

# CHAPTER ONE

## 1.0: Introduction

### 1.1 Background information.

The term “burnout” is used to mean a psychological syndrome of emotional exhaustion, depersonalization and reduced personal accomplishment that occur among individuals who work with other people in some capacity (Maslach, *et al* 1996) .Burnout has also been described as an occupational hazard of the helping profession (Meltzer *et al.*, 2004) . The term burnout syndrome was introduced by Freudenberger in 1974 and developed by Christian Maslach is definable as a state of physical and emotional breakdown which comes from working conditions (Reggio and Malacarine., 2007) .Professional burnout can affect those professions in which the close interaction with another person is a key action and a condition of work success and development.

The importance of nursing in any health system cannot be underscored and this has been known for several years. In 1950 the World Health Organization (WHO) noted that countries with superior nursing systems experienced better health than those with only superior technology. Nurses provide and contribute to the care of the critically ill patients in a variety of roles. The most prevalent role is that of direct health care providers. According to the International Council of Nurses (2006), “nurses have four fundamental responsibilities: to promote health, to prevent illness, to restore health and to alleviate sufferings”.

Working in critical care unit is perceived as stressful (Goodfellow *et al.*, 1997). Nurses in Critical Care Unit often spend considerable time caring for very ill patients. Frequently the nurse – patient relationship is centred on the current needs (psychological, social or physical) of the critically ill patient and family and is therefore charged with feelings. The caring aspect between nurses and patients is most fundamental to the relationship and the health care experience (Urden *et al.*, 2002). The cost of such close interaction and confrontation with negative emotions, suffering, and chronic stress may be high when a nurse is not able to cope with workload, experiences defeat, and lacks professional success. Nursing work especially if it forces confrontation with serious conditions like frequently happens in the Critical Care Unit (traumatic injuries, cancer, Human Immuno- Deficiency Syndrome- HIV, and other terminal conditions) and death from such may be a significant source of affective strain.

Nurses like clients are susceptible to experience anxiety and stress. Nursing practice involves many stressors related to both clients and work environment: Understaffing, increase severity of clients' illnesses, adjusting to various work shifts, being expected to assume responsibilities for which one is not prepared, inadequate support from supervisors and peers plus caring for dying patients have been cited as stressors to the nurse (Kozier *et al.* , 2004). These factors confounded with lack of adequate financial and human resources as well as the poor disease outcome from terminal conditions

contribute to the nurses' burnout. Moreover the critical care nurse is required to be comfortable with a wide variety of technology and its' uses in the critical care setting.

Although most nurses cope effectively with physical and emotional demands of nursing in some situations nurses become overwhelmed and develop burnout, a complex syndrome of behaviours that can be likened to exhaustion stage of general adaptation syndrome (Kozier *et al.* , 2004) Maslach *et al.*, (1996) identified 3 main components associated with burnout. These components are: emotional exhaustion, depersonalization, and diminished personal accomplishment. Emotional exhaustion results in apathy and loss of concern; as emotional resources are depleted, helping professionals feel they cannot give themselves at a psychological level. Depersonalization on the other hand is characterizes by the development of negative and cynical attitude toward the recipient of care. Physical and emotional absence, inhumane and belittling interactions and lack of recognition of the patients' uniqueness indicate none caring (Under *et al.*, 2002). This negates the uniqueness in nursing where the individual being cared for must feel it and accept it. It is the "feeling" that makes caring real and causes the difference between nursing and other health professions. The "acceptance" of the feeling makes the need for nursing factual (MOH 2008). Diminished personal accomplishment is characterized by the tendency to evaluate oneself negatively, particularly in relation to one's work with patients. These definitions are consistent with the burnout model of Pearlman and Hartman in which burnout is

conceptualized as a response to chronic emotional stress that has 3 major components: emotional exhaustion, lowered job productivity, and depersonalization.

In Kenya between 1965 and 2005 the country had 69,873 nurses; of these 28119 were registered nurses and 41754 enrolled nurses (MOH 2008). In August 2009, 18 181 nurses were actively deployed in Kenya: 14 140 (78%) by the Ministry of Medical Services and the Ministry of Public Health and Sanitation, 2 205 (12%) by parastatal organizations and 1 836 (10%) through the emergency hiring programme. Fifty two percent of 18, 181 were enrolled nurses, 47% were registered nurses and 1% had a Bachelor of Science in Nursing (BScN). Some 46% of deployed nurses were aged between 21 and 40 years, while the remaining 54% were aged between 41 and 60 years (Gross *et al* 2009). The WHO recommended minimum staffing norm is 200 nurses per 100,000 populations that is a ratio of 1:1 000 (MOH 1994) Thus current Kenyan population estimated at 36 million requires a minimum of 36,000 health workers. At both international and local arenas nurses are the most critical health personnel affected today by workforce migration.

In the entire East, Central and Southern Africa (ECSA) Region including Kenya, nursing manpower and nursing standards are the most affected by human resource shortage. It is noted that nursing is faced with continuing migration threats, critical manpower shortage, increasing workload demand, poor working conditions, and

emergence of the new cadre of unskilled health workers (Ministry of Health 2008). The high prevalence of HIV/AIDS, malaria, rising incidences of Tuberculosis (TB) the emergence of Multi Drug Resistant(MDR) Extra-Drug Resistant (XDR) TB and the emerging rise of non-communicable diseases are common challenges that occur to nursing today in the Kenya, ECSA Region and in the Sub-Saharan Africa. (Ministry of Health, 2008).

## **1.2: Problem Statement**

Nursing is the largest sub-system among the health sub-system groups. Others include medicine, laboratory, occupational therapy, physiotherapy just to name but a few. It is also the principal service delivery sub-sector performing most of the major core functions of health sector. It has always been described as the backbone of health sector (MOH 2008) and its' contribution is therefore fundamental to the success of the health sector. Nurses' are exposed to a number of occupational health hazards due to the risky nature of their work. These include HIV/AIDS, mental stress and physical-stress related illness like backache and Prolapsed Inter-vertebral Disc. The Ministry of Health as cited in the MOH (2008) noted this issue by proposing that attempts should be made to address appropriate nurse's welfare issues in relation to common and rare occupational health risks. Situational analysis and continuous monitoring may be undertaken to establish the magnitude and trends, and to identify necessary recommendations for action.

Burnout is a common phenomenon in nursing staff (Koivula *et al.*, 2000). In order to properly direct measures that decrease burnout syndrome knowledge of the phenomena is needed. Burnout in nurses is regarded as a serious problem not only because it is potentially hazardous to their health, resulting in problems such as physical exhaustion or insomnia, but also because it influences patients' satisfaction and safety. Therefore, prevention of burnout among nurses is essential to the provision of high quality health care (Shimizutani *et al.*, 2008) .Burnout can lead to deterioration in the quality of care or service provided by the staff. It is a factor in job turnover, absenteeism, and low morale. Furthermore, burnout is correlated with various self-reported indexes of personal Dysfunction, including physical exhaustion, insomnia, increased use of alcohol and drugs, and marital and family problems.

There was therefore need to study burnout is in Kenyatta National Hospital not only because the consequences of burnout are potentially very serious for workers, their clients and the institution but also because little has been done in similar setups in developing counties.

### **1.3 Justification**

Nursing is one of the many disciplines in healthcare and by far the most critical. It is a vital capital investment in healthcare delivery where nurses form the largest human capital among the human resource for health package. Nursing functions at the hub of

healthcare delivery and the best healthcare delivery network is more likely to be enjoying overt or covert nursing coordination.

The consequences of burnout are potentially very serious for the health care workers, the patient and the larger institutions in which they interact. It affects the physical and mental health of the nurse and may carry costs for the employment organization through absenteeism, staff conflict and rapid turnover. Burnout may also affect the quality of care provided to the patient and their families.

Burnout in critical care nurses is a phenomenon that has been examined in numerous research studies. However, previous studies have been carried out in Western countries this makes it difficult to generalize the significance of the findings from developed countries with their superior health care institutions to developing countries like Kenya. Therefore it's necessary to carry out the study in Kenya because there are no published findings from a similar setting.

#### **1.4: Research Questions**

1. What are the factors associated with burnout among critical care nurses working in KNH?
2. What is the level of burnout among the nurses?
3. What are the exposure factors associated with burnout syndrome?

## **1.5: Objectives**

### **1.5.1. General Objective**

To determine burnout and its' associated factors among nurses working in Critical Care Unit at Kenyatta National Hospital, Kenya

### **1.5.2 Specific Objective**

1. To determine the social demographic characteristics of nurses working in CCU in 2010
2. To determine the proportion of nurses experiencing burnout syndrome in CCU in 2010
3. To identify exposure factors associated with burnout among nurses working in KNH CCU in 2010.

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## CHAPTER TWO

### 2.0 Literature Review

#### 2.1: Description of burnout

The study of burnout had its genesis on the mid seventies when Freudenberger (1974) identified burnout as a major problem in human service professionals. He described burnout as a situation whereby clinical hospital staff including him (a medical doctor), came to be inoperative. Since then, there have been in excess of three thousand publications on the topic, and burnout has been recognized as an occupational hazard for a variety of people-centered professions, such as human services, education and health care (Maslach *et al* 2001).

Maslach (1976) conceptualization of burnout, involves three distinct components: Emotional Exhaustion (EE), depersonalization (DP) and reduced Personal accomplishment (PA). A review of literature relating to job burnout conducted by Cordes and Dougherty, (1993) posit that the core dimension emotional exhaustion is the first stage of burnout followed by depersonalization which is employed as a coping strategy and finally, feelings of reduced personal accomplishment occur.

Numerous recent studies have explored work stress among health care personnel in many countries. Investigators have assessed work stress among medical technicians (Blau,Tatum.,Ward.,2003),radiation therapists(French.,2005), social workers

(Gellis.,2002), occupational therapists (Painter *et al* 2003),physicians(Phillips 2008) and collections of health care staff across disciplines.

## **2.2: Aetiology of burnout**

The aetiology of burnout is apparently multifaceted excessive workloads, long working hours, frequent exposure to the dying process of inpatients, lack of personal motivation and misguided career expectations, among other factors have been seen as causes of burnout (Tselebis *et al.*, 2007).It has been argued that the basic causes of burnout lie with the disruptive emotional aspects of patient care, such as overly demanding patients, unreasonable patient behaviour, illnesses, (especially those involved in contact and extreme pain and/or certainty of death).Illnesses that are difficult to treat may lead to a strong emotional response from the nurse and sometimes there is denial by care givers to their emotional responses to a patient's pain (Freudenberger, 1974, 1975; Maslach, 1982; ).Nurses like clients, are susceptible to experience anxiety and stress as nursing practice involves many stressors related to both client and the work environment.

According to Kozier *et al.*, (2004) Understaffing, increasing severity of clients' illnesses, adjusting to various work shifts, being expected to assume responsibility for which one is not prepared, inadequate support from supervisors and peers , and caring for dying patients contribute to burnout syndrome.

It is probable that certain factors may contribute to the development and/or maintenance of burnout for example stressor, while other factors may provide some protection such as coping. Discovery of these factors has important implications for nursing practice, in terms of staff selection, training and working conditions. Indeed, Duquette *et al.*, (1994) review paper identified three groups of factors that appear to be linked to burnout in nursing: organizational factors such as occupational stressors, 'buffering' factors such as coping and demographic factors such as age, nursing grade and experience

### **2.3: Evolution of critical care**

The specialty of critical care has its roots in the 1950's when polio victims were cared for in specialized units (Sole *et al.*, 2005). In the 1960s recovery rooms were established for the care of the patient who had undergone surgery, and coronary care units were instituted for the care of patients with cardiac problems. Critical care nursing evolved as a specialty in the 1970's with the development of general Intensive care unit. Since that time, critical care nursing has become increasingly specialized (Sole *et al.*, 2005).

The chaos and multiple challenges facing health care providers and consumers are evident on critical care, where new treatment modalities and technology interface with the continuing effort to strive for quality care and positive outcome. The ever – changing health care environment creates multiple challenges for both providers and

consumers of care (Urden *et al.*, 2002). Critical care nurses practice in settings where patients require complex assessment and therapies, high intensity interventions and continuous nursing vigilance. Nursing is a constant in critical care environment and being part of part of an interdisciplinary team nurses work to create healing, humane and caring environment.

#### **2.4: Symptoms of burnout**

Burnout is a state of emotional, mental and physical exhaustion caused by excessive and prolonged stress. It occurs when one feels overwhelmed and unable to meet constant demands. As the stress continuous one begins to lose interest or motivation. The term burnout has commonly been used to describe an array of symptoms experienced by a stressed individual. These include reduced energy, lowered self esteem and a sense of negativism towards the job and oneself (Coffey ,1999).

Emotional exhaustion is a result of emotional resources being depleted and workers feeling unable to give of themselves. The development of negative and cynical attitude about ones client is termed depersonalization and can lead to staff feeling that their clients are somehow deserving of their problems. Reduced personal accomplishments is the tendency to view oneself negatively in regard to ones work with clients (Maslach and Jackson; 1996).The nurse with burnout manifests physical and emotional depletion, a negative attitude, low self-esteem, and feelings of helplessness and hopelessness

(Kozier *et al* ;2004).Burnout reduces productivity and saps energy, leaving one feeling increasingly helpless, hopeless, cynical and resentful. Eventually a nurse may feel like they have nothing more to give.

### **2.5: Management of burnout.**

Burn out in nurses is a phenomenon that has been examined in numerous research studies. Results of a study on burnout among the nursing staff in two Finnish Hospital in 2000 indicate that both vocational basic and professional further education are key factors in preventing burnout among nursing staff. (Koivula *et al.*, 2000). Among Greek nursing staff, Tselebis *et al.*, (2005) found the degree of sense of coherence hypothesized to render persons either vulnerable or resistant to both depression and burn out. In the United Kingdom, a study of occupational stressors and coping and determinants of burnouts in female hospice nurses concluded that the investigation of problem focused and emotion focused coping in relation to burnout was oversimplifying the coping - burnout relationship (Payne., 2000).

More recently, the results of a study on relationship of nurse burnout with personality characteristics and coping behaviours in Japan suggest that acquisition of skills to cultivate appropriate coping behaviours might be useful for reducing client-related burnout in relation to nurses' personality characteristics. (Shimizutani *et al* ., 2008)

In 2003, a research on workspace stress in nursing documented that workload, leadership/management style, professional conflict and emotional cost of caring have been main sources of distress for nurses for many years. Therefore, the study concluded that stress interventions measures should focus on stress prevention for individuals as well as tackling organizational issues (Vicar., 2008). Consequently it would be advisable to put into action measures in order to prevent this syndrome in ICU by considering that some stress factors such as working in emergency and the clinical gravity of the ill are basic elements and that they are unchangeable in these departments (Raggio and Malacarne., 2007).

The most obvious means of reducing the workload of practitioners is to ensure that staffing levels are adequate, including administrative staff. Reducing the workload could reduce the paperwork burden on nurses (Finlayson *et al.*, 2002). In general terms, the ratio of 1 nurse to 6 in-patients per shift is being applied for the provision of minimum quality of in-patient care at. This staffing norm translates to a total of 4 nursing contact hours per patient per 24 hours. However, in high income countries the accepted ratio is 1 to 4; translating to 6 nursing contact hours per patient per 24 hours. It is therefore necessary to review this ratio to address the real situation on the ground in our hospitals. Studies in United States have demonstrated that recovery and survival of patients in hospital wards are influenced by nurse/patient ratio and level of training of

nurses. Recovery rate and survival of patients improve with a combination higher trained nurses and better nurse/patient ratio.

## **2.6: Measuring burnout**

Burnout has attracted much research attention in the fields of health psychology, work, and organizational psychology and beyond. Fortunately, during the past few decades there has been progress in burnout research (Sonnetag., 2005). There has been a continuous search for improved burnout measures, as reflected by among others the development of the General Survey version of the Maslach Burnout Inventory – MBI (Schaufeli *et al.* , 1996), the Oldenburg Burnout Inventory (OLBI; Demerouti *et al.* , 2001; Halbesleben and Demerouti., 2005), and recently the Copenhagen Burnout Inventory (CBI; Kristensen *et al.*, 2005). It is generally agreed that the core symptom of burnout is exhaustion. Based on this understanding, different ways of measuring burnout have been developed.

The instrument applied most frequently is the Maslach Burnout Inventory (MBI). The Maslach Burnout Inventory– Human Services Survey (MBI-HSS) (Maslach and Jackson, 1996) measures burnout as it manifests itself in staff members in human services institutions and health care occupations such as nursing, social work, psychology, and ministry. The MBI-HSS consists of 22 items that measure burnout in terms of emotional exhaustion (nine items), depersonalization (five items), and personal

accomplishment (eight items). Because burnout is conceptualized as three separate dimensions, three scores are used for each factor (emotional exhaustion, depersonalization, personal accomplishment). Higher mean scores on the emotional exhaustion and depersonalization subscales correspond to higher levels of burnout, whereas lower mean scores on the personal accomplishment subscale correspond to higher levels of burnout (Maslach and Jackson, 1986). The main criticism of the MBI is that, it results in three independent measures of burnout. Moreover, each dimension may have causes other than burnout.

On this basis, the Copenhagen Burnout Inventory (CBI) has been developed, focusing on exhaustion as being attributable to three different domains: exhaustion in general; exhaustion attributed to work in general; and exhaustion attributed to work with clients. Accordingly, the CBI measures: Personal burnout, work-related burnout and client related burnout. Personal burnout pertains to general symptoms of physical or mental exhaustion, which is not always related to a given particular situation in the work environment and applies to everyone. In representative sample of the adult Danish population, Cronbach's alpha of this scale was 0.80 (Kristensen and Borritz., 2001). Work-related burnout is a state of prolonged physical and psychological exhaustion, which is perceived as related to the persons work. It pertains to symptoms of exhaustion that are related to the work of the subject and applies to everyone in the workforce. Client-related burnout is a state of prolonged physical and psychological



exhaustion, which is perceived as related to the person's work with clients. It pertains to symptoms of exhaustion related to the subject's work with clients and applies to employees in human service work such as nurses and teachers.

A Danish project (The Project on Burnout, Motivation and Job Satisfaction -PUMA) was the first research on Burnout to use CBI. The project was started in 1999 and lasted for five years. Approximately 2000 employees from five different human service occupations participate in PUMA: Employees in social welfare work, institutions for chronically handicapped, Hospital employees, Employees in a prison and home helpers in a provincial town and in the capital. All employees – managers as well as staff – filled in questionnaires three times during the five-year study period. After each round of questionnaires the participating worksites were informed about the relevant results. (Borritz and Kristensen 2004)

The data show that the three scales for burnout are correlated. This overlap, however, is only partial, thus supporting the notion that burnout is attributable to different domains (Kristensen *et al.*, 2005). These independent subscales seek to identify stress/burnout according to the domain from which it arises. Personal burnout is the degree of physical and psychological exhaustion. Work burnout is the degree of physical and psychological exhaustion, which is perceived to relate to the person's work. Client burnout is the

degree of physical and psychological exhaustion, which is perceived to relate to the person's work with clients.

With regard to the subjects of this study, personal burnout relates to burnout of a general nature including private and family issues. The second subscale measures a nurses' work and working environment related burnout and the third aims to measure patient related burnout. CBI was used in a recent (Winwood *et al* 2003) study of the role of maladaptive use of alcohol by dentists in a population of South Australian general dental practitioners. The results showed that the South Australian dentists reported significantly higher levels of burnout on all three subscales compared with the values reported in the Project on Burnout, Motivation and Job Satisfaction (PUMA) but the results were found to be consistent with those which have been noted in other studies of Australian dentists.

### **2.7: Nursing trends in Kenya**

Provision of some form of nursing education in KMTC dates as far back as 1927 when the first group of Medical assistants was recruited for training. This cadre was trained to provide both Nursing and Clinical services. From this early beginning nursing education continued to progress and in January 1952 the first group of Kenya Registered Nurses (KRN) commenced in KMTC.

The need to serve at community level made the school to start training of Kenya Registered Community Health Nurses (KRCHN) in 1987. The KMTC serves as hub for training national and international nurses.(Retrieved from <http://www.KMTC.ac.ke>)

Post Basic Diploma Programs offered in the institution are:

1. Kenya Registered Midwifery.
2. Kenya Registered Critical Care Nursing.
3. . Kenya Registered Peri operative Nursing.
4. . Kenya Registered Ophthalmological Nursing.
5. Kenya Registered Community Health Nursing (Post Basic for KRNS).
6. . Kenya Registered Psychiatric Nursing (offered at Mathari MTC Campus).

In Kenya human resource mapping in December, 2004 indicated a nursing workforce of 16,015 in the public sector. Analysis of nursing staff returns by December 2005 indicated that the workforce had shrunk to 14,302 nurses (MOH 2008).By November 2006 there was an improvement to 16,144 nurses, a rise by 1,842 more nurses ( after the employment of 2,052 nurses in public sector). This indicated the high rate at which nurses leave the public sector through other means than normal retirement (MOH 2008).Widespread “demotivation” is said to be due to “unfair public salaries” which are presented as the de facto justification of “inevitable” predatory behaviour and public-to-private brain drain (Freund 1986, Ferrinho 1994)

These staff shortages resulted from migration, a long freeze on civil service employment, a high rate of attrition due to the impact of AIDS and poor working conditions - a common scenario. The result is poor nurse/patient ratio, work overload, and low quality of care (Adano., 2008). It has also created private sector “labour market saturation” lowering remuneration value of nurses. This has promoted nursing human resource migration to foreign countries where pay packages are more attractive. The current fashion is to blame governments and civil servants for the public sector’s poor performance as a health care provider (MOH., 2008). Doctors and nurses in government employment are labelled as “unproductive”, “poorly motivated”, “inefficient”, “client-unfriendly”, “absent” or even “corrupt”. (Lerberghe *et al.*, 2002) Strategies are required that would reverse these trends.

Nursing is a fundamental constituent of the health system. In a national healthcare delivery network nurses are the most critical members in service delivery. According to the International Council of Nurses, “nurses have four fundamental responsibilities: to promote health, to prevent illness, to restore health and to alleviate sufferings”. These responsibilities are universal to all people, individuals, families and communities within the context of human rights and without any form of discrimination. Within the area of the caring professional there is a widely accepted assumptions that people centered occupations are endemically stressful (Coffey,1999)

Burnout is an example of an extreme 'strain' reaction. It affects the physical and mental health of the nurse and may carry costs for the employing organization through absenteeism, staff conflict and rapid turnover .Burnout may also affect the quality of nursing care provided to patients and their families (Maslach. , 1976). While the primary role of the nurse is on those who need nursing care, nurses are obliged to work in harmony with other healthcare givers and still safeguard the interest of those under their care from harm that may arise due to malpractices or improprieties.

Critical care nursing is concerned with human responses to life threatening problems such as trauma or major surgery (sole *et al.*, 2005). The humane response can be a physiological or psychological phenomenon. Burnout can originate from nursing work itself as well as from characteristics of the worker and work environment (Koivula *et al.*, 2000).Nurses working in critical care often encounter a great deal of pain and suffering as they journey with patients through weeks and months of life support and burdensome treatment and care that nurses perceive as being futile and non beneficial to the patient (Meltzer *et al.*, 2004).

Critical care unit staffs find aspects of their job relating to career achievement, organizational design and structure more stressful than a normal working population (Goodfellow,1997).Shift working particularly night shifts can have a significant effect on personal and social life. Prolonged shift work especially night shift work, also have a health risk as it produces symptoms that correspond closely to those of mild or

moderate distress (Vicar., 2002). The nurse with burnout manifests physical and emotional depletion, a negative attitude, low self-esteem, feelings of hopelessness and helplessness (Kozier *et al.*, 2004).

## **CHAPTER THREE**

### **3.0 Materials and methods**

#### **3.1: Study design**

This was a cross sectional descriptive survey to determine burnout and its' associated factors among Critical Care nurses at Kenyatta National Hospital, Kenya

#### **3.2: Study site**

The study was carried out the Critical Care Unit at Kenyatta National Hospital (KNH). Kenyatta National Hospital is located in Nairobi, the Capital City of Kenya.

Nairobi is Kenya's principal economical, administrative, and cultural centre and is one of the largest and fastest growing cities in Africa. Nairobi is the most populous city in East Africa, with an estimated urban population of between 3 and 4 million.

Kenyatta National Hospital is the biggest referral hospital in East and Central African region. It has a 2000 bed capacity that receives referrals from all 8 Kenyan provincial hospitals and their associated district hospitals as well as referrals from East and Central African region. Kenyatta National Hospital also services as a teaching hospital. The hospital complex situated a kilometre from the city centre as a public access hospital assisting all kinds of patients. The large number of nurses in the CCU enabled to draw a sufficient sample size as the Hospital is an employer to over 1 950 nurses with 120 nurses deployed to in the Critical Care unit. There is a wide variety of nurses in varying cadres in a relatively small area.

The Critical Care Unit is a specialized unit in the hospital that provides intensive care-medicine. The Critical Care Unit is a 21 bed capacity ward and is located on the first floor of the hospitals' complex. Common equipment in the CCU include mechanical ventilators to assist breathing through an endotracheal tube or a tracheostomy, cardiac monitors including external pace makers, defibrillators, equipments for the constant monitoring of bodily functions, a web of intravenous lines, feeding tubes, suction pumps, drains and catheters, and a wide array of drugs to treat the primary condition(s) of hospitalization.

Types of patient admitted in CCU may require continuous cardiac monitoring, artificial ventilation, cardiac support and renal support. Patients are also admitted after major abdominal, heart and brain surgery. Patients with major trauma like severe head injury, chest injury and multiple injuries (Irwin & Rippe, 2003).The CCNs' provide continuous nursing care for 24 hours including monitoring of cardiac parameters, respiratory functions, renal functions and nervous system status.

### **3.3: Study population**

The study population included all nurses working at the Critical Care Unit at the time of study. There were a total of 120 Registered nurses in the Unit with a minimum qualification of diploma in nursing. The nursing staff in KNH worked shift duties:



morning, afternoon and night shifts (commonly referred to as half day, morning offs, night duty respectively).

### **3.3.1. Inclusion / exclusion criteria.**

Those nurses working in the KNH Critical care Unit who were willing to consent and participate in the study were included while those neither working in CCU nor willing to consent were excluded

## **3.4: sampling**

### **3.4.1 Sampling method**

The study was confined to the CCU at Kenyatta National Hospital. The hospitals' mandate is to act as a teaching and referral hospital, to provide specialized health care, to provide facilities for training of health professionals, to research and participate in national planning and policy. Therefore to capture a representative sample first stratification was done according to different shift. Secondly, calculation of number of respondents required in each shift was done proportionally for duration of one month. Simple random sampling was done and one hundred and one respondents were sampled.

### **3.5: sample size determination**

In calculation of the sample size the proportion of nurses with burnout syndrome was assumed to be 50 % ( large effect size) this is because no studies have been conducted on these subjects. The total number of nurses in the critical care unit was 120 therefore by

Using Fisher *et al* (1999) formula below; the minimum sample size was determined to be 92.

Formula of sample size determination.

$$n = \frac{Z^2 p(1-p)}{d^2}$$

Where

**N** = required sample size

**Z** = Confidence level at 95 % (standard value of 1.96)

**p** = proportion of nurses with burnout syndrome assumed to be 50%

**d** = Level of precision at 5% (standard value of 0.05).

Substituting these figures in the formula.

$$n = \frac{(1.96)^2 (1.96) \times 0.5 \times 0.5}{(0.05)^2} = 385$$

But since the study population was  $\leq 10,000$  the finite population correction factor was used. The actual sample size is calculated as follows;

$$nf = \frac{Nn}{N + (n-1)}$$

Where  $nf$  = the desired sample size when the population is less than 10 000

$n$  = the desired sample size when population is less than 10000

$N$  = the estimate of population size.

$$\text{Hence } nf = \frac{385 \times 120}{385 + (120-1)} = 92$$

A 10% more was added to give room for non-respondents this was necessary because if less than three categories in CBI have been answered the respondent is classified as non-responder.

### **3.6: study instrument**

#### **3.6.1 Copenhagen Burnout Inventory (CBI)**

The Copenhagen Burnout Inventory (CBI) (Borritz and Kristensen 1999) was chosen to assess the extent to which the target group was vulnerable to burnout. The Copenhagen Burnout Inventory (CBI) is a questionnaire for burnout and is composed of three subscales (personal burnout, work-related burnout, and client-related Burnout) for each category there are structured questions and responses. CBI includes 6 questions about personal burnout, 7 questions about work-related burnout, and 6 questions about client-related burnout (19 questions in all). The client/patient burnout subscale consists of six questions. The first four questions in all cases, except for the reversed item (part 2 questions 7 see appendix C)

Copenhagen Burnout inventory was used in this research because it has good psychometric validity and has been used in similar studies. It was also readily available without copyright requirements and could be used without cost.

#### **3.6.2. Questionnaire**

A self administered questionnaire was given to the sampled participant. Demographic information included sex, age, education, professional training, nursing cadre and

number of years of nursing experience (appendix C).The questionnaire was handed to the respondent with an envelope provided to seal and return the filled questionnaire to the researcher within two days.

### **3.6.3. Pre –testing the questionnaire.**

The questionnaire was pre-tested at the CCU of KNH and five nurses working in CCU were requested to fill in the questionnaire. These nurses were excluded from the final study.CBI has been found to have internal validity .Copenhagen Burnout Inventory was used as the tool to assess the level of burnout. Copenhagen Burnout Inventory is an 18 item questionnaire, designed to measure burnout at three levels: personal, work and client burnout.

## **3.7: Data management and analysis**

### **3.7.1 Data storage**

All study participants received a unique participant identification number that was recorded on the questionnaire. Collected data for the study was thoroughly checked and validated for accuracy and completeness. The data was stored in memory sticks, compact disks and a laptop for back up before and after analysis. Data on the questionnaire was kept under lock and key while electronically stored data was password protected.

### **3.7.2 Data Management**

Data captured in questionnaires was entered into a database, data cleaning and data analysis was performed using Statistical Package for Social Sciences (SPSS Vers. 12.0 inc., 444 N. Michigan Ave. Chicago Illinois). SPSS statistical package was used for analysis of the quantitative data. Descriptive statistics including mean, frequency distributions cross tabulations and standard deviations were used. The aim, being to establish detailed information about the sample for descriptive purposes as well as calculating average total scores on the standardized measures Frequency distribution were calculated for gender ,age, education level, other courses, experience and level of appointment.

Bivariate analysis was done using the Pearson's chi-square test and Independent T-test for testing associations among demographic factors and the three scales of burnout on the CBI. Variables with  $P < 0.05$  in were considered to have a significant association with the burnout syndrome. Calculation of odds ratios (OR) and 95% Confidence Intervals (CIs) and a  $P < 0.05$  was considered as significant.

### **3.8: Ethical considerations**

Approval to carry out the study was obtained from KEMRI Scientific/Steering and National Ethical Review Committees (Appendix D). The study was conducted with the approval of the ethics committees of the facility (KNH) appendix C. The objectives of

the study were explained and permission sought to carry out the study at the health facilities and in the area.

Data collection emphasized on issues of confidentiality and privacy by restricted access to the information collected and coding of questionnaires. Each subject of the study was provided with a written explanation as to the purposes and methods of the study and asked to give consent to participate (Appendix B). To protect the privacy of individual nurses, the questionnaire was designed to be anonymous (Appendix C). Each informant was informed about their right to decline or withdraw any time from participating in the study without feeling constrained. Respondents were informed that the information would not be made available to persons outside the study team. Respondents were further assured that no person-identifiers would be used for publication.

## **CHAPTER FOUR**

### **4.0. Results**

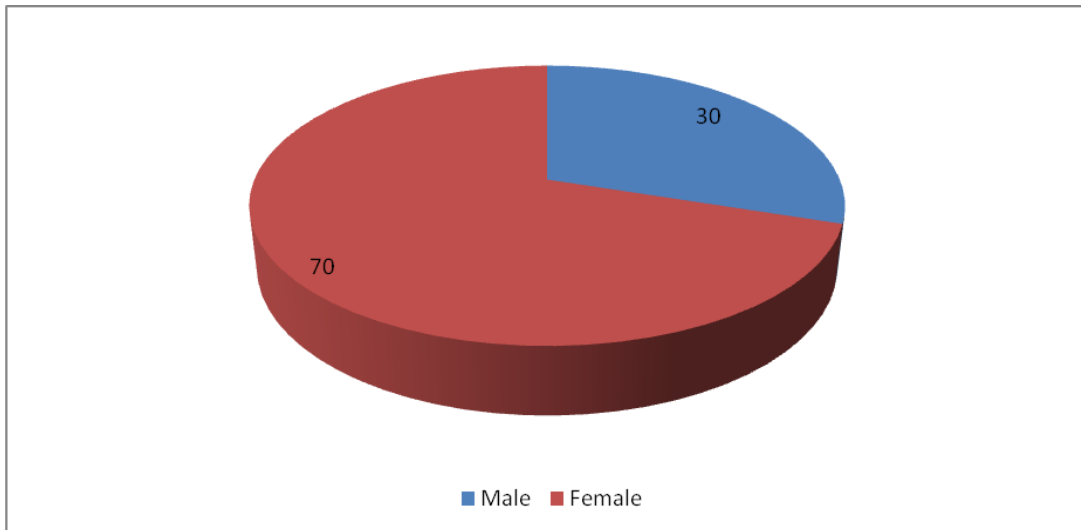
This chapter focuses on the study findings based on qualitative and quantitative data that was collected from a sample size of 98 nurses. 101 questionnaires were distributed of which 98 were returned giving a 97% response rate. The results are outlined as per the study objectives.

#### **4.1: Social demographic data of respondents.**

Demographic information was obtained on each participant and included gender, age, education, professional training, nursing grade and number of years of critical care nursing experience.

##### **4.1.1 Distribution of respondents by sex**

Of the 98 respondents, (70%) were female while (30 %) were male (figure 4.1). Therefore the female nurses were twice the number of their male counterparts.



**Figure 4.1: Distribution of respondents by sex ( $n=98$ )**

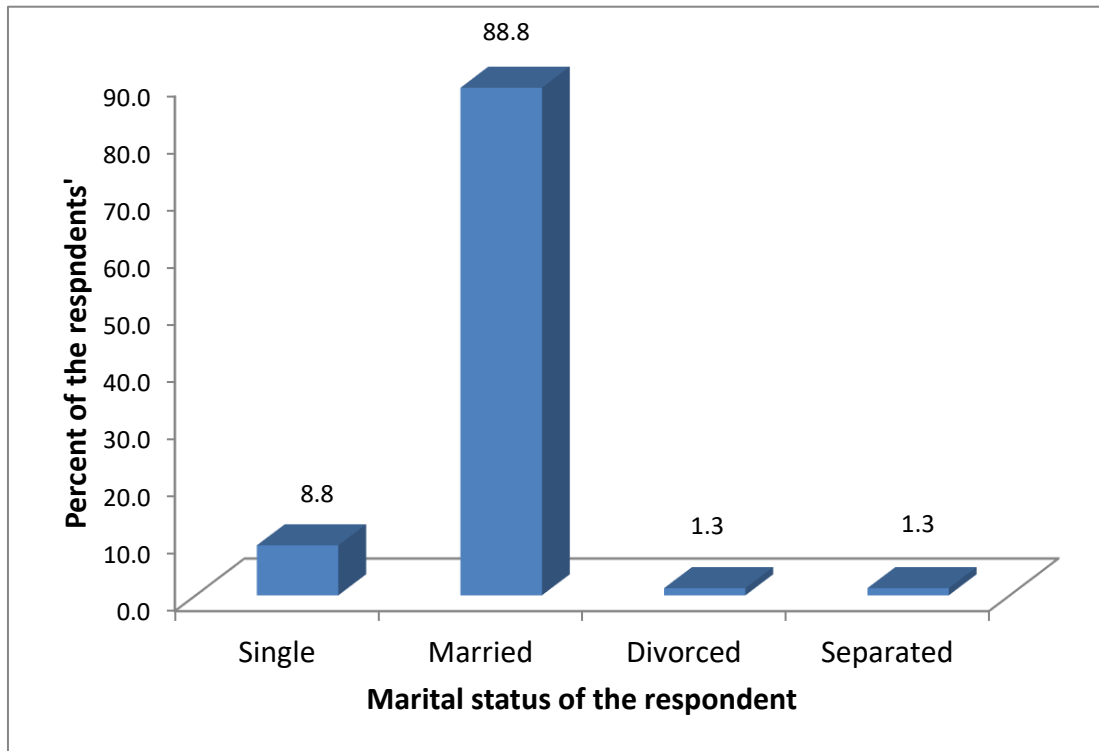
#### **4.1.2 Distribution of respondents by age**

Of the 98 valid respondents 78 (79.6%) respondents gave their ages. The respondents' ages ranged from 27 to 50 years with a mean of 36.2 ( $\pm 5.02$ ) years. Majority of the respondents were aged 30-40 years.

#### **4.1.3: Marital status of the respondents**

The majority 87 (88.8%) of the respondents were married, 9 (8.8 %) were single whereas 1.2 % were either separated or divorced (figure 4.2).

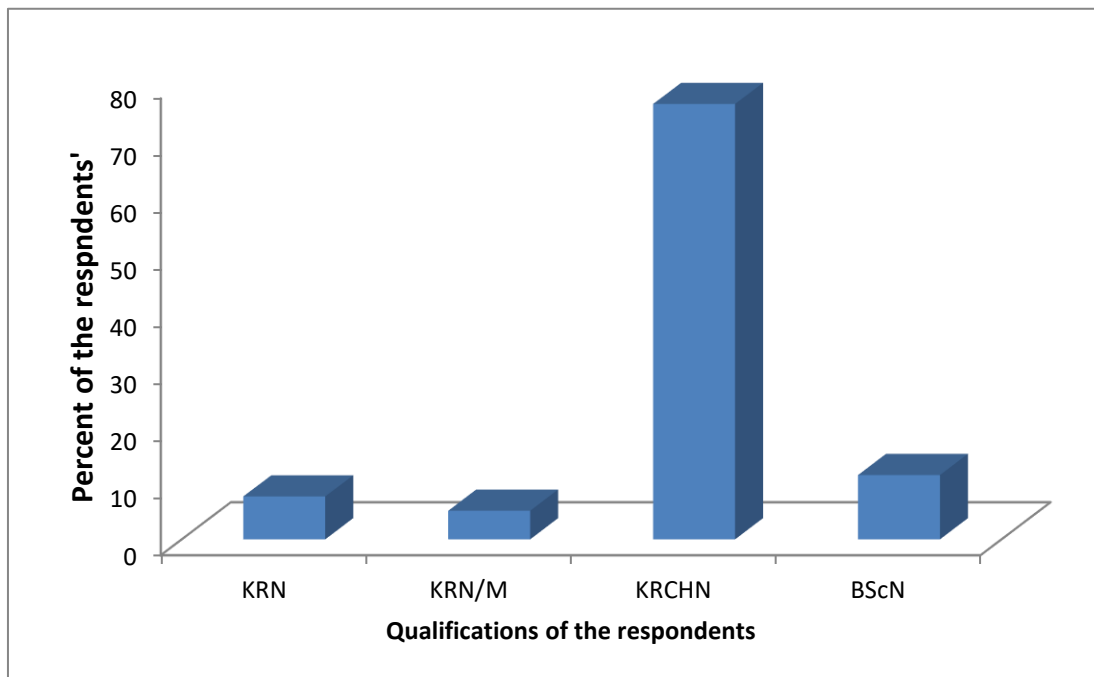




**Figure 4.2: Marital status of respondents**

#### **4.1.4: Professional qualification of respondents**

The nurses in Critical Care Unit hold a minimum qualification of Diploma in Registered Nursing (figure 4.3). Three quarters (76.3%) of the respondents were Kenya Registered Community Health Nurses, (11.3%) were Bachelor of Science in nursing degree holders while Kenya Registered Nurses were (7.5%) while the least (5.0%) were Kenya Registered Nurses /Midwives. The highest level of education was a bachelor of science in Nursing as none had a master's degree



**Figure 4.3: Professional Qualification of the respondents (n=98)**

KRCHN (76.3%) constitute the majority of CCU nurses while KRN/M were the minority (5.0 %).

#### **4.1.5 Post Basic Training of respondents**

In addition to the required basic Nursing training, the study findings portrayed a trend in post basic training ( table 4.1). Almost three quarter of the nurses (71.3%) had specialization in Intensive care nursing course while the other 23.8 % had trained in life support courses which included Basic life support (BLS) Advanced cardiac Life support (ACLS) and Advanced Trauma life support (ATLS) 5.0% were non respondents.

**Table 4.1: Post basic training reported by respondents n=98**

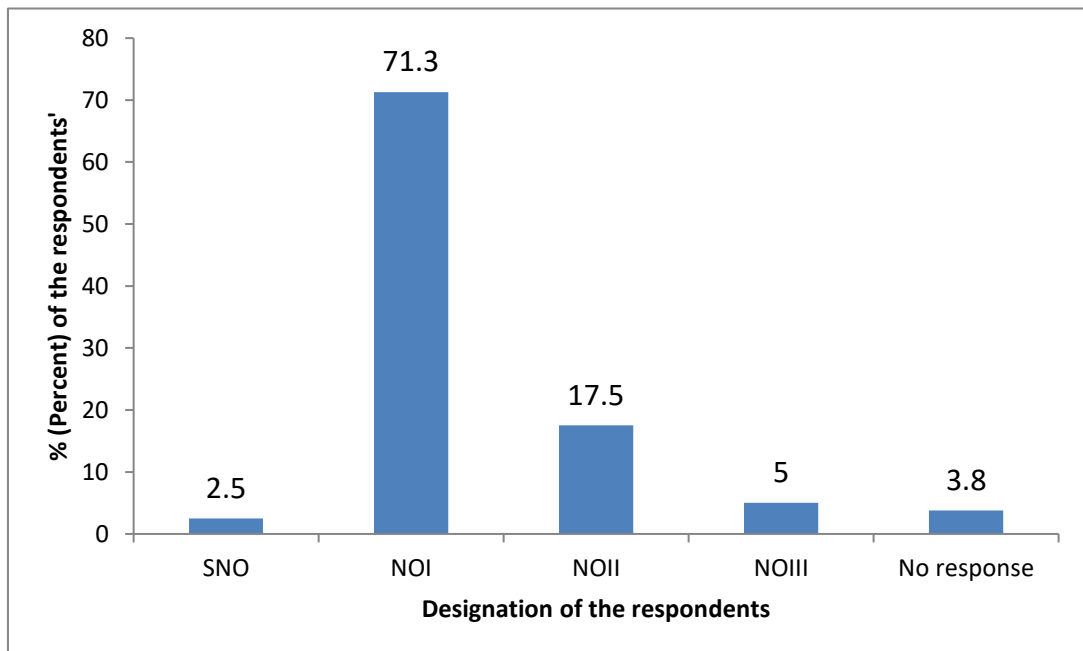
<b>Courses attended</b>	<b>Frequency</b>	<b>Percentage</b>
Not applicable	6	6.3
No response	5	5.0
Critical care nursing	70	71.3
Life support courses (BLS,ACLS,ATLS)	23	23.8
Leadership/Management courses	10	10.0
Counselling skills	12	12.5
Others ( counselling, PMCTC ,customer care	5	5.0

Multiple responses were accepted therefore the frequency may was more than the  $n =98$  in some variables.

#### **4.1.6 Distribution of respondents in the nursing establishment.**

Nursing positions are often known as cadre and seniority depends on job experience and education, 70 of the 98 respondents, that is (71.3%) were at the cadre of Nursing Officer one (NO1) with 17 (17.5%) being appointed at nursing officer two (NOII) while 5 (5.0%) were nursing officer three (NOIII) which is the lowest cadre for the Registered Nurse. These are common cadre appointments. The hospital promotes a person from

one level to the next after working at least three years. A graphical representation of the same is shown in figure 4.4.

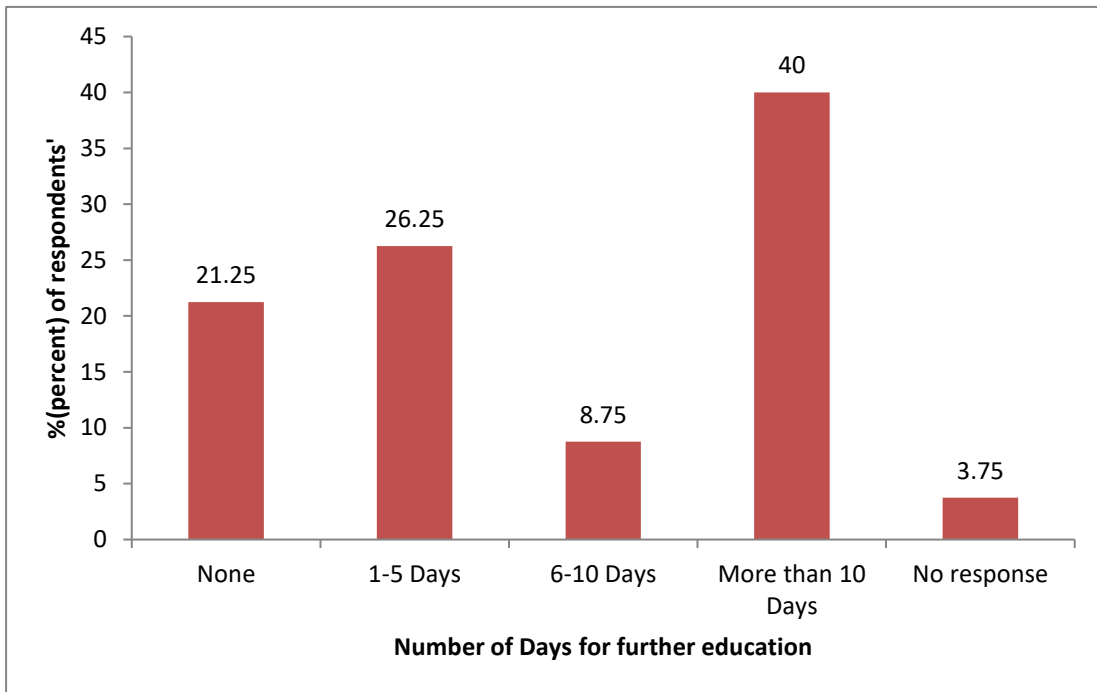


#### **4.4 Distribution of respondents in the nursing establishment.**

##### **4.1.7 Continuous Medical Education of respondents (CME)**

Findings revealed that the respondents had been actively engaged in pursuit of further education (figure 4.5). Forty percent of respondents had spent more than 10 days in acquisition of CME while 26.25% of the respondents had 1- 5 days and 8.75% of the respondents had more than 10 days CME. Continuous medical education refers to a specific form of continuing education, which helps those in medical field maintain competency and keep abreast developing areas in their field. On inquiring the number of

days the respondents had spent in acquisition of during the continuous medical education (CME) during the previous two years.. Of the 98 respondents 21.25% had not spent any day in further education while 3.75% were non respondents.



**Figure 4.5: Days spent in CME in past 2 years.**

#### **4.1.8 Nursing experience of the respondents.**

The study findings further indicated that the Critical Care is operated by competent nursing staff with many years of general Nursing experience and Critical care experience. Figure 4.6 shows the comparison between the total number of years in general nursing and in the current ward-Critical Care. Majority (78.8 %) of the

respondents had been practicing nursing for between 5-15 years and 13.8 % (14) had over 15 years nursing experience. Only 3.8 % ( 4) had an experience of 1-4 years and 3.8% (4) didn't fill in the question. On the other hand, more than half of the respondents 60.1% had a critical care experience of between 1-4 years, while another 21.3 % had experience of between 1-4 years. A minority 15.1 % had worked in critical care unit for over 10 years. 3.8 % were non respondents.

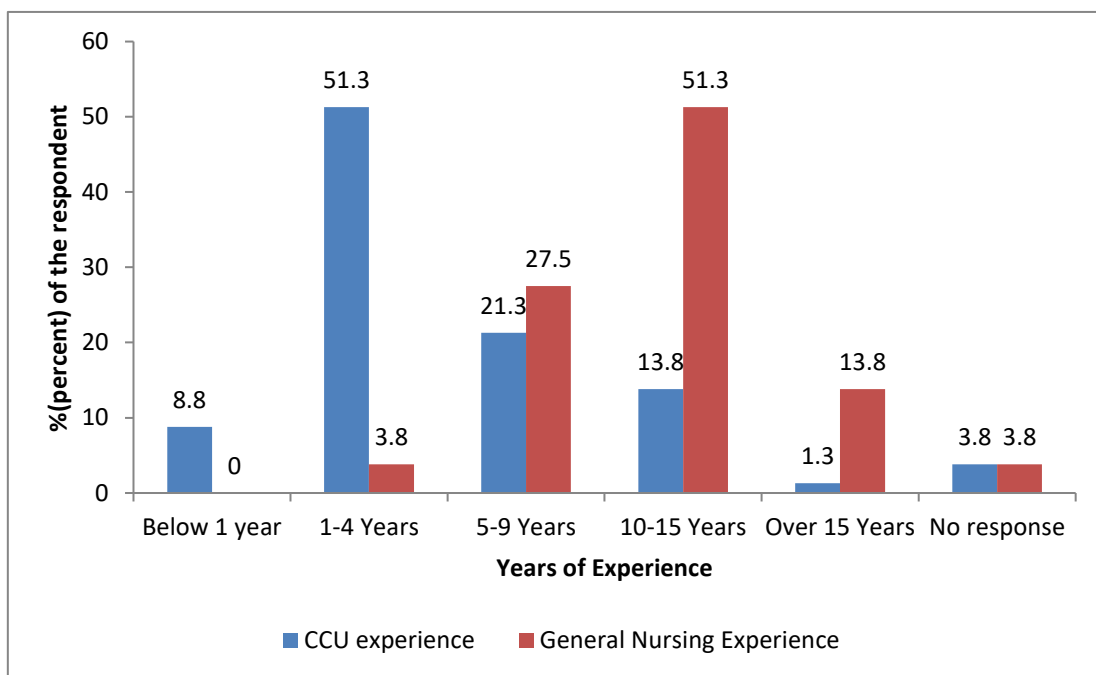


Figure 4.6: critical care experience vs. General nursing experience

#### 4.1.9: Nursing care Modalities practiced in CCU.

In patients' care the respondents were queried on which nursing care modality was practiced in the unit (figure 4.7). Among the options was primary nursing, team nursing, functional nursing, case assignment or a mixture of those modalities, More than half 58.8 % of the respondents indicated that a mixture of primary and team nursing were practiced in the Unit whereas primary nursing and team nursing separately were (18.8%, 10.0%) respectively.

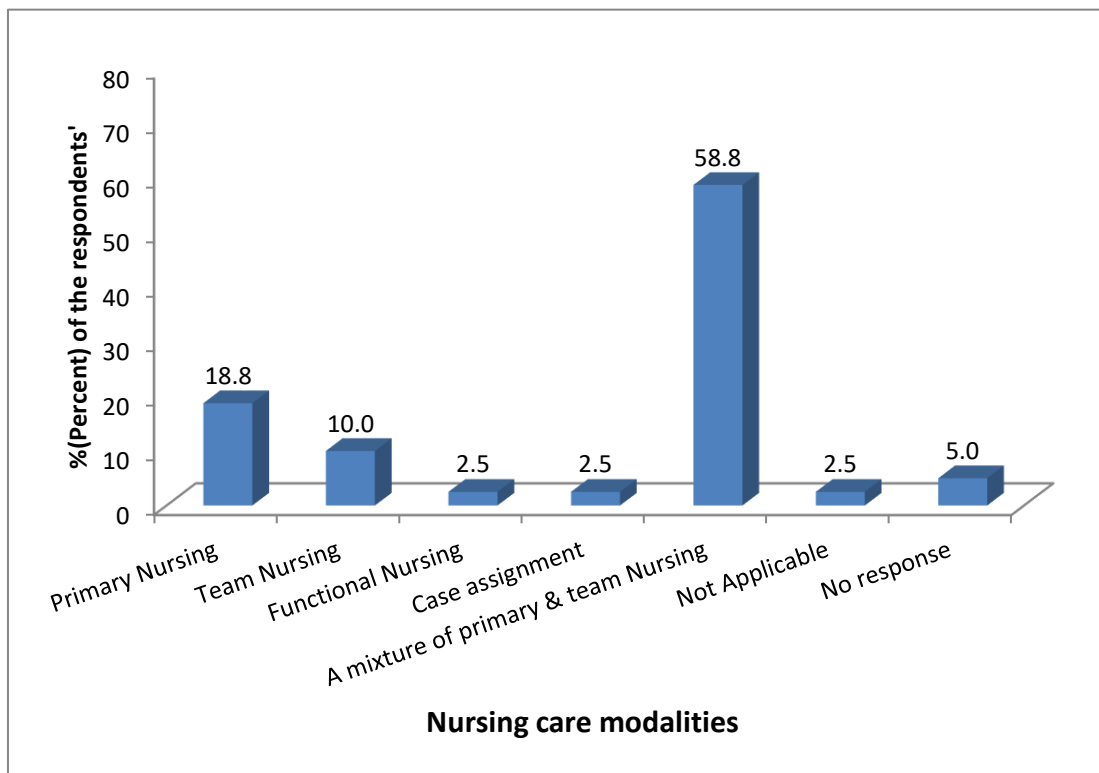
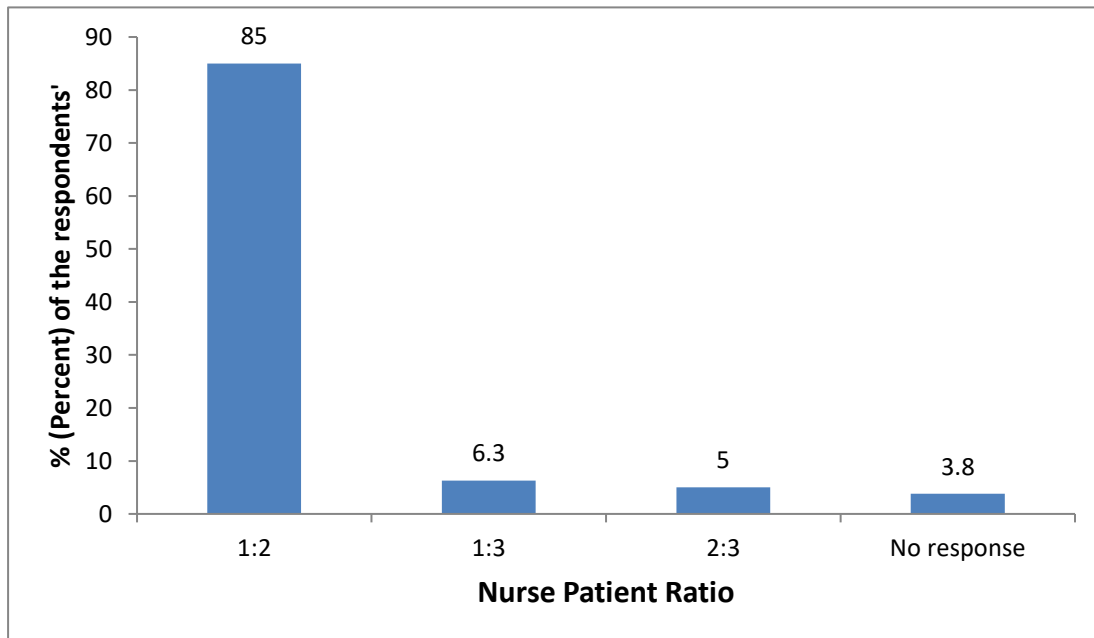


Figure 4.7: Nursing care Modalities and staffing ratios.

#### 4.1.10 Nurse : patient ratio in CCU;KNH

The commonest nurse: patient ratio as reported by the respondents in this study was one nurse to two patients 1:2 (Figure 4.8).



**Figure 4.8. Nurse: patient ratio in CCU; KNH**

#### 4.1.11 Hours worked per week by respondents

The average of number of hours the respondents worked per week was reported to be 39.7 ( $\pm 3.1$ ) hours ( table 4.2), with the maximum number of hours worked being 50 ( $\pm 3.1$ ) and minimum 30 ( $\pm 3.1$ ) hours.



**Table 4.2: Number of hours worked by respondents per week.**

Mean Number of Hours/week	39.7
Std. Deviation	3.1
Minimum Hours	30
Maximum Hours	50

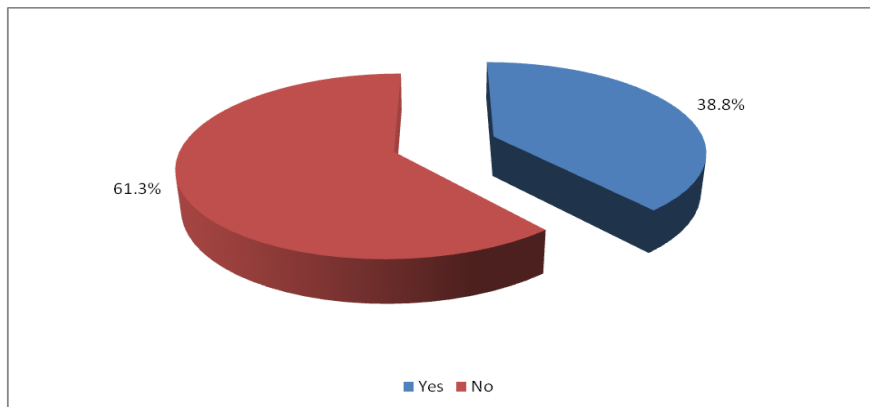
#### **4.1.12 Reported number of Sick-Off Days taken by respondents**

The number of sick offs (total number of days) taken in the three months prior to the study were 1.2(+4.5) day the maximum number was 28 days (4 weeks sick offs in three months).

#### **4.1.13 Work outside CCU by respondents**

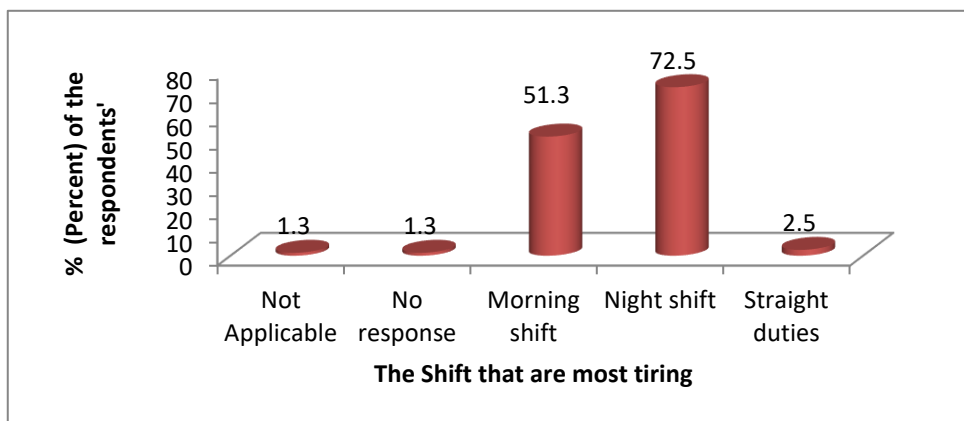
Besides working in Critical care Unit, 61.3% worked during their off duty while 38.8% did not (figure 4.9). Fifty percent of the respondents reported working in other departments within the hospital (gynaecology ward, burns unit, operating theatre, and private wing), other hospitals, clinics, and private practice, while 3 % listed full time students/ academic work. Some of the respondents answered not applicable to the question to specify where they worked besides the unit while 2.5 % gave no response

**Figure 4.9: Percentage of respondents who worked outside CCU**



**4.1.14 Most tiring shift as reported by respondents.**

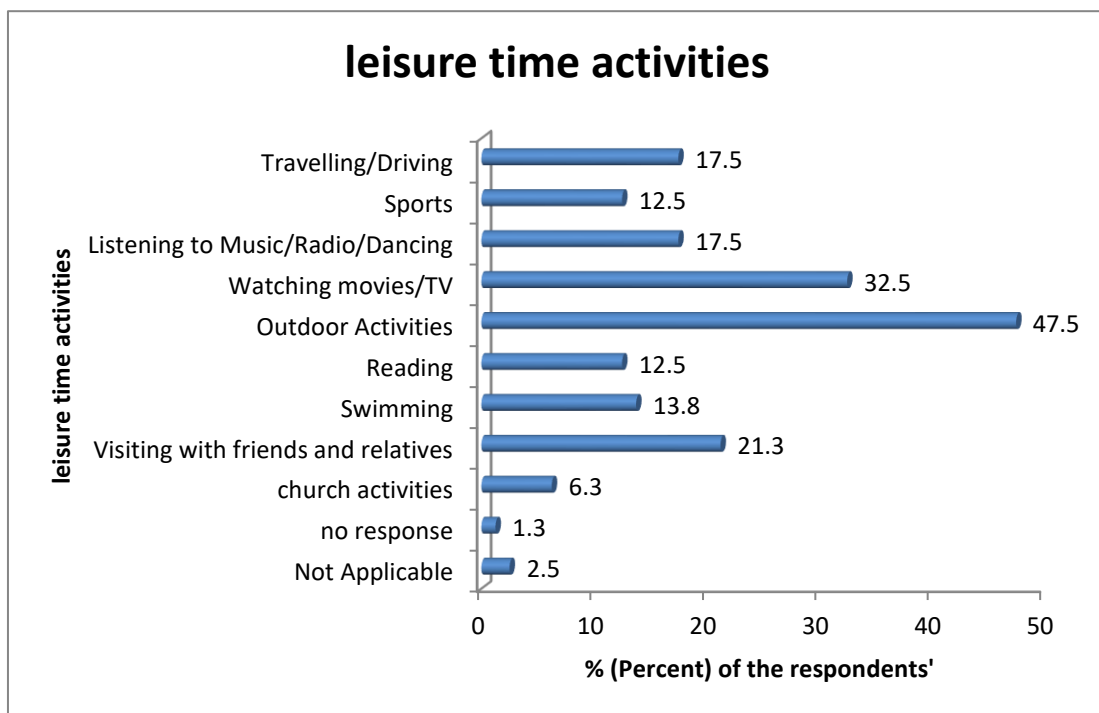
The study findings portrayed night shift and morning shift as the most stressing shifts' (Figure 4.10) as evidenced by responses from 72.5% and 51.3% of the respondents. A small number 2.5 % found straight duties (office hours 7.30am-4.30 pm) stressing.



**Figure 4.10: The shift found particularly tiring by respondents n=98**

#### 4.1.15 leisure time activities of the respondents

The respondents spent time way from work engaged in such activities as sports, outdoor , travelling as shown in figure1.11



**Figure 4.11 leisure time activities enjoyed by respondents**

#### 4.1.16 Career plans of respondents at CCU

The respondents were asked how long they would like to work in the current unit and nearly half (53.8 %) answered 1-5 years. Approximately fifteen percent of respondents'

years while 11.3 % to retirement age, however 7.5 % wanted a change-over within the year.

#### **4.2: Level of burnout among the respondents.**

The Copenhagen Burnout Inventory (CBI) (Borritz and Kristensen1999) was chosen to assess the extent to which the respondents are vulnerable to burnout. Student t- test was used to compare the mean differences between the two studies (KNH CCU and PUMA).Almost all the categories (except male in the client related burnout ) had significant statistically difference from those recorded in PUMA ( $p < 0.0001$ ).table 4.6(appendix D) shows the differences between these two studies.

##### **4.2.1 Personal Burnout among the respondents.**

Response for all six questions included in the personal burnout subscale was measured using the 5-point Likert scale (appendix A).The findings from this study showed the respondents (n=98) to have high burnout on personal burnout subscale with a score of 53.7 ( $\pm 9.4$ ) out of a possible range of 0 to 100. There is a statistically significance difference between KHN- CCU and PUMA study ( $p=0.0001$ ).

##### **4.2.2 Work Related Burnout among the respondents.**

The questions in this dimension measures burnout that pertains to the symptoms of exhaustion that are related to the work of nurses. The total work-related burnout mean

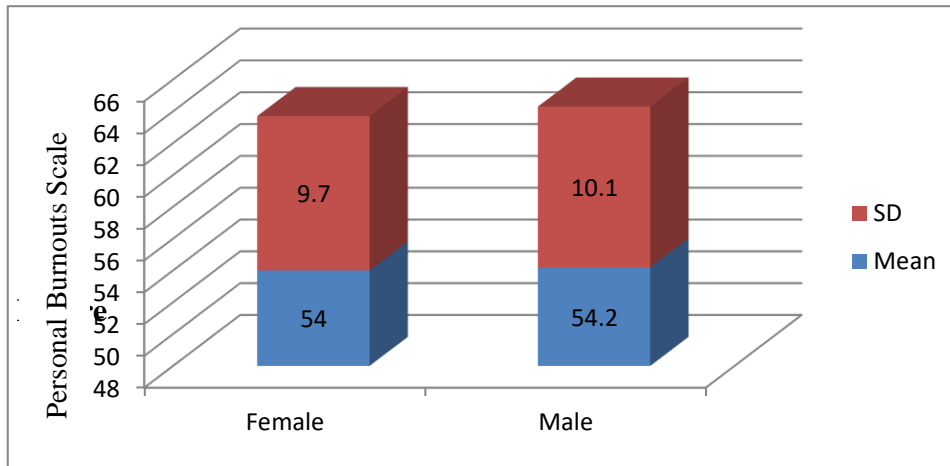
in this sample (n=98) was  $47.5 \pm 11.8$  PUMA ( $33.0 \pm 17.7$ ). There was significant statistical difference between the level of burnout between KNH-CCU and PUMA ( $p < 0.0001$ ) suggesting that the respondents had higher levels of burnout than normative study.

#### **4.2.3 Client - related burnout among the respondents**

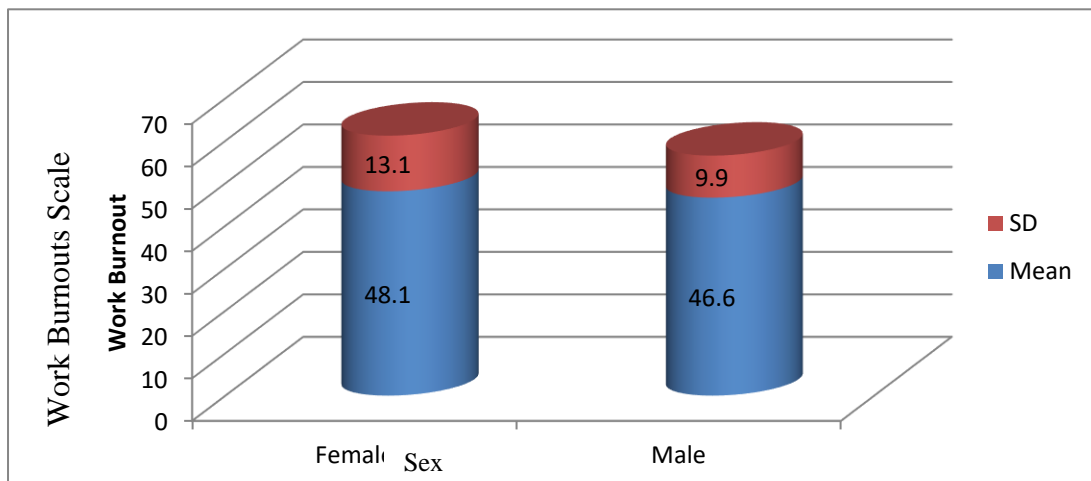
The mean for total client-burnout was  $47.9 (\pm 8.2)$  compared to normative mean (PUMA  $29.9 \pm 17.9$ ). The p-value for the two means was statistically significant indicating, that the KNH sample had higher levels of client-related burnout than PUMA population.

#### **4.2.4 Level of burnout among male and female nurses**

Further data regarding the level of burnout between the different sexes was done by calculating the two-tailed p-value to compare the means and find out who among the male/ female respondents had higher burnout level (figure 4.12). Scores on the scale for personal burnout for male respondents was  $54.2 (\pm 10.1)$  and female respondents was an average of  $54.0 (\pm 9.7)$  two-tailed p-value is 0.93 for these means on personal burnout therefore, considered not significant. Thus it was concluded that the personal burnout level was not different between male /female respondents. Using the same test, the means on work burnout for males was found not significantly different ( $p = 0.62$ ) from that of females. (46.6 with SD: 9.9 and for females 48.1 with SD: 13.1)

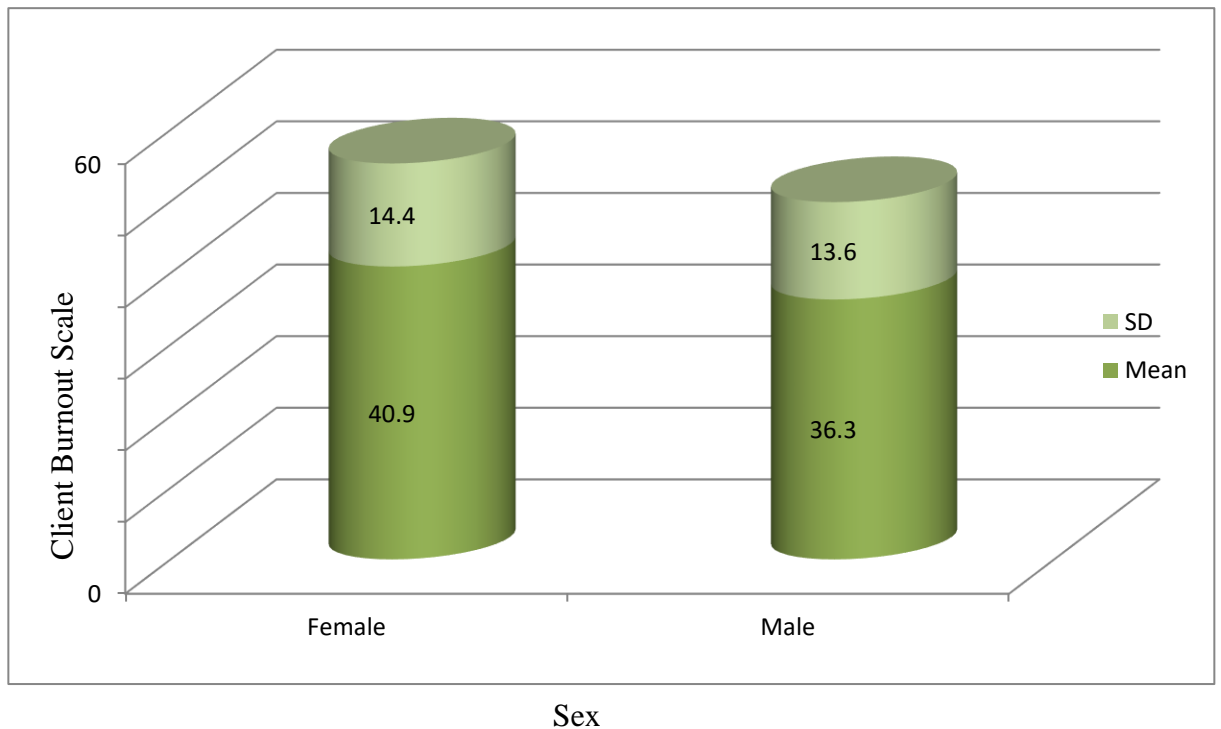


**4.12: Comparative levels of personal burnout between males and females at CCU, KNH**



**Figure 4.13: Comparative levels of work burnout between males and females at CCU, KNH**

Furthermore the same test did not show a significant client burnout between male and female respondents ( $p=0.187$ ) as shown (figure 4.14) by the means and standard deviations respectively ( $36.3 \pm 13.9$ ,  $40.9 \pm 14.4$ )



**Figure 4.14: Comparative levels of client burnout between males and females at CCU, KNH**

There was no significant difference in the levels of burnout between the males and females among the nurses at CCU Kenyatta National Hospital ( $p > 0.05$ ).

### **4.3: Factors contributing to burnout**

A bivariate correlation the Pearson chi-square was used to determine which of the demographic variable had a significant effect on the three scales of burnout (personal, work-related and client-related) Analysis was carried out to associate various

demographic characteristics and different levels of burnout by calculating the p-value and bivariate correlation.

#### **4.3.1: Age**

The study findings show that, there was a significant positive relationship between age and personal burnout ( $r=0.24$ ,  $p=0.04$ ) indicating that as a nurses' age increased their level of personal burnout increased (table 4.4)

#### **4.3.2: Marital status**

Similarly, a significant positive relationship was found among marital status and work burnout ( $r=0.24$ ,  $p=0.04$ ) client burnout ( $r=0.31$ ,  $p=0.01$ ). Whereby, the married respondents were more prone to burnout on the work and client subscale.

#### **4.3.3: Nursing qualifications.**

The study findings portray a positive correlation between nursing qualification and the three levels of CBI (Personal burnout, Work burnout & client burnout).

The Bivariate correlation/P-value for Personal burnout ( $r=0.31$   $p=0.01$ ,  $r =0.34$   $p=0.00$ ) work burnout ( $r =0.36$   $p =0.00$ ,  $r =0.31$   $p=0.01$ ) and client burnout ( $r =0.27$   $p =0.01$ ,  $r=0.26$   $p =0.02$ ) indicating a statistically significant positive correlation between factor and indicator. This means that the higher the nursing qualification the more likely one



was to develop burnout on the personal, work, client subscales of CBI in this sample of respondents.

#### **4.3.4 Years of Practice as a Nurse.**

Among the demographic variables experience as measured by years of practice as a nurse had the most significant correlation with burnout at all levels of the CBI (Personal burnout, Work burnout & client burnout). Suggesting that the more years a nurse had practiced the more they were prone to burnout. Age and the number of years in practice were strongly positively associated ( $r = 0.89$ ,  $p < 0.01$ ) indicating that older nurses are also likely to be more experienced

The Bivariate correlation/P-value for Personal burnout ( $r=0.31$   $p=0.01$ ,  $r =0.57$   $p=0.00$ ) work burnout ( $r =0.56$   $p =0.00$ ) and client burnout ( $r =0.23$   $p =0.04$ ,  $r=0.022$   $p =0.05$ ) indicating a statistically significant positive correlation between factor and indicator.

**Table 4.1: Bivariate correlations between demographic variables and burnout.**

Factors	Indicator	Bivariate correlation/ P-value	Comment
Age of respondent	How often are you physically exhausted?	r=0.24 p=0.04*	-Statistically significant positive correlation between factor and indicator. -Contributes to personal burnout
Marital status	Are you exhausted in the morning at the thought of another day at work?	r=0.33 p<0.01*	- Statistically significant positive correlation between factor and indicator. -Contributes to work burnout
	Do you find it frustrating to work with patients?	r=0.31 p=0.01*	- Statistically significant positive correlation between factor and indicator. -Contributes to client burnout
Nursing qualifications	How often are you physically exhausted	r=-0.31 p=0.01*	- Statistically significant positive correlation between factor and indicator. -Contributes to personal burnout
	How often do you think:"I can't take it anymore?"	r=-0.34 p=0.00*	- Statistically significant positive correlation between factor and indicator. -Contributes to personal burnout
	Are you exhausted in the morning at the thought of another day at work?	r=-0.36 p=0.00	- Statistically significant positive correlation between factor and indicator. -Contributes to work burnout
	Do you feel that every working hour is tiring for you?	r=-0.31 p=0.01	- Statistically significant positive correlation between factor and indicator. -Contributes to work burnout
	Do you find it hard to work with patients?	r=-0.27	- Statistically significant positive correlation between

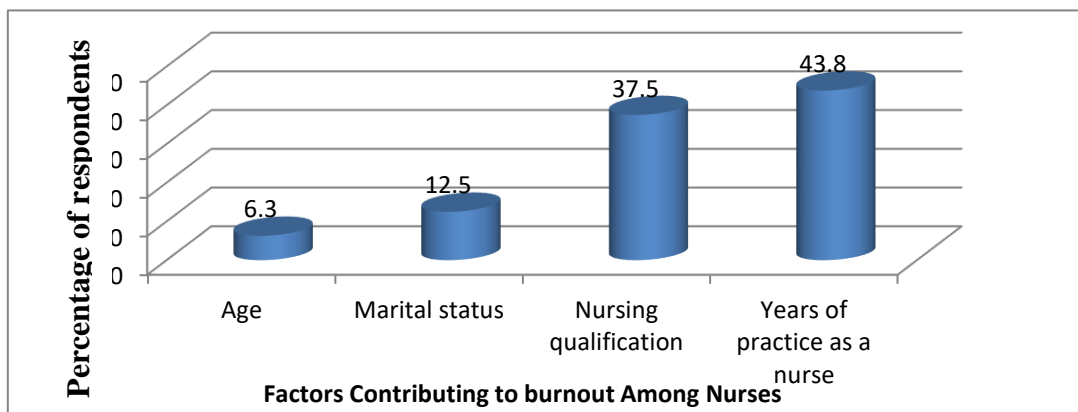
		p=0.01	factor and indicator. -Contributes to client burnout
	Do you sometimes wonder how long you will be able to continue working with patients?	r=-0.26 p=0.02	- Statistically significant positive correlation between factor and indicator. -Contributes to client burnout
Years of practice as a nurse	How often do you feel worn out?	r=0.31 p=0.01	- Statistically significant positive correlation between factor and indicator. -Contributes to personal burnout
	How often do you feel weak and susceptible to illness?	r=0.57 p=0.00	- Statistically significant positive correlation between factor and indicator. -Contributes to personal burnout
	is your work emotionally exhausting?	r=0.56 p=0.00	- Statistically significant positive correlation between factor and indicator. -Contributes to work burnout
	Do you feel burn out because of your work?	r=0.57 p=0.00	- Statistically significant positive correlation between factor and indicator. -Contributes to work burnout
	Does your work frustrate you?	r=0.57 p=0.00	- Statistically significant positive correlation between factor and indicator. -Contributes to work burnout
	Does it drain your energy to work with patients?	r=-0.23 p=0.04	- Statistically significant positive correlation between factor and indicator. -Contributes to client burnout
	Do you sometimes wonder how long you will be able to continue working with patients?	r=-0.22 p=0.05	- Statistically significant positive correlation between factor and indicator. -Contributes to client burnout

From these findings four factors were found to have statistically positive correlation with burnout among CCN's in KNH .These factors are age, years of practise as a nurse, marital status and nursing qualification.

**Table 4.5: Factors found to be associated with burnouts**

Factor	Personal burnout	Client burnout	Work burnout
Age	x		
Marital status	x	x	
Nursing qualification	x	x	x
Years of practice as a nurse	x	x	x

From the study findings ( Figure 4.15 shows these factors in percentages.) it was seen that years of practise as a nurse and nursing qualification contributed (43.8% ; 37.5 %) to burnout in general comparison to marital status (12.5 %) and age (12.5 %)



**Figure 4.15: Factors contributing to general burnout in among the respondents**

## CHAPTER FIVE

### 5.0 Discussion

#### 5.1 Socio-demographic characteristics of the respondents.

The Critical care Unit is a fascinating environment in which to work. It offers the fast paced high technology atmosphere of any Critical Care setting; the complexity of advanced nursing management; and the dynamics of interdisciplinary, collaborative model of practice. However, all of these elements combined contribute to a potentially stressful work environment. Prolonged stress translates into exhaustion and diminished interest in work, this is what burnout is, it's more disastrous than stress. Burnout saps the energy out of a person and is best avoided. The starting point is to be able to recognize events that often lead to burnout, followed by learning to avoid them.

There has been much research on burnout in nurses, presumably because of the intense nature of their contact with patients or clients (Demerouti *et al* 2000). A review of literature on burnout found that 17% of published studies used nurses as their sample group (Schaufeli and Enzmann, 1998). Individual studies conducted in different groups of nurses show variation in levels of burnout.

The findings of this study aimed at identifying the social demographic characteristics of the CCU nurse. The respondents' ages ranged from 27 to 50 years. From the results of this study, although 78% of the respondents gave their ages it can be concluded that majority of the nurses were aged between 30-40 years with a mean of 36.2( $\pm$ 5.02) years. This may be due to the fact that many nurses would have spent many years in school

and later acquired some general nursing experience before deployment to Critical Care which is a specialized Unit.

Globally different studies on nurses burnout have variation of ages but this study findings concurs with others in United Kingdom (Goodfellow *et al* 1997) whose study shows a mean age of 33.4 years, Greece (Tselebis *et al* 2001) where the average age was found to be  $34.7 \pm 5.5$  years, Finland where 70% were aged between 31-50 years (Koivula *et al* 2000). The mean age was much lower than that found in Australian nurses (Patrick and Lavery 2007) where the average age of registered nurses is 43.2 years.

A similar study on burnout in a Kenyan psychiatric Institution portrayed a similar age structure (Ndeti *et al* 2008) though the mean age was 40 years, however this study did not focus on nurses *per se* but on all health care workers.

In this study there was a major disparity between the number of males and females. Of the 98 respondents, 70% were female while 30 % were male .The findings from this study reveal a gender structure that is expected as female nurses are twice the number of male nurses. Traditionally career tracks for women were considered nursing and teaching. Men have sometimes hesitated joining the nursing field as it is often misconstrued as a career for women. Not surprising therefore to find that the Critical Care Unit has more female nurses than male nurses. The findings of this study concur with that of Spooner-Lane *et al* (2007) in Australia who found female nurses were more

than the male counterpart and Ndetei *et al* (2008) in Kenya where a great proportion of staff in a mental hospital (64.5%) were female.

The findings of this study showed that the majority 88.8% of the respondents were married, 8.8 % were single whereas 1.2 % were either separated or divorced contrasting a study in Japan University Hospital where 83.6 % were unmarried. This may be because in the African context society expects that at a certain age people get married. The 2008-09 Kenya Demographic and Health survey (KDHS) provides the median age at first marriage for women aged 25-49 years in Kenya as 20 years.

In regards to educational level the study revealed three quarters (76.3%) of the respondents were Kenya Registered Community Health Nurses, (11.3%) were Bachelor of Science in nursing degree holders while Kenya Registered Nurses were (7.5%) and the least (5.0%) were Kenya Registered Nurses /Midwives. The highest level of education was a bachelor of science in Nursing as none had a master's degree. The nurses in Critical Care Unit hold a minimum qualification of Diploma in Registered Nursing. Critical care nurses receive the same basic training as nurses in other nursing specialties; however there is a one year higher diploma in Critical Care nursing. Previously the trend was to have a basic diploma KRN then different one year higher diploma courses (KRM/ Community Health/Family Planning until the birth of KRCHN which is all inclusive) however the trend is changing with a number of nurses now pursuing Bachelor of Science in Nursing. The training institutions have recognized this

need and have come up with programs where nurses can work and attend school part time.

Nursing education in Kenya is growing gradually. It emerged that older nurses had basic professional qualification at KRN and KRN/M level as opposed to younger nurses who had KRCHN qualification. This was expected as KRCHN is a course that started in 1987 in KMTC and later other Nursing schools (Retrieved from <http://www.KMTC.ac.ke>) The respondents also had training in other areas like counselling, customer care, epidemiology and other short courses. It is not uncommon to find one with more than one course as the hospital partakes seminars/courses to its staff regularly. The CCU nurses have wide range of experience with majority (78.8 %) of the respondents having nursing for between 5-15 years as compared to 13.8 (14) who had over 15 years nursing experience. Only 3.8 % ( 4 respondents) had an experience of 1-4 years and 3.8% (4) of the respondents didn't fill in the question.

The findings of this study reflected in the difference between years of experience in general nursing versus years of experience in Critical Care Unit. While majority (78.8%) of the respondents had practiced nursing for between 5-15 years, only (15.1%) had worked in CCU for over 10 years. This may mean that the respondents had probably worked in other departments before ICN training and subsequent deployment to CCU.



Findings revealed that the respondents had been actively engaged in pursuit of further education 40% having more than 10 days spent in acquisition of further education, while 26.25% had 1- 5days, and 8.75% more than 10 days. This shows a culture of continuous medical education exists. A study on burnout among nursing staff in two Finnish hospitals suggested that Continuous professional education is related to lower levels of burnout if it lasts for more than 10 days over a period of 2 years (Kouivula *et al* 2000).

From the results of this study, nurses at the CCU in KNH have a wide variation of experience and hold different positions in the Unit. More than half (60.1%) of the respondents had a critical care experience of between 1-4 years, while another 21.3 % had experience of between 1-4 years. A minority 15.1 % had worked in critical care unit for over 10 years and 3.8 % none response. Although training in ICN is not mandatory to work in CCU, majority of the respondents (71.3%) were ICN trained.

Like most civil service jobs in Kenya, most employees in Kenyatta National Hospital are permanent and pensionable terms until they attain the retirement age (so long as there is no gross violation of employment terms) and thus it's not unusual to find employees working in the same hospital for several years (KNH 2008).

## **5.2 level of burnout among the respondents**

The average of number of hours the respondents worked per week was reported to be 39.7 (  $\pm 3.1$ ) hours, with the maximum number of hours worked being 50 (  $\pm 3.1$ ) and minimum 30 (  $\pm 3.1$ ) hours. It is generally accepted that the number of working hours

/week should be 40. The least number of hours worked was 30 and the maximum 50 hours. In contrast in Australia, the number of hours worked for nurse in a study by Spooner- lane *et al* (2004) was 32.17(SD 10.64) hours. However the large standard deviation in the Australian study indicates that the numbers of hours are spread out over a large range of values meaning the nurses working hours in Australia may vary unlike the current study whose standard deviation is small.

The number of hours worked per week as a nurse was significantly associated with emotional exhaustion and depersonalization (Patrick and Lavery, 2007) indicating that working longer hours was associated with higher levels of emotional exhaustion and depersonalization as burnout components.

In this study night shift and morning shift was reported to be the most stressing by 72.5% and 51.3% of the respondents the respondents respectively. A small number 2.5% found straight duties (office hours 7.30am-4.30 pm) stressing. In United Kingdom, a study showed that prolonged shift work especially night shift work, also have a health risk as it produces symptoms that correspond closely to those of mild or moderate distress (MC Vicar, 2002).Nurses must recognize and become attuned to responses as feelings of being overwhelmed, fatigue, angry outburst, physical illness and increases on coffee drinking, smoking, or substance abuse.

The most common nurse: patient according to the respondents in this study was one nurse to two patients 1:2 as reported by 85 % of the respondents. The WHO recommended nurse: patient ratio in critical care unit is 1:1. According to the KNH strategic plan 2008-12 the hospital has a shortfall of 230 nurses (KNH 2008). There may be a relationship between the ratio of number of patient per nurse in CCU and burnout in that when nurses get overloaded with patients they may become dissatisfied with their job and thus it may promote burnout. In fact a similar study in urban hospitals across United States on nurse burnout and patient satisfaction agrees with this argument and illustrated empirical evidence that as nurse workload increase, nurse burnout and job dissatisfaction become greater factors in the voluntary turnover (Vahey *et al* 2004).

Over 81.3 % (79) of the respondents had not taken any sick –offs in the three months preceding the study, this is inconsistent with the notion that burnout leads to increase number of sick leave as it affects the physical and mental health of the nurse and may carry costs for the employing organization through absenteeism, staff conflict and rapid turnover (Maslach 1976). Therefore with the level of burnout exhibited in this sample of nurses it would be expected that more respondents would have taken sick –offs days. This discrepancy may also be due to recall bias or probably three months was not enough to fully comprehend about the relationship between burnout and sick offs. The findings of this study disagree with a Danish study in which burnout was prospectively

associated with both sickness days and sickness absence spells per year. (Borritz *et al* 2006)

In regards to burnout level, the accepted definition of high burnout is a score of > 50 on the CBI ( Kristensen *et al* 2004) and low burnout as scoring < 50. The findings of this study showed this sample of nurses (n=98) to have high level of personal burnout with a score of 53.7 (  $\pm 9.4$ )out of a possible range of 0 to 100 with a high score indicative of a higher level of personal burnout.. Data revealed this sample of nurses reported high burnout in the personal burnout scale 53.7and low burnout on the work and client – related burnout subscale (47.5, 47.9 respectively).The means and standard deviations of scores recorded on the three CBI subscales and the corresponding scores from PUMA revealed that the Critical care nurse have higher levels of burnout than normative data from which the CBI was developed.

The findings from the current study suggest accordingly, the score of the participants experiencing burnout in the present study are as follows: personal burnout (N=98) 53.7 compared to a normative data of (PUMA 35.9).The mean for total client-burnout was 47.9 (  $\pm 8.2$ )compared to normative mean (PUMA 29.9 $\pm$ 17.9)while work-related burnout in this sample (n=98) was 47.5 (PUMA 33.0 $\pm$ 17.7), Similarly the p-value was statistically significant on all the three subscale indicating that the CCU nurses had higher burnout level than the PUMA. These disparities may be due to differences in settings or study population as the tool was not developed for nurses *per se*.

The highest level and incidence of burnout for this sample was noted in the burnout dimension of personal burnout. Suggesting that the general symptoms of physical or mental exhaustion experienced were total ways related to a given particular situation in the work environment but private and family related. It would be expected that perhaps nurses would experience higher client burnout due to the amount of time they spend in direct patient care contact. The levels of burnout recorded by nurses in this study indicate higher levels of burnout on the personal subscale and relatively lower levels for work and client burnout compared with the results from PUMA from which CBI was developed.

The CBI score is also higher than that found in Indian Christian Doctors where the personal burnout was 34.3%, work burnout 10.2% ,client related 9.3 % (Phillips 2004) the difference could be explainable due to specificity of work may make these two studies not comparable. Nurses, more than any other health care professional, spend more time in direct one-on-one contact with patients and their families and often dealing with emotional extremes within and between patient situations. Additionally, due to longer and more frequent shifts, secondary to the current nursing shortage, nurses have less time for self-care and “down time” between working hours. This leads to physical, as well as emotional, exhaustion.

From the findings of a study on staff stress on the intensive care unit comparing Doctors and nurses in the United Kingdom (Goodfellow *et al* 1997) suggested nursing staff have

different sources of stress from medical staff. In that study nursing staff were found to experience greater stress than medical staff relating to career and achievements and organizational design and structure. Goodfellow *et al* (1997) argue that doctors have traditionally had more autonomy within the health service and more career options.

The findings from this study are similar to those in University Hospitals in Japan in which the CBI was used personal burnout was 54.5, work burnout 50.4 and client burnout 33.8 (Shimizutani *et al* 2008). The similarity lie in the study population as the sample size was drawn from nurses and unlike many studies on burnout CBI was used as the tool to measure burnout. From the findings of this study and the Japan study the levels of burnout were close with higher levels of personal burnout subscale and lower levels on the client burnout.

On the levels of burnout, the findings of the current study, that on Christian Indian doctors (Phillips 2004) and University Hospital Nurses in Japan (Shimizutani *et al* 2008) it is evidence that client burnout level was lowest and the personal burnout highest suggesting that the source of burnout was private or family related and not stressors at work or tensions with caring for patients. This could be attributed to ethics as human service providers such as nurses tend to have strong ethical views and believe that they need to faithfully respond to patients' demands.

Most studies on burnout in nursing and other professionals use Maslach Burnout Inventory (MBI) as the tool for measuring burnout. Patrick and Lavery (2007) studied

registered nurses in Australia and concluded that examination of the means experienced lower depersonalization and higher personal accomplishment a sentiment shared by Spooner lane and Patton (2007) where nurses working in Australian public hospitals reporting moderate levels of burnout (emotional exhaustion, depersonalization and reduced personal accomplishment) since MBI was used in the Australian studies while the current study CBI was used the studies are not comparable.

The average value for burnout on the scales for personal burnout and work-related burnout in this study were much higher than the values of care providing personnel in Canada (Bourbonnais *et al* 2006) as well as among white-collar office workers in China (Yeh *et al* 2007) dentist in Australia (Winwood and Winefield 2004) and employees in human service work in Denmark (Borritz *et al* 2006). These differences maybe because Kenya and other countries may differ regarding factors associated with burnout syndrome. CCU nurses may also be differ from office workers, dentists, human service workers as CCN, by duty, have to act quickly and effectively and hence are more prone to professional burnout. Furthermore patients are heavily dependent on nurses in taking care of them and providing them with reassurance of their recuperation.

A study on burnout in staff working at Mathari Hospital found high levels of burnout (Ndeti *et al* 2008). Although the tool used was MBI; it suggested that health care workers in Kenya are prone to burnout. This study was different from the current study

in that it focused on all clinical staff (Doctors, nurses and pharmacist) and non clinical staff (support staff) and used MBI as the tool for measuring burnout levels.

The findings of Murungi *et al* (2008) on the prevalence of burnout and its health effects among academic staff at KMTC, Nairobi campus found all lectures to have burnout syndrome. In this study 61.5% of the lectures had high burnout and 34.9% were found to have average levels of burnout syndrome. Unlike the current study which used nurses as the study population Murungi *et al* (2008) studied all lectures in all faculties of KMTC.

Inadequate resources, shortage of staff, poor prognosis of patients, and lack of motivation were listed to be the chief causes of stress in the unit. Critical care Units are inherently filled with stress. It is not uncommon that repeated striving to meet the demands of patients causes conflicts among the other multiple roles expected of nurses. It seems likely that exposure to this type of stress can induce client-related burnout among nurses (Shimizutani *et al* 2008). Other contextual factors that have been identified as influencing nurses' ability to provide quality patient and family care include nurse staffing ratios, nurse-physician collaboration, the type of critical care and unit culture.

### **5.3 Factors associated with burnout among the respondents**

The data shows that while burnout is a reality among Critical care Nurse in Kenya, it is not inconsistent with the findings of similar studies. However, participants have reported a disproportionate degree of personal burnout compared with work and patient



burnout. It may indicate that the causes of burnout may lie outside the realms of physical and psychological exhaustion related to work in general or work with patients (treating, negotiating payments, etc) and may be related to factors that lie outside the hospital setting.

One of the most intriguing finding in this study was the relationship between burnout and nurses' sex. It would have been expected that females with combined demands at home and work life affect their level of stress. (Krantz *et al* 2005). In this study however, There was no significant different ( $p>0.05$ ) in the levels of burnout between the males and females among the nurses at CCU, Kenyatta National Hospital. Furthermore a number of studies have reported a positive association between stressors and burnout in hospice and critical care nurses Mallett *et al.* (1991)

It would be hypothesized that women would have higher levels of burnout as sex differences in burnout may also reflect gender role. According to Kinnunen *et al* (2006) women are more often responsible for domestic duties than men so it would be expected the female nurses would have higher levels of burnout at least on the personal domain as it would relate to private life and their family. Women continue to juggle multiple roles including those roles related to home and family, for which the women may have sole or major responsibility especially in the African context. Women are still on average more responsible for domestic duties than men (Ahola *et al* 2008).

In India a study on Christian Health Care Professionals showed Female doctors indicated marginally higher personal and patient burnout than men, while work burnout was virtually the same for both male and female doctors (Phillips 2004). The disparity may be because female doctors may have pressure to perform in a male dominated field unlike nursing which is largely a woman career.

Pearson correlations were used to investigate the association between personal burnout, work burnout, client-related burnout with individual and work characteristics. From the findings of bivariate analysis of this study, results on selected demographic variables that included the nurses' age, marital status, nursing qualification and years of practice were found to have significant association with burnout.

The study findings show that, there was a significant positive relationship between age and personal burnout ( $r=0.24$ ,  $p=0.04$ ) indicating that as a nurses' age increased their level of personal burnout increased. Personal burnout is the degree of general symptoms of physical and psychological exhaustion not always related to a particular situation in the work environment.

The findings of the current study are contrary to other studies that link young age to burnout. Scientific studies have consistently linked the construct of burnout with age with different researchers having variations on association of age with burnout. Globally, similar studies on health professional have suggested different findings (Ahola 2008). In Australia, a study in public hospitals found younger nurses and nurses working full time were particularly vulnerable to burnout (Spooner-Lane & Patton 2004)

According to Koivula *et al* (2000) in Finland, nurses' burnout is related to age, vocational education and work experience. In India; a study on burnout found younger Doctors indicated higher burnout than older doctors (Phillip 2004). A recent study in Kenya found a significant positive correlation between younger age and burnout (Ndeti *et al* 2008), the study was in psychiatric hospital and the study population was the clinical and non clinical staff as well. It would have been expected that in the current study age would be negatively associated with burnout. It would have been assumed that older nurses who are more experienced than younger nurses are likely to have previously experienced most work scenarios thereby understanding and managing problematic or ambiguous work situations with greater confidence and certainty thus suffer less burnout.

From this study it may indicate that age as a factor in burnout in KNH Critical Care Nurses may lie outside the realms of physical and psychological exhaustion related to work in general or work with patients. The growing demands for learning and flexibility in a critical care Units may particularly tax the aging nurse who on average tend to have less education than younger nurses. Such an environment that offers the fast paced high technology atmosphere as well as the complexity of advanced nursing management may provide stressing situations for older nurses.

The current study is different in that it is based in Critical care Unit a setting that is different from other departments. These variations highlight the importance of

investigating individual groups to determine their level of burnout because generalizations are not always possible due to differences in the job or workplace.

From the results of this study, a significant positive relationship was found among marital status and work burnout ( $r=0.24$ ,  $p=0.04$ ) client burnout ( $r=0.31$ ,  $p=0.01$ ). From demographic data the majority 88.8 % of the respondents were married. Within the Kenyan socio-culture it is the norm for a working person to financially support the extended family, thus the married person is more likely to have more pressure from both sides of the family unlike the single person. On the other hand, the single person is more likely to be younger a factor that was found to reduce burnout.

Within the Kenyan socio-culture it is the norm for a working person to financially support the extended family, thus the married person is more likely to have more pressure from both sides of the family unlike the single person the effects of both work and non work stress among nurses have been studied frequently(Jennings 1990) . Contradictory findings from the United Kingdom by Goodfellow *et al* (1997) found individuals with partners are relatively protected from stress .However that study was carried out more than ten years ago and things could have changed since then. The findings from this study are consistent with a similar study in KMTC by Murungi *et al* (2008) whose findings suggests that married lecturers suffered more burnout than single lecturers.

The study findings portray a positive correlation between Nursing Qualification and the three levels of CBI (Personal burnout, Work burnout & client burnout) indicating a statistically significant positive correlation between factor and indicator.

Among the demographic variables experience as measured by years of practice as a nurse had the most significant correlation with burnout at all levels (Personal burnout, Work burnout & client burnout) indicating a statistically significant positive correlation between factor and indicator. It would have been expected from this study that less experienced nurses are likely to experience work burnout due to the emotional demands of new and unexpected work situations. Because burnout takes time to develop (Schaufeli and Enzmann 1998, Maslach *et al* 2001) at the final stages of one's career it may reflect the accumulated effects of prolonged work stress. The growing demands for learning and flexibility in today's continuously changing work life may particularly tax aging workers who on average, tend to have less education than younger workers.

In Finnish hospitals, Koivula *et al* (2000) reported that the last stages of career, lack the possibility to learn things and develop one since possibilities for professional education have been exhausted. Thus with the high tech equipments in the Critical care the more experienced nurse is likely to have burnout than the less experienced. Although the Finnish study carried out in nursing staff in two Finnish hospitals used a different tool for measuring burnout –Paunonen's instrument the findings are consistent with those in

the current study, where staff with short work experience in nursing experience had lower levels of burnout (Koivula *et al*, 2000).

The findings of this study have been corroborated by two other studies in Kenya. A study in KNH by Kokonya *et al* (2008), found working in KNH for more than 10 years as a risk factor to burnout among medical workers. The other by Ndetei *et al* (2008) in Mathari psychiatric hospital where a greater number of years worked was significantly associated with burnout among clinical and non clinical staff.

The correlation found between the three subscales of CBI and various demographic variables may explain the determinants of burnout in the Critical care. The findings have been corroborated by other researchers. In India, Phillip (2004) found that age, hours of work and denomination as having significant effect on burnout on Christian Doctors. In Finland, Koivula *et al* (2000) found that personal resource variables having an influence on staff burnout were age, vocational education and years of experience among the nursing staff in two hospitals. In Japan, age, quantitative workload, qualitative workload, conflict with patients, nursing role conflict and conflict with physician was associated with burnout (Shimizutani *et al* 2008) among nurses in University hospitals. Fagin argues that increased burnout was related to workload, understaffing, job insecurity and low morale (Mirvis *et al* 1999). Similarly, the findings by Ndetei *et al* (2008) in Kenya concluded that several work and non work –related factors including young age , number of own children, number of years worked ,heavy

workload, and low morale were positively associated with various syndromes of burnout.

Shortage of staff was reported as one aspect of working in Critical Care that frustrated CCN. According to the KNH strategic plan the hospital has a shortfall of 231 nurses (KNH 2008-2012) This may suggest that the patient: staff ratio was relatively high and may create a situation where staffs feel overloaded with work. It was likely that the more the number of patient one had to attend to, the more the burnout experience due to emotional drain. This finding is similar to the findings of Gabbe *et al* (2000) who reported an association between burnout and self reported workload.

Excessive workloads, long working hours, frequent exposure to the dying process of inpatients, lack of personal motivation and misguided career expectations, among other factors have been seen as causes of nurses' burnout in Greece. (Tselebis *et al.*, 2007). Due to numerous factors, including inadequate staffing ,critically ill patients , high patient loads and lack of support from administration, nurses begin a career they love only to develop exhaustion, cynicism and inability to provide adequate care to their patients. Previous findings suggested that burnout can lead to deterioration in the quality of care or service provided by the staff. It appears to be a factor in job turnover, absenteeism, and low morale (Murungi *et al* 2008, Ndeti *et al* 2008).

Furthermore, burnout seems to be correlated with various self-reported indexes of personal dysfunction, including physical exhaustion, insomnia, increased use of alcohol and drugs, and marital and family problems (Shimizutani *et al* 2008 & Tselebis *et al*, 2001). Garrett and McDaniel (2001) in their study in Indiana-USA concluded that a nurse's perception of the environment is more a function of personality than education or experience. Conscience and commitment were of the most prominent characteristics that modified nurses' responses to burnout, and were related to the caring behavior. While this is true, when the respondents were asked how long they would like to work in the current ward, nearly half (53.8 %) answered 1-5 years. 15.1 % would like to work in the ward for over 10 years while 11.3 % up-to retirement age, however 7.5 % wanted a changeover from CCU within the year. This may be suggestive that the majority of CCN's were comfortable to maintain the status quos while only 7.5% wanted a change from the current ward.

From a practical point of view, burnout syndrome is a considerable primary burden of nursing staff who are entrapped in a displeasing condition, and of hospital administrators who face the risk of low-level functioning within their domain of responsibility. The study of burnout is an expanding field and the comprehension of burnout demands the implementation of further studies.

The findings highlight the importance of burnout in the personnel of the Critical Care Unit. Nurses must first recognize their stress and become attuned to their responses as



feelings of being overwhelmed, fatigue, angry, outburst, and physical illness. Once attuned to stress and personal reaction it is necessary to identify which situations produce the most pronounced reactions so that steps may be taken to prevent developing burnout. Consequently it would be advisable to put into action measures in order to prevent this syndrome by considering that some stress factors such as working in an emergency and the clinical gravity of the sick are basic elements that are unchangeable in this department.

## **CHAPTER SIX**

### **6.0 Conclusion and Recommendation**

#### **6.1 Conclusion**

The research findings found significant relationship between some socio- demographic factors and burnout thus the null hypothesis “There is no relationship between CCN’s social demographic factors and burnout” is rejected. The alternative is therefore adopted .The study findings identified four socio-demographic factors ; age, marital status, nursing qualification, and nursing experience to be significantly related to burnout on various subscales of CBI. The correlations found between the three subscales of CBI and various demographic variables may explain the determinants of burnout in the Critical Care Unit.

The CCN is most likely married female with a mean age of 36.2 years, holds a minimum professional qualification of diploma in Nursing (KRN/KRCHN) and a maximum of degree in nursing (BScN) with almost three quarter of the nurses (71.3%) having specialization in Intensive care nursing course. More than half of the CCN had critical care experience of between 1-4 years experience and general nursing experience of between 5-15 years.

The level of burnout as per the CBI among the CCNs’ was high (53.7) on personal burnout subscale, low level on work burnout (47.5) and client- related (47.9). Age,

marital status, years of experience, and Nursing qualification had a significant positive correlation with burnout. In this regard, older nurses seemed to experience more burnout than younger nurses on the personal burnout subscale. Married nurses were prone to burnout on the work and client subscales while Nurses' professional qualification was positively associated with burnout with the more qualified experiencing higher levels of burnout. Burnout among the male and female nurses on the personal, work and client burnout was not statically significant.

## **6.2 Recommendations**

In order to reduce burnout in the critical care unit, the Hospital administration need to create the possibility of a rotation of work between the Critical Care Unit and other departments to break the cycle of constant stress on the nurses.

Nursing management should encourage and support the Critical care Nurses by continuous medical education especially to the older nurses.

Married nurses in CCU need to improve the level of interaction, communication and have a support system in the unit to enhance the job satisfaction and reduce burnout.

The Nursing council through the training institutions should include the study of burnout in the nursing curriculum.

More research needs to be done preferably a longitudinal study over a long period of time as the current study is limited by the use of cross-sectional, self-reported survey, no

firm conclusion can be made with regards to causation. This is generally because causation cannot be established in cross-sectional studies and effect estimates might be inflated by the simultaneous assessment of predictor and outcome.

Therefore, longitudinal research on burnout in Critical Care Unit is needed in order to better understand the relationship between the different variables and burnout.

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## LIST OF APPENDICES

### APPENDIX A: COPENHAGEN BURNOUT INVENTORY

CBI is an 18 item questionnaire, designed to measure burnout at three levels: personal, work with total and client. These independent subscales seek to identify stress/burnout according to the domain from which it arises.

<b>Personal burnout &amp; work burnout</b>	<b>Always 100</b>	<b>Often 75</b>	<b>Sometime 50</b>	<b>Seldom 25</b>	<b>Almost /Never 0</b>
Do you feel tired?					
How often are you physically exhausted?					
How often are you emotionally exhausted?					
How often do you think I can't take it anymore?					
How often do you feel worn out?					
How often do you feel weak and susceptible to illness?					
Is your work emotionally exhausting?					
Do you feel burnout because of your work?					

Does your work frustrate you?					
Do you feel worn out at the end of the working day?					
Are you exhausted in the morning at the thought of another day at work?					
Do you feel that every working hour is tiring for you?					
Are you exhausted in the morning at the thought of another day at work?					
Do you feel that every working hour is tiring for you?					

<b>Client burnout</b>	<b>Very High Degree 0</b>	<b>High Degree 25</b>	<b>Somewhat 50</b>	<b>Low Degree 100</b>
Do you find it hard to work with patients?				
Do you find it frustrating to work with patients?				
Does it drain your energy to work with patients?				
Do you feel that you give more than you get back when you work with patients?				
Do you feel tired?				
Do you sometimes wonder how long you will be able to continue working with patients?				
Do you find your work emotionally exhausting?				
Do you find it difficult to work with clients				

## **APPENDIX B: INFORMED CONSENT EXPLANATION AND CONSENT FORM**

### **PROJECT TITLE: BURNOUT SYNDROME AMONG CRITICAL CARE NURSES IN KNH**

#### **Introduction**

My name is Mwenda Sarah Gacheri, a Master of Science in Public Health degree student at Jomo Kenyatta University of Agriculture and Technology (JKUAT). We are working with my colleagues on the project named above. We would like to collect information regarding burnout syndrome and the associated factors among nurses.

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

You are vulnerable to burnout syndrome due to the nature of your work. This study aims to determine your level of burnout and the various factors that could be associated with it.

#### **Procedure**

If you agree to participate in this study by signing the section at the end of this form, a self administered questionnaire regarding burnout (Copenhagen Burnout Inventory) which measures burnout on three scales: personal burnout, work related, client related and another for collecting demographic data will be used

**Precautions**

There are no risk factors involved in this study however the some participants may become anxious on filling the questionnaire.

**Benefits**

The findings will be used to enlighten you and the hospital administration on the burnout phenomena and lay grounds for further studies in the field.

**Confidentiality of the records**

Any records relating to your personal information will be maintained in confidence. Your names will not appear in any of the reports from this study. No identity of any specific individual will be disclosed in any public reports or publications.

**Obtaining additional information**

You are encouraged to ask any questions to clarify any issues at any time or ask questions at any time during your participation in the study. If you later think you need more information you may call

Sarah Mwenda: 0722 678 783

Email: sarmwenda @ yahoo.com



Any concerns or questions regarding the study that you would like to talk to any other person other than the researcher, you are encouraged to contact:

Director ITROMID

P.O. Box 62000-00200

[itromid@nairobi.mincom.net](mailto:itromid@nairobi.mincom.net)

OR

The secretary,

KEMRI, National Ethical Review Committee

P.O. Box 59840-00200

Nairobi.

Tel: 0722-205901

[info@kemri.org](mailto:info@kemri.org)

OR

The chairperson,

KNH/UON research and Ethics committee,

P.O Box 20723,

Nairobi.

Tel: 726300-9

[KNHplan@Ken.Healthnet.org](mailto:KNHplan@Ken.Healthnet.org)

**Basic of Participation**

- You are being requested to participate in this study.
- Participation is entirely voluntary.
- You are free to withdraw the consent to participate in this study at any time and free to decline answering any question you don't want to.
- You are free to ask any questions concerning the study which may not be clear to you after the consent had been explained to you.
- Information given here is confidential and will not be linked to the questionnaire.

**Signatures**

I, the undersigned having read and understood the above information voluntarily consent to participate in this study. I have had the opportunity to ask questions and all of my questions have been answered satisfactorily.

**Name of Respondent .....** **Date.....**

**Signature.....**

## **APPENDIX C: QUESTIONNAIRE FOR NURSES**

### **Instructions:**

1. The purpose of this questionnaire is to obtain information for study purposes only.
2. Do not write your name or any other identification anywhere on the questionnaire
3. The questionnaire has three sections. Please answer the questions as accurately and completely as you can, regardless of how satisfied or dissatisfied you are with conditions at work.
4. Put the filled in questionnaire in the given envelope and seal it. Hand it over to the researcher or the research assistant.

### **THANK YOU FOR YOUR PARTICIPATION IN THIS STUDY**

#### **Section A: Demographic factors**

**Respond by circling (O) or ticking (✓) the most appropriate responses**

1. Please indicate your Gender:
  - a) Female
  - b) Male
2. Indicate your age in completed years
3. State your marital status
  - a) Single
  - b) Married

- c) Divorced
- d) Separated
- e) Widowed

**Section B: Professional information**

4. Indicate your nursing qualifications:

- a) KRN
- b) KRN/M
- c) KRCHN
- d) BScN
- e) MScN (specify area of specialization).....

4(b) what other courses have you undertaken to improve on your work performance?

.....

.....

.....

5. During past 2 years, how many days have you acquire further education?

- a) None
- b) 1-5 days
- c) 6-10 days
- d) More than 10 days

6. What is your level of appointment (Your designation) in this unit?

- a) SNO
- b) NO 1
- c) NO 11
- d) NO 111
- e) Other (Specify).....

7. How many years have you practiced as a nurse?

- a. Below 1 year
- b. 1 – 4 years
- c. 5 – 9 year
- d. 10 - 15 years
- e. Over 15 years

8. For how long have you worked in the current ward?

- a. Below 1 year
- b. 1 – 4 years
- c. 5 – 9 years
- d. 10 - 15 years
- e. Over 15 years

9. Which Nursing care modality do you practice in this unit?

- a) Primary Nursing
- b) Team Nursing
- c) Functional Nursing
- d) Case assignment
- e) A mixture of primary & team Nursing
- f) A mixture of primary & functional Nursing
- g) Other (Specify).....

10. What is the common Nurse-Patient ratio in this unit?

- a) 1:1
- b) 1:2
- c) 1:3
- d) 2:3
- e) 2:4
- f) 3:2
- g) Other (Specify).....

11. How many hours do you work / week?

.....

.....

**Kindly tick/circle the answer that best suits you.**

**Part 1**

1. How often do you feel tired?

- a) Always
- b) Often
- c) Sometimes
- d) Seldom
- e) never/almost never

2. How often are you physically exhausted?

- a) Always
- b) Often
- c) Sometimes
- d) Seldom
- e) never/almost never

2b) besides working in this unit do you work in other departments, clinics or hospitals?

- a) Yes
- b) No

if yes, specify

.....

.....  
.....  
3. How often are you emotionally exhausted?

- a) Always
- b) Often
- c) Sometimes
- d) Seldom
- e) never/almost never

4. How often do you think: “I can’t take it anymore?”

- a) Always
- b) Often
- c) Sometimes
- d) Seldom
- e) never/almost never

5. How often do you feel worn out?

- a) Always
- b) Often
- c) Sometimes
- d) Seldom
- e) never/almost never

6. How often do you feel weak and susceptible to illness?



- a) Always
- b) Often
- c) Sometimes
- d) Seldom
- e) never/almost never

7. Over the last 3 months how many days sick-offs have you taken?

.....

## **Part 2**

1. Is your work emotionally exhausting?

- a) To a very high degree
- b) To a high degree
- c) Somewhat
- d) To a low degree
- e) To a very low degree

2. Do you feel burn out because of your work?

- a) To a very high degree
- b) To a high degree
- c) Somewhat
- d) To a low degree
- e) To a very low degree

3. Does your work frustrate you?

- a) To a very high degree
- b) To a high degree
- c) Somewhat
- d) To a low degree
- e) To a very low degree

3b. which aspects of you work as a nurse frustrates you?

.....

.....

.....

4. Do you feel worn out at the end of the working day?

- a) Always
- b) Often
- c) Sometimes
- d) Seldom
- e) never/almost never

5. Are you exhausted in the morning at the thought of another day at work?

- a) Always
- b) Often
- c) Sometimes
- d) Seldom

e) never/almost never

6. Do you feel that every working hour is tiring for you?

a) Always

b) Often

c) Sometimes

d) Seldom

e) never/almost never

6b. What shift is particularly tiring for you?

.....  
.....  
.....

7. Do you have enough energy for family and friends during leisure time?

a) Always

b) Often

c) Sometimes

d) Seldom

e) never/almost never

7b) what leisure time activities do you enjoy?

.....  
.....

### **Part 3**

1. Do you find it hard to work with patients?
  - a) To a very high degree
  - b) To a high degree
  - c) Somewhat
  - d) To a low degree
  - e) To a very low degree
  
2. Do you find it frustrating to work with patients?
  - a) To a very high degree
  - b) To a high degree
  - c) Somewhat
  - d) To a low degree
  - e) To a very low degree
  
3. Does it drain your energy to work with patients?
  - a) To a very high degree
  - b) To a high degree
  - c) Somewhat
  - d) To a low degree
  - e) To a very low degree
  
4. Do you feel that you give more than you get back when you work with patient?
  - a) To a very high degree

- b) To a high degree
- c) Somewhat
- d) To a low degree
- e) To a very low degree

5. Are you tired of working with patient?

- a) Always
- b) Often
- c) Sometimes
- d) Seldom
- e) never/almost never

5b) how many more years would you like to work in current

ward?.....

.....

.....6.Do

you sometimes wonder how long you will be able to continue working with patients.

- a) Always
- b) Often
- c) Sometimes
- d) Seldom
- e) never/almost never

**APPENDIX D: Comparative levels of burnout between the two studies  
(KNH CCU& PUMA)**

The means, standard deviations of scores recorded on the three CBI subscales and the corresponding scores from PUMA, and p –values are reported in Table 4.3

**Table 4.3: Comparative levels of burnout between the two studies (KNH CCU& PUMA)**

	<b>CCU</b> N = 98	<b>PUMA</b> N = 1914	<b>P – value</b>
<b>Burnout (Total)</b>	Mean ± SD	Mean ± SD	P< 0.0001
Personal	53.7 ± 9.4	35.7 ± 16.5	P< 0.0001
Work	47.5 ± 11.8	33 ± 17.7	P< 0.0001
Client	47.9 ± 8.2	29.9 ± 17.9	P< 0.0001
<b>Female</b>			
Personal	54 ± 9.7	36.7 ± 16.4	P< 0.0001
Work	48.1 ± 13.1	33.3 ± 18.1	P< 0.0001
Client	40.9 ± 14.4	29 ± 17.5	P< 0.0001
<b>Male</b>			
Personal	54.2 ± 10.1	30.7 ± 16	P< 0.0001
Work	46.6 ± 9.9	31.3 ± 15.7	P< 0.0001
Client	36.3 ± 13.6	34.1 ± 19.1	P = 0.4713

**Table 4.6: Comparative levels of burnout between the males and females at KNH - CCU**

<b>Burnout</b>	<b>Female</b> <b>N = 69</b>	<b>Male</b> <b>N = 29</b>	<b>P – value</b>
	Mean ± SD	Mean ± SD	
Personal	54 ± 9.7	54.2 ± 10.1	P = 0.9337
Work	48.1 ± 13.1	46.6 ± 9.9	P = 0.6170
Client	40.9 ± 14.4	36.3 ± 13.6	P = 0.1872

## APPENDIX E: APPROVAL LETTER FROM KNH ETHICS AND RESEARCH COMMITTEE



**KENYATTA NATIONAL HOSPITAL**  
Hospital Rd. along, Ngong Rd.  
P.O. Box 20723, Nairobi.  
Tel: 726300-9  
Fax: 725272  
Telegrams: MEDSUP, Nairobi.  
Email: [KNHplan@Ken.Healthnet.org](mailto:KNHplan@Ken.Healthnet.org)

Ref: KNH-ERC/ A/411

19<sup>th</sup> February 2010

Mwenda Gacheri Sarah  
INTROMID  
JKUAT

Dear Gacheri

**RESEARCH PROPOSAL: "BURNOUT SYNDROME AMONG CRITICAL CARE NURSES IN  
KENYATTA NATIONAL HOSPITAL"** (P323/11/2009)

This is to inform you that the KNH/UON-Ethics & Research Committee has reviewed and **approved** your above revised research proposal for the period 19<sup>th</sup> February 2010 – 18<sup>th</sup> February 2011.

You will be required to request for a renewal of the approval if you intend to continue with the study beyond the **deadline** given. Clearance for export of biological specimens must also be obtained from KNH/UON-Ethics & Research Committee for each batch.

On behalf of the Committee, I wish you a fruitful research and look forward to receiving a summary of the research findings upon completion of the study.

This information will form part of the data base that will be consulted in future when processing related research study so as to minimize chances of study duplication.

Yours sincerely

  
**DR. L. W. MUCHIRI**  
**AG. SECRETARY, KNH/UON-ERC**

c.c. Prof. K. M. Bhatt, Chairperson, KNH/UON-ERC  
The Deputy Director CS, KNH  
The HOD, Records, KNH  
Supervisors: Dr. Wanzala, KEMRI  
Dr. M. Mutugi, JKUAT



**APPENDIX F: APPROVAL LETTER FROM KEMRI ETHICS AND RESEARCH COMMITTEE.**



**KENYA MEDICAL RESEARCH INSTITUTE**

P.O. Box 54840 - 00200 NAIROBI, Kenya  
Tel: (254) (020) 2722541, 2713349, 0722-205901, 0733-400003; Fax: (254) (020) 2720030  
E-mail: director@kemri.org info@kemri.org Website:www.kemri.org

**KEMRI/RES/7/3/1**

**August 26, 2010**

**TO: MS. SARAH MWENDA GACHERI,  
PRINCIPAL INVESTIGATOR**

**THRO': DR. YERI KOMBE,  
THE DIRECTOR, CPHR,  
NAIROBI**

**RE: SSC PROTOCOL NO. 1760 (INITIAL SUBMISSION): BURNOUT  
SYNDROME AMONG CRITICAL CARE NURSES IN KENYATTA  
NATIONAL HOSPITAL**

*Forwarded*  
*[Signature]*  
*30/8/2010*

Make reference to your letter dated August 26, 2010 received on the same day. Thank you for your response to the issues raised by the Committee. This is to inform you that the issues raised during the 181<sup>st</sup> meeting of the KEMRI/ERC meeting held on 10<sup>th</sup> August 2010, have been adequately addressed.

Due consideration has been given to ethical issues and the study is hereby granted approval for implementation effective this **26<sup>th</sup> day of August 2010**, for a period of twelve (12) months.

Please note that authorization to conduct this study will automatically expire on **25<sup>th</sup> August 2011**. If you plan to continue with data collection or analysis beyond this date, please submit an application for continuing approval to the ERC Secretariat by **14<sup>th</sup> July 2011**.

You are required to submit any amendments to this protocol and other information pertinent to human participation in this study to the ERC prior to initiation. You may embark on the study.

Yours sincerely,

*R. C. Kithinji*

**R. C. KITHINJI,  
FOR: SECRETARY,  
KEMRI/NATIONAL ETHICS REVIEW COMMITTEE**