychiatry, UoN
The HOD, Records, KNH
Supervisors: Dr.(Major) Dammas M. Kathuku, Dept.of Psychiatry, UoN
Dr.Fredrick Owiti, Dept.of Psychiatry, UoN

"Protect to Discover"

APPENDIX 9: RECEIPT FOR LICENSE



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Monika Kariuki
University of Nairobi
School of Medicine
PO Box 19676
Nairobi 00202
Kenya

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Monika Kariuki
University of Nairobi
School of Medicine
PO Box 19676
Nairobi 00202
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