

**PERCEPTIONS OF NURSES AND FAMILY RELATIVES TOWARDS FAMILY
WITNESSED RESUSCITATION IN CRITICAL CARE UNITS OF KENYATTA
NATIONAL HOSPITAL AND AGA KHAN UNIVERSITY HOSPITAL**

BY

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**A DISSERTATION SUBMITTED IN PARTIAL FULFILLMENT FOR THE DEGREE
OF MASTER OF SCIENCE IN NURSING (CRITICAL CARE) OF THE UNIVERSITY
OF NAIROBI**

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DECLARATION

I, Omoding Teresa, hereby declare that this research is my own original work and has not been presented for any award of degree in any university.

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Date 25/11/2011

Omoding Teresa (BScN)

DEDICATION

I dedicate this study to my husband for his continued support and love.

CERTIFICATE OF APPROVAL

This research has been submitted for examination for the degree of Masters of Science in Nursing with accredited approval as University supervisors.

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God bless us all.

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LIST OF ACRONYMS

AKUH.....	Agakhan University Hospital
AHA.....	American Heart Association
BAEM.....	British Association for Accident & Emergency Medicine
BLS.....	Basic Life Support
C.C.U.....	Critical Care Unit
C.C.N.....	Critical Care Nurse
ENA.....	Emergency Nurses' Association
FWR.....	Family Witnessed Resuscitation
IP.....	In Patient
K.N.H.....	Kenyatta National Hospital
OR.....	Odds Ratio
RCN.....	Royal College of Nursing
SPSS.....	Statistical Package of Social Sciences
UK.....	United Kingdom

OPERATIONAL DEFINITIONS

Automated External Defibrillator: this is a semi-automatic device with two pads that can be applied to the patient. It records and analyses the rhythm and instructs the user to deliver the shock required.

Cardiopulmonary arrest (CPA): It is the sudden and complete loss of cardiac function.

Cardiopulmonary resuscitation (CPR): It is a technique of basic life support with the main intention of oxygenating the brain and heart. It involves performing chest compressions to a depth of 1/3 of the chest cavity.

Critical Care Nurse (CCN): a specialized registered nurse with the Nursing Council of Kenya (NCK) and working within the critical care unit.

Critical Care Unit (CCU): it is a specialized department within a hospital that provides life support or organ support systems in patients who are critically ill.

Critically ill: any person with a life threatening condition

Family relative: a first line relative i.e. father, mother, sibling, uncle, aunty.

Family support person: a psychologist or social worker with medical knowledge who supports and explains the resuscitation process to the family of the patient.

Perceptions: this is a way in which a person understands and interprets a concept or idea.

Respiratory arrest: it is the sudden and complete cessation of breathing.

Resuscitation: is the restoration of vital signs by mechanical, physiological and pharmacological means in the event of an abrupt cessation of cardiac activity.

Witnessed resuscitation: Occurs when a family relative of a patient undergoing resuscitation is present in the room during resuscitative efforts.

ABSTRACT

Background: Resuscitation is the restoration of vital signs by mechanical, physiological and pharmacological means in the event of an abrupt cessation of cardiac activity. Witnessed resuscitation is the process of active resuscitation in the presence of family relatives. However, should a patient require resuscitation, the family relatives are requested to wait in the visitors' waiting room as the resuscitation team attends to the patient. The family relatives therefore are sometimes left unaware of the sudden illness of their loved one and can be left in isolation in the event of their death.

Main Objective: This was to describe the factors that determined the perceptions of nurses and family relatives towards family witnessed resuscitation.

Methodology: This was a cross-sectional descriptive study carried out between May 2010 and April 2011. The study involved nurses and family relatives of patients admitted within the critical care units of Kenyatta National Hospital and Agakhan University Hospital. The respondents were selected via proportionate simple random sampling. The study involved 190 respondents, 109 of whom were critical care nurses while 81 were family relatives. Data collection was done via a semi-structured questionnaire; cleaning and analysis was done using Statistical Package of Social Sciences (SPSS) computer software program.

Results: The study revealed that the relatives 67.90% (n=55) were more receptive to family witnessed resuscitation in comparison to 59.63% (n=65) of the nurses. There were varied perceptions towards implementation of the practice; however both groups of respondents; (83.49% (n=91) of nurses and 70.37% (n=64) of relatives) stated they would support it more strongly if a support staff would be present with the relatives during the process. Religion, specialization, years of experience and marital status were the factors that determined the nurses' perception towards family witnessed resuscitation; religion and specialization elicited a positive perception while marital status and years of experience elicited a negative perception. Age and occupation determined the relatives' perception and both elicited a positive perception.

Conclusion: The relatives were found to be more in favor of witnessed resuscitation as opposed to the nurses. There were no policy guidelines available regarding how to handle family relatives present during resuscitation.

Recommendations: Further research is needed on the opinion of the patient regarding their families' presence during resuscitation. The perception of nurses in other areas of resuscitation for example in the Accident and Emergency departments needs to be explored as well as those of physicians working in these departments. There is also need to develop policy guidelines by the Ministry of Health, Professional Bodies and Organizations which are specific to the hospital setting.

CHAPTER ONE: INTRODUCTION

1.1 BACKGROUND INFORMATION

As a result of life threatening crisis or from complications of chronic conditions, there is an imbalance on the life's processes carried out by major and essential organ systems; this in turn affects the body's major regulatory systems' functioning. A person with a life threatening condition is considered critically ill and includes one or more of the following categories; acute respiratory failure, acute myocardial infarction, cardiac arrhythmias, heart block, cardiac tamponade, severe shock, unconscious patients, acute renal failure, multiple organ dysfunction syndrome and severe burns. Within the critical care units, the main problem encountered while nursing these patients is sudden cardiac arrest thus necessitating resuscitation.

Resuscitation is the restoration of vital signs by mechanical, physiological and pharmacological means in the event of an abrupt cessation of cardiac activity. There is an estimated 25,000 to 30,000 resuscitation attempts in the UK every year and the specialist areas that are mostly involved are the accident and emergency department and critical care units (Resuscitation Council of UK, 1996).

Cardiopulmonary resuscitation (CPR) is an emergency procedure carried out during resuscitation and involves physical interventions to create artificial circulation to manually pump blood through the heart. CPR's main purpose is to maintain a flow of oxygenated blood to the brain and the heart, thereby delaying damage to the body tissues and permanent brain damage. It was at John Hopkins University where the technique of CPR was originally developed (Abella, 2007). The first effort at testing the technique was performed on a dog by Redding, Safar and JW Perason. Soon afterwards, the technique was used to save the life of a child (Abella, 2007).

The main indication for CPR is cardiopulmonary arrest so as to oxygenate the blood and maintain a cardiac output to keep vital organs alive (Kuralay, 2008). The brain may sustain damage after blood flow has been stopped for about four minutes and irreversible damage after about seven minutes. The heart also rapidly loses the ability to maintain a normal rhythm once a patient is in cardiopulmonary arrest. There are different methods of resuscitation some of which

include; Compression only resuscitation, Rhythmic abdominal compressions, Internal cardiac massage (Kuralay, 2008).

Basic Life Support and Advanced Cardiac Life Support are essential components of resuscitation (Mutchner, 2007). Basic life support (BLS) is generally used in the pre-hospital setting, and can be provided without medical equipment. The ABC of BLS aims at ensuring the Airway is patent, the patient is able to **B**reath and there is adequate blood **C**irculation to the body especially to the critical organs i.e. the brain, heart and lungs. Advanced cardiac life support (ACLS) is an extension of BLS and is carried out by only qualified health care providers as it requires the ability to manage the patient's airway, initiate IV access, read and interpret electrocardiograms, and understand emergency drugs and dosages. The ACLS guidelines were first published in 1974 by the American Heart Association and were updated in 1980, 1986, 1992, 2000, and 2005 (Mutchner, 2007). Kenyatta National Hospital and Agakhan University Hospitals Critical Care Units use the 2005 American Heart Association guidelines during the resuscitation procedures (AHA, 2005).

Allowing family members to remain with patients during resuscitation is not a relatively new concept. In a report carried out in October 1996 by the Resuscitation council of UK (1996), it was realized that many relatives, if given the choice would prefer to be present during resuscitation attempts, a practice supported by Robinson (1998). However, support for witnessed resuscitation is not universal among health care providers and concerns on the medico-legal implications have been voiced (Boyd, 2000). There are still differing views regarding the presence of family members during resuscitation. Some of the reasons being debated are that the family members would suffer traumatic memories (Axelsson, 2005).

1.2 PROBLEM STATEMENT

Resuscitation is one of the procedures carried out in the critical care units of both Kenyatta National Hospital and Agakhan University Hospital. The nurses play a vital role in the resuscitative efforts. The nurse is often the one who assesses the patient, initiates CPR and calls the team; should a patient necessitate a resuscitative effort, the family relatives are requested to wait in the visitors waiting area as the resuscitation team attends to the patient. If a resuscitative effort fails, the doctor will announce the death. The patient's primary nurse and the physician together with the social worker, if available, will inform the family about the death. At the same time, other nurses will prepare the body by removing all resuscitative equipment before the family could view their deceased loved one.

Resuscitation can be visually disturbing and stressful; even to the most experienced clinical staff; however patients are being resuscitated so that their lives can be saved and that they can return to their families and friends. The family relatives therefore hold most importance to the patient and they are sometimes unaware of the sudden illness of their loved one and can be left in isolation in the event of their death. The time during resuscitation may be the last opportunity for family relatives to see and touch their loved one while still alive. They also overwhelmingly report a desire to be with their loved ones during end-of-life emergency measures (Robinson, 1998).

Although health care providers aim to support family relatives during this period, there is evidence to show that the perspectives and needs of the family can be misjudged by the health care provider. According to one assessment, nurses working in intensive care units perceived family members needs accurately in only 50% of the time (Forrester, 1990).

1.3 JUSTIFICATION OF THE STUDY

The nature of Critical Care Nursing is intensive and requires expertise, efficiency, care, concern and understanding. Critical Care Nurses have a unique role to play; they are constantly at the patient's bedside assessing and monitoring the condition and response to treatment. They also observe the mental state of family members and maintain a spiritual attitude within. The critical care nurse is the liaison between her patient, doctor and other members of the critical care team. She is also an advocate and spokesperson for her patient, a friend and guide to the patient's family members. Therefore, clarifying the perceptions of nurses who are often "gatekeepers to the bedside" during resuscitation is vital.

This study will aim at improving the relationship between the nurses, patients and family relatives. Surveys, research and review articles originate primarily from the U.S. and European States therefore indicating that there are few published research in Africa and in Kenya; this study will come out as a baseline study for further research. This study will also help guide policy makers in policy formulation.

1.4 RESEARCH QUESTION

Are there any differences in perception between nurses and patient's family relatives towards their presence during resuscitation in critical care units of Kenyatta national hospital and Agakhan university hospital?

1.5 STUDY OBJECTIVES

1.5.1 MAIN OBJECTIVE

To describe the perceptions of nurses and patient's family relatives towards family witnessed resuscitation in critical care units of Kenyatta national hospital and Agakhan university hospital.

1.5.2 SPECIFIC OBJECTIVES

1. To establish the current practice with respect to family witnessed resuscitation.
2. To determine difference in perceptions between nurses and family relatives towards family witnessed resuscitation.
3. To determine factors contributing to the differences in perceptions between nurses and family relatives towards family witnessed resuscitation.
4. To ascertain nurses' knowledge of policies in relation to family witnessed resuscitation.

1.6 THEORETICAL FRAMEWORK: PENDER'S HEALTH PROMOTION MODEL

This research is based on the Health Promotion model of Pender (figure 1.7). A nursing model is defined as a conceptual framework of nursing practice based on knowledge, ideas and beliefs. It provides criteria for policy and gives direction. The family is the basic system in which health behavior and care are organized, performed, and secured. Families provide health promotion and preventive health care, as well as care for their sick members. In addition, families have the prime responsibility for initiating and coordinating services rendered by healthcare providers.

Health practices and the use of health care services vary from family to family. This diversity in health care practices is due to family differences in both conceptualizations of what constitutes health and illness and their health beliefs relative to seeking health care and following through with health care actions.

Pender, Murdaugh, and Parsons (2001) extended the health belief model into the "Pender Health Promotion Model". The Health Belief Model utilizes Lewin's theories that it is the world of the perceiver that determines what he or she will do (Berkanovic, 2000). Lewin identifies some aspects of life as having a positive or negative influence. Persons seek to avoid the negative aspects while they try to incorporate the positive aspects. Pender's health promotion model focuses on the movement of an individual towards a positive state of enhanced health and well being. The negative states of illness and disease seem to have minimal motivational significance for health promoting behavior. Pender suggests that a desire for growth, expression of human potential, and quality of life provides the motivation for health-promotive actions.

Pender's health promotion model theorizes about the relationships among individual characteristics and experiences, behavior specific cognitions and affect, and behavioral outcomes. The core of the model emphasizes the importance of behavior specific cognitions and affect as the primary motivators of behavior. The behavioral outcomes are influenced by a person's sense of commitment to a plan of action with identified specific strategies, and the capacity of the person to repress competing demands and preferences.

The individual characteristics and experiences are thought to influence the likelihood of engaging in health promoting behavior although some personal characteristics cannot be changed. The behavior cognitions and affect are core variables within both the nurse and the family relatives which are considered to be of major motivational significance in encouraging an individual to engage in health promoting behaviors. These variables in turn influence each of them to make either a positive or negative decision on the issue at hand; in this case to be or not to be present during resuscitation. Perceptions of risks, benefits, and confidence in managing family presence are associated with the decisions nurses make about inviting family presence. Nurses who have high confidence view family presence as more beneficial and less risky.

The health promotion model is therefore a rational decision making model in which the occurrence of personal health behavior is thought to be influenced by the factors identified in the model.

The conceptual framework (figure 1.8) and operational framework (figure 1.9) were derived from Pender's Health promotional model. Pender's model identified an individual characteristics and experiences as influencing their likelihood in engaging in health promoting behavior. These individual characteristics and experiences were identified as demographic, social, health, cultural and economic factors (figure 1.8) which were further operationalized as shown in figure 1.9. Pender's model emphasized the importance of behavior specific cognitions and affect as the primary motivators of behavior. In the operational framework these behavior specific cognitions were defined as the knowledge, attitude and practice of the respondents.

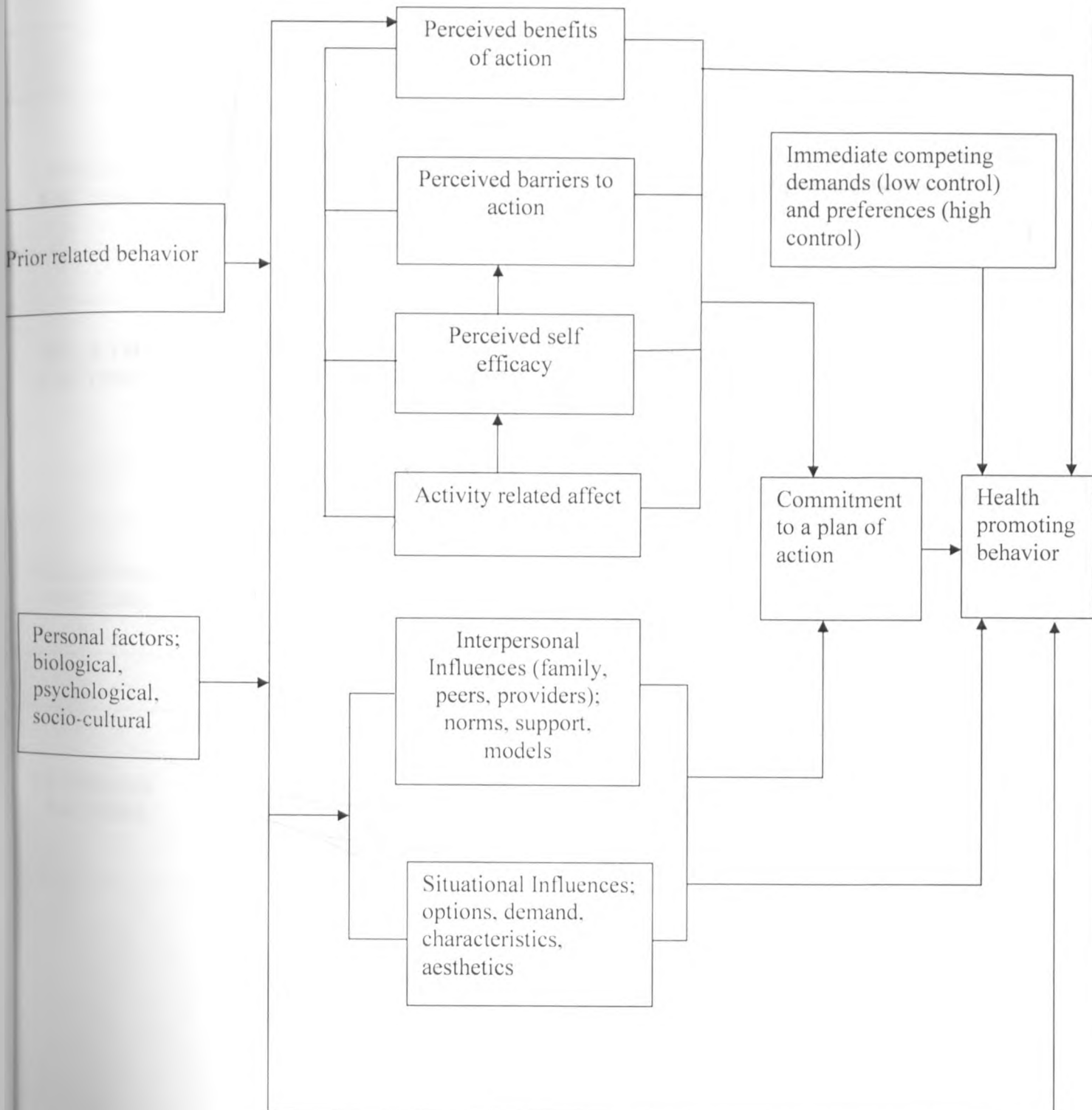
The independent variables were identified as the respondents' individual characteristics and experiences which in turn affected the dependent variables which are the knowledge, attitude and practice of the respondents. These variables in turn interacted to give a behavioral outcome which was either a positive perception towards witnessed resuscitation or a negative perception towards witnessed resuscitation.

1.7 REVISED HEALTH PROMOTION MODEL BY PENDER (2001)

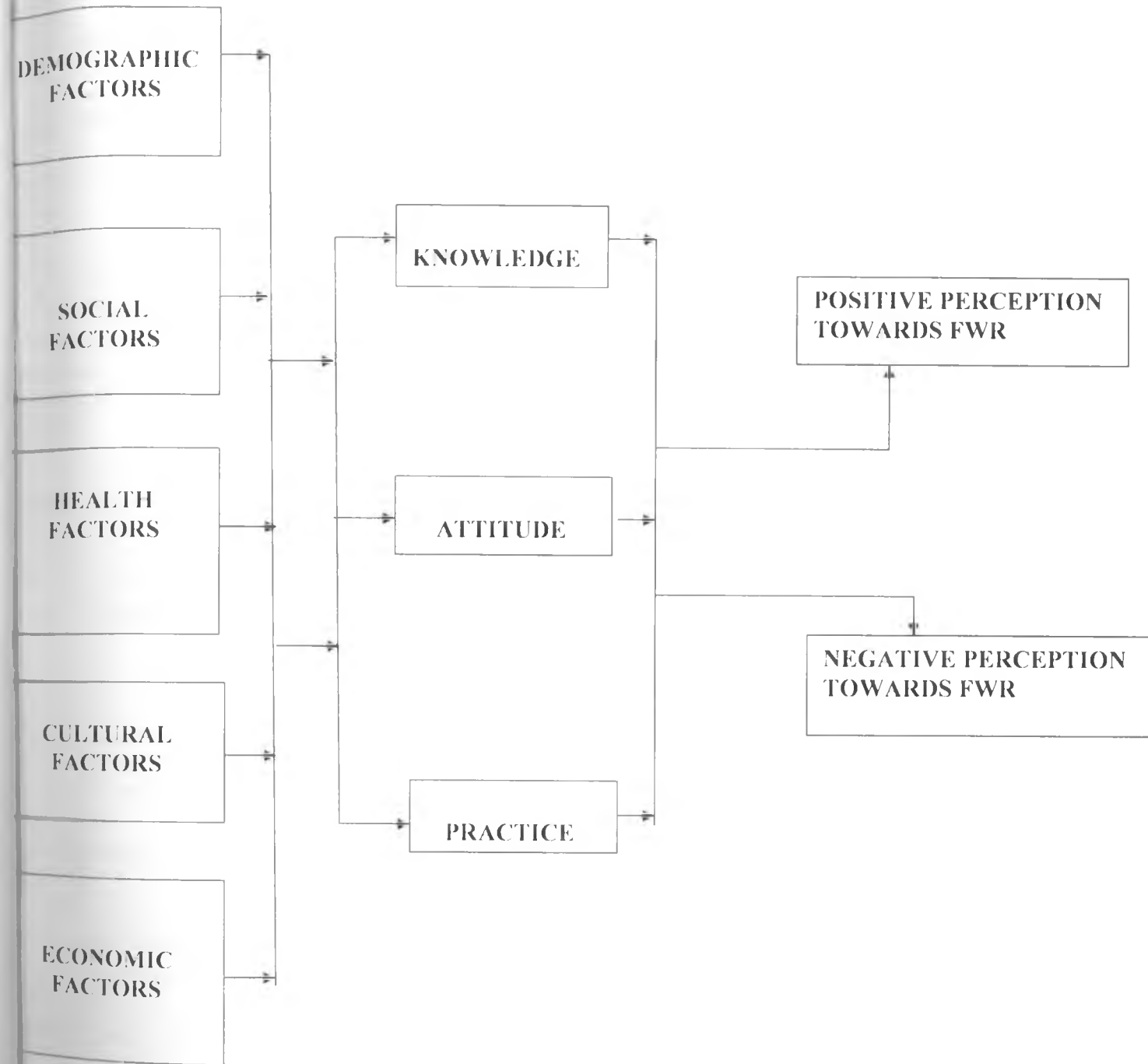
Individual Characteristics & Experiences

Behavior Specific Cognitions and Affect

Behavioral Outcome

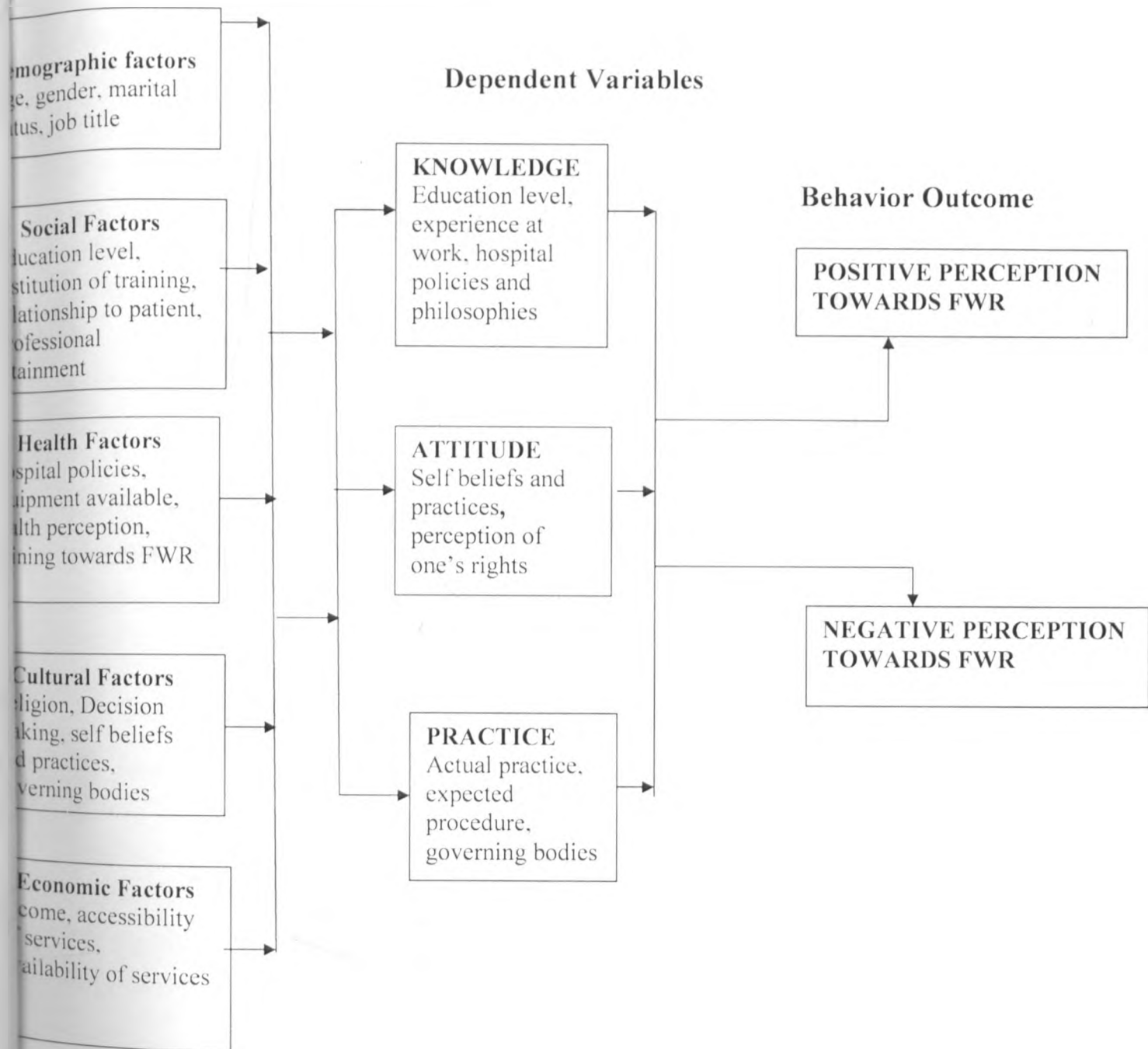


1.8 CONCEPTUAL FRAMEWORK



1.9 OPERATIONAL FRAMEWORK

Independent Variables



CHAPTER TWO: LITERATURE REVIEW

2.1 INTRODUCTION

Resuscitation is the restoration of vital signs by mechanical, physiological and pharmacological means in the event of an abrupt cessation of cardiac activity. Dealing with the suddenly bereaved can be distressing for the nursing staff regardless of their experience (Adams, 1994). Witnessed resuscitation is the process of active 'medical' resuscitation in the presence of family members (Boyd, 2000). The controversial practice of family presence during resuscitation has stimulated debate over the past two decades, giving rise to a growing body of literature and the development of clinical guidelines for practice. Relatives have been continuously kept away during the resuscitation some citing reasons such as their presence may create ethical, moral, and practical dilemmas, medical confidentiality, conflict with unknown wishes of the patient, the potential for interference, litigation and stress amongst resuscitation staff are all concerns (Dolan, 2000).

Family presence has significance in terms of nursing's holistic, caring, family-centered framework and commitment to evidence-based practice supporting optimal patient/family health outcomes. As a profession, nursing is committed to the caring of patients and their families as inextricable wholes. To isolate patients from family members may run counter to nursing's commitment to patients in their totality (Dolan, 2000).

The medicalization of care has removed the family from life threatening situations; transparency in healthcare organizations' and technology has facilitated exposure to previously censored procedures conducted in emergency departments and trauma centers. This has thus contributed to a paradigm shift and the incorporation of family in collaborative decision-making and determination of care options. Congruent with this; family-centered focus in healthcare calls for the inclusion of family during the resuscitation procedures (Timmerman , 1997).

Autonomy for patients and their relatives originated from the care of children In the 1980s. Parents were increasingly involved in the treatment of critical illness of their children, anesthesia and resuscitation (Kelly, 1992). At Birmingham Children's Hospital, there is a written protocol that designates senior and experienced nurses to be solely responsible for the relatives' needs

when a child is undergoing resuscitation. Under this protocol, parents are invited to be present in the resuscitation room if they wish to be after they have been given a full explanation and after prior notification of the leader of the resuscitation team (Kelly, 1992). This reflects the growing trend of increased parental participation in the care of children and the general acceptance of the presence of parents during pediatric resuscitation, which many staff regard as a 'right' for parents (Kelly, 1992). Health care providers are more in favor of having parents present during pediatric resuscitation than of relatives present during an adult resuscitation (Kelly, 1992).

Children are the most vulnerable groups in emergency situations; their vulnerability and inability to care for themselves cannot be overemphasized during invasive procedures and resuscitation. McGahey, (2002) highlighted the parents desire to be present during invasive procedures performed to their children; a total of 400 parents completed the survey. Of these respondents 83.4% wished to be present in the likelihood of their child dying. Parents were adamant about not allowing physicians to decide about their presence during resuscitation. The survey prompted pediatric healthcare providers to recognize the importance of parental desire for them to be included into their practice policies (McGahey, 2002).

The American Academy of Pediatrics and other professional organizations have taken a position that family presence should be offered during CPR (CPR guidelines 2000). Their recommendations have been encouraged by studies of families who speculated that they would want to be present if their child required CPR and the presumption that it may help them with the grieving process when there is a death (Nibert, 2005). Consensus is growing that parental presence during resuscitation of children has many advantages (Nibert, 2005). Recently, 18 healthcare organizations united in a national forum to support parental presence during resuscitations of children (Henderson, 2006).

Allowing family relatives to remain with patients during resuscitation efforts is not a relatively new concept. Early reports of programs designed to promote witnessed resuscitation first appeared in early 1980s (Belanger, 1997). One of the first attempts to incorporate family during resuscitation was in Foote hospital in Michigan, USA. On two separate incidences, families demanded to be present during resuscitation of their patients. This led to personnel examining

their policy of excluding patients' family relatives during resuscitation. A survey carried out by the hospital in 1992 concluded that allowing family members to be present during the resuscitation assisted the grieving process (Hanson et al 1992). The survey results revealed that 76% of the relatives participating believed that adjustment to the death of the relative, as well as their grieving process, had been made easier. 94% indicated they would participate again. 64% of the respondents felt their presence was beneficial to the dying family member, believing that they might be able to hear them and have the comfort of feeling that their last 'goodbye' was heard. Following these results, a formal policy on family presence was set. This was initially resisted by staff at the hospital but a survey carried out in 1985 showed 71% of the staff was in support of the policy (Hanson et al, 1992).

In the past 15 years, a number of quantitative studies, especially descriptive surveys, have been conducted. Qualitative researchers have also explored the lived experience of family members present during resuscitation and less commonly the perspectives of patients and healthcare providers (Belanger, 1997). Boyd (2000) suggests that there is a small amount of research that indicates both satisfaction and psychological benefit for those relatives witnessing resuscitation and effects on health care providers. A resolution debated and carried out at the Royal College of Nursing (RCN) Congress in 2000 called for the Council to work with relevant organizations to develop guidelines on allowing family to witness resuscitation of their loved ones. This was agreed upon overwhelmingly by a majority of the speakers. However a few delegates argued that the patient might not like to have their relatives present and also raised the issue of confidentiality (RCN, 2000).

The Emergency Nurses Association (ENA) was one of the first organizations to issue a formal position statement that supports family presence during resuscitation and invasive procedures (Emergency Nurses Association, 1994). At the urging of professional organizations, including the American Association of Critical-Care Nurses, the Emergency Nurses Association, and the American Heart Association, an increasing number of hospitals now allow family relatives of patients to be present during resuscitation (Emergency Nurses Association, 1995). Other institutions that support Family witnessed resuscitation include; the European Federation of Critical Care Nursing Associations, the Canadian Association of Critical Care Nursing, the

American College of Critical Care Medicine, the Society of Critical Care Medicine, the American Academy of Pediatrics, the European Society of Pediatric and Neonatal Intensive Care, the European Society of Cardiology Council on Cardiovascular Nursing and Allied Professions, the European Resuscitation Council, the Resuscitation Council (UK), the Royal College of Nursing, the British Association for Accident and Emergency Medicine, the Royal College of Pediatrics and Child Health, and the British Medical Association (Albarran et al, 1999).

Despite changing trends, family witnessed resuscitation is still a controversial issue that is debated widely (Dingeman, 2007). Concerns in the literature are centered on three areas; the first is the possibility of the family members to affect the performance of the resuscitation team. The second is the family members may experience negative emotional and psychological consequences as a result of witnessing a traumatic event. (Fein et al, 2004). Thirdly, a number of studies have indicated that family members would like to be given a choice on whether to be present or not, and if the situation arose, they would like to be close by (Gulla et al, 2004).

It is common to permit relatives to witness resuscitation in the UK (Hanson et al, 1992). It has been reported by relatives that witnessing the resuscitation efforts has helped them accept a loved one's death and assisted with their subsequent grieving (Hanson et al, 1992). Recent studies show public support and desire for inclusion in resuscitation (Boyd, 2000). The benefits for relatives may be considerable and there is now a growing trend to allow relatives to be present during resuscitation attempts in the emergency department (Boyd, 2000).

More recent work appears to show both public support and a desire for inclusion in the resuscitation process (Booth et al, 2004). Some research has been produced that indicates both satisfaction and psychological benefit for those relatives enabled to witness. Limited work only, exists pertaining to the effects on health care providers and these reports currently do not show any significant deleterious effects (Boyd, 2000, 2004). Recent studies on the attitudes of healthcare providers towards the presence of patients' family members during cardiopulmonary resuscitations and invasive procedures; reveals that clinicians' opinions about the value of this practice are mixed. The emergency physicians and pediatricians were in favor of witnessed resuscitation. Anesthetists and physicians were strongly against (Boyd, 2000, 2004).

2.2 HEALTHCARE PROVIDERS' PERCEPTION TOWARDS WITNESSED RESUSCITATION

Healthcare professionals have mixed opinions about family presence (Boudreaux, 2002). In all studies, nurses' attitudes toward family presence were consistently more positive than were physicians' attitudes (Boudreaux, 2002). Moreland (2005) reported that the difference in opinion between physicians and nurses about the concept of family presence may be related to nurses' holistic view of patients. Mitchell and Lynch (1997) found that nurses; 90% overwhelmingly supported the practice, whereas only 37% of physicians did. In another survey of critical care professionals, 43% of nurses supported family presence compared with 20% of physicians (McClenathan, 2002).

Physicians, particularly interns and residents, are overall less positive than are other healthcare professionals about family presence during resuscitation (Duran, 2007). Older, experienced, attending physicians tend to have more favorable attitudes than do house staff and residents (Meyers, 2000). Trauma surgeons had the least favorable attitudes toward family presence (McClenathan, 2002). Many physicians felt that watching a resuscitation attempt, especially following a traumatic event, would be horrifying for an untrained person. However in recent studies, witnessed resuscitation is becoming more common in adult emergency departments (Grice, 2003).

Nurses' perceptions of the risks and benefits of family presence during resuscitation vary widely and are associated with how often the nurses invite family presence. Some nurses support family presence during resuscitation, whereas other nurses have more negative views (Duran, 2007). Nurses who invited family presence during resuscitation were significantly more self-confident in managing it and perceived more benefits and fewer risks. They (nurses) were thought to believe so because of their membership in professional organizations, professional certification, and working in an emergency department (Rence, 2008). Staffs who have less experience with resuscitation or who encounter distressed relatives are more likely to oppose the practice (Meyers, 2000).

According to nurses, common advantages of family presence during the resuscitation of adult loved ones included among others: families grasp the seriousness of the patient's condition; families see that everything was done for their loved one, and families move more positively through the grieving process (Axelsson, 1995). In addition, families report that their presence helps the patient and enables the families to receive information quickly (Axelsson, 1995).

Healthcare professionals report 3 primary reasons for their reluctance to invite patients' families to be present (Helmer, 2000): the unpleasantness of what the families will see, fear that the resuscitation team will not function well with patients' families in the room and anxiety that family members will become disruptive. Less frequently mentioned concerns include patient confidentiality, possible increase in litigation if patients' families are present, and more aggressive and prolonged treatment if patients' families are present.

Many intensive care personnel have experienced witnessed resuscitation and the majority felt that relatives gained benefit. Almost all agree that the views of both patient and relatives should be sought formally before admission to intensive care. 56% of doctors and 66% of nurses favored giving relatives the option to stay if relatives requested to be present (Grice, 2003), whereas a further 70% of doctors and 82% of nurses would allow this if the relatives were escorted. The role of the escort was felt to explain, prevent interference, and to provide emotional support.

Two European surveys carried out on critical care nurses in adult, pediatrics and neonatal units indicated that they were supportive of family witnessed resuscitation; however very few intensive care units have policies to support this practice (Full brook, 2005). Although healthcare providers have mixed sentiments, it would be wise to develop protocols to accommodate those relatives who wish to remain together with their loved one during resuscitation. The more infirm, not desirous of witnessing it, will be less demanding and less inclined to avail themselves to such formal programs (Mazer, 2004). Despite witnessed resuscitation being embraced by critical care nurses from western states, its evident this is a new practice in non-western states. 90% of critical care nurses from one hospital in South Africa expressed dislike for the practice saying it was too traumatic and stressful for the relatives: only 10% were for the practice (Beer, 2005).

2.3 FAMILY MEMBERS' S PERSPECTIVE TOWARDS WITNESSED RESUSCITATION

In a study of family members who lost a loved one in the emergency department, Meyers, (2000) found that 80% would have wanted to be present if the option had been offered to them. In other studies, 94-100% of family members who participated in witnessed resuscitation emphatically asserted that it was their right to be present (Belanger, 1997). Many family members thought that being present during resuscitation helped them comprehend the seriousness of the patient's condition and know that everything possible had been done, and it eased their grieving. (Meyers, 2000)

Patients' families have reported benefits from being present during resuscitations and invasive procedures (Barone, 2001). A UK study in 1997 found that there were no adverse psychological effects amongst relatives who witnessed resuscitation, all of whom were satisfied with the decision to remain with the patient. Psychological follow-up of relatives at three and six months found fewer symptoms of grief and distress in the group who had witnessed resuscitation than in the control group. Of the patients who survived none believed that their confidentiality had been compromised (Robinson, 1998).

Walker (1999) however differs with this. He believes that recognition of a relative's right to witness resuscitation is dependent upon health care professionals' willingness to promote the principle of respect for autonomy. Bloomfield (2000) however urges caution. He is not convinced that research which concentrates on the psychological effects on relatives is sufficient when the question of patient consent is ignored. He argues that 'conclusions drawn from data must be scrutinized from a broad perspective in order to ensure that proposals drawn from them fit soundly with our moral reasoning.

2.3.1 Benefits of family witnessed resuscitation.

The positive benefits of having family members present during CPR have been documented in several studies and include among others; Provision of an atmosphere that helps in the grieving process and allows for closure (Robinson et al, 1998), Development of a bond with the

resuscitation team (Eichhorn et al, 2001), Satisfaction that their family member was/ is in safe hands: knowing all possible medical interventions were done (Wagner, 2004), Increased knowledge of patient's medical condition (Maclean et al, 2003), Reduces fear and anxiety (Robinson et al, 1998)

2.4 PATIENTS' PERSPECTIVE TOWARDS WITNESSED RESUSCITATION

O'Brien (2004) describes the experience of a resuscitated patient on presence of family members and friends as "having an expectation that they would in fact be there". Grice (2003) in his study of attitudes of staff, patients and relatives to witnessed resuscitation in adult intensive care units showed that 29% would want their relatives present during resuscitation while 71% did not. Reasons given by those for the practice included providing support for the patient, the relative would see that everything possible had been done and the experience would be less traumatic for the relative than imagining what had happened at a later stage (Grice, 2003)

2.5 ETHICAL CONCERNS

Challenging issues confront critical care nurses routinely when performing cardiopulmonary resuscitation (CPR). Ethical issues surrounding resuscitation may include issues of withholding or withdrawing interventions, family presence, practicing procedures on the dead, palliative care, and communication. In many cases where curative care is not possible or is not desired, the goal of medical care at the end of life is to provide comfort to the patient and family, rather than initiating technological interventions that are unlikely to benefit the patient.

Some of the important issues and dilemmas commonly encountered in FWR include;

2.5.1 CONFIDENTIALITY

Witnessed resuscitation involves both patients and relatives and raises legal and ethical issues for example confidentiality, consent, fear of litigation and respect for autonomy. A patient's permission is required before medical information may be disclosed to a third party. Allowing relatives into the resuscitation room can be seen as ignoring the patient's right to confidentiality, and those who breach this confidentiality could find themselves the subject of disciplinary action or possible litigation (Stewart, 1997). It has been argued that confidentiality is breached when

relatives are informed that a family member has been admitted to hospital and is gravely ill. However, when a patient is unable to communicate relatives may be valuable in providing additional medical information (Stewart, 1997).

2.5.2 CONSENT

It is a general and ethical principle that valid consent must be obtained on every occasion when a health care professional wishes to initiate treatment or any other intervention, except in emergencies or where the law states otherwise. This principle reflects the rights of patients to determine what happens to their own bodies and is a fundamental part of good practice (Department of Health; England, 2001).

2.5.3 FEAR OF LITIGATION

Some emergency nurses are against witnessed resuscitation due to litigation; they fear that an observed remark or action may be offensive to the relatives leading to complaints and litigation thereafter (Cole, 2005). Errors may occur during resuscitation and the presence of a relative may increase the self awareness of the team and may be a cause for a potential litigation (Rosencweig, 1998). Moreland (2005) also recognized relatives as a source of litigation. Macy, (2006) in her study also discovered that Emergency department personnel didn't support FWR as it would increase the potential for malpractice litigation.

2.6 FACTORS THAT MAY AFFECT PERCEPTION TOWARDS WITNESSED RESUSCITATION

Perception is defined as the way in which one conceptualizes or perceives an idea or concept and can be influenced by many factors.

2.6.1 Socio-Demographic Factors

Family presence has significance in terms of nursing's holistic, caring, family-centered framework and commitment to evidence-based practice. Studies done, suggest that nurses with more nursing experience are more favorable towards family presence during resuscitation (Illison, 2003). However, perceptions related to family presence did not differ between registered nurses with an associate degree, a baccalaureate degree, or an advanced nursing

degree. Nurses, who hold professional certification, work in emergency and critical care departments, and are members of a professional organization are more favorable toward family presence than are other nurses, and they invite family presence more often (Ellison, 2003). Increased participation in professional nursing organizations may provide greater exposure to current research and evidence-based practices related to family presence.

Family witnessed resuscitation seems to be a new concept among non-western countries, (Beer, 2005) in a study in South Africa, demonstrated that critical care nurses from western countries; United States of America, United Kingdom, Canada, Australia; were more responsive towards witnessed resuscitation as compared to critical care nurses from non-western countries; Saudi Arabia, Jordan and Lebanon.

Mazer (2004) concluded that a large segment of the public desires witnessed resuscitation, and believes it to be beneficial. Age, level of education, income level, and end-of-life planning do not appear to influence these beliefs. Ersoy, (2009) concurs with this, and added that marital status did not significantly affect the rate of willingness to witness resuscitation. Mazer (2004) however disputes the marital aspect because in his study healthier individuals, married people and their families, and those widowed were found to be more receptive to witnessing resuscitation. He further added those in poor health, not desiring CPR, are more pessimistic about witnessed resuscitation. Ersoy (2009) further stated that male family members and patient's family members without health insurance were more likely to witness resuscitation.

2.6.2 Socio-economic Factors

According to Pender's Health Promotion Model, individual characteristics and experiences such as personal factors are thought to influence the likelihood of engaging in health promoting behavior. Therefore, a person's economic status determines the level of healthcare facilities one will seek. However, according to both Mazer (2004) and Ersoy (2009), a person's income level did not appear to significantly determine one's decision on witnessing resuscitation.

2.6.3 Health Settings

In a study done by Macy (2006), it was discovered that the hospital setting strongly affected the decision to allow family witnessed resuscitation. Only 38.9% of the staff from an urban setting supported FWR while 62.7% from a sub-urban setting supported family witnessed resuscitation. The creation of a formal written policy for the option of allowing patients' family members to be present can promote holistic family-centered care in hospitals Benjamin et al, 2004. Although family presence is not fully sanctioned by all health care professionals, routine banning should discontinue. However, an open policy of allowing family members into resuscitation without prior knowledge of the patient's preference should not be supported, according to Benjamin et al, (2004). Allowing family to stay during a patient's invasive procedure may be in the best interest of the patient. On the other hand, allowing a patient's family to stay for resuscitation may be in the best interest of the family.

2.6.4 Cultural factors

Spirituality helps maintain health, the ability to cope with illness, and the ability to face difficult situations. It also enables the caregivers and loved ones of the dying patient to find purpose and meaning in the dying process (Buck, 2006). Baumhover (2008) demonstrated a relationship between healthcare providers' spirituality with allowing family presence during resuscitation. The higher the level of spirituality of the health care professionals, the more likely they were to believe that family presence is a patient's right and in the provision of holistic care. He further stated that family presence is both a patient and family right as compared to other studies, that stated family presence is a patient's right only as demonstrated by (Meyers, 2000).

Nurses hold widely divergent perceptions of risks, benefits, and their own self-confidence related to family presence. Perceptions of risks, benefits, and confidence in managing family presence are associated with the decisions nurses make about inviting family presence; nurses who have high confidence view family presence as more beneficial and less risky (Renee, 2008).

2.7 CONCLUSION

Family presence during resuscitation is a natural outgrowth of family-centered care, which regards the family as the primary source of strength and support of the patient. Research and public opinion polls have found that 50 to 96% of consumers believe family members should be offered the opportunity to be present during emergency procedures and at the time of their loved one's death (Morgan, 2005).

A patient's family relatives provide supportive care and their wishes should be respected. They also overwhelmingly report a desire to be with their loved ones during end-of-life emergency measures (Robinson, 1998). Debate however persists in critical care units around the world about the risks and benefits of having family relatives present during resuscitation of the patient (Robinson, 1998).

Despite witnessed resuscitation not being a new concept it has clearly evoked arguments both for and against the practice. However with the advancements in medical practice, it is quite likely in future that; relatives will insist on being present. Morgan (2005) suggests that the changing needs of the community should be anticipated and careful planning required to accommodate this change. The nursing staff should acknowledge the importance of the feelings of the family, but should not allow this to take priority over the resuscitation attempt. He further suggests that a coordinated approach can lead to positive outcomes (Morgan, 2005).

CHAPTER THREE: METHODOLOGY

3.1 STUDY DESIGN

The study was a cross-sectional descriptive study design aimed at determining the perceptions of nurses and family relatives towards witnessed resuscitation.

3.2 STUDY AREA

The study was conducted in Critical Care Units of Kenyatta National Hospital and Agakhan University Hospital.

3.2.1 Kenyatta National Hospital (KNH)

This institution was established in 1901 and was built to fulfil the role of being a National Referral and Teaching Hospital, as well as to provide a medical research environment. It is located in Nairobi province, Dagoreti division. KNH has 50 wards, 22 out-patient clinics, 24 theatres (16 specialised) and an Accident & Emergency Department. On average the Hospital caters for over 80,000 in-patients and over 500,000 out-patients annually and has an in-patient bed capacity of 1800.

KNH's critical care unit is the largest in East and Central Africa and has a 21 bed capacity. It has approximately 115 nurses; and contains the following equipment among others; mechanical ventilators, cardiac monitors, electrocardiogrammes (ECG) that monitor blood pressure, pulse and heart rates, a laboratory that carries out daily blood gas analysis of the patients, syringe and volumetric pumps to administer precise and exact amounts of drugs/fluids and piped oxygen.

3.2.2 Aga Khan University Hospital (AKUH)

Agakhan university hospital was established in 1958 as a private, non profit institution that provides tertiary and secondary level health care services. It is located in Nairobi province, Parklands division. The hospital has an in-patient bed capacity of 254.

AKUH's critical care unit has an 8 bed capacity; six general beds with two isolation rooms. The unit has approximately 30 nurses trained in critical care with a nurse-patient ratio of 1:1. All its

beds are equipped with electrocardiogrammes, a monitor in place for a nurse call system, mechanical respiratory ventilators suitable for all ages (newborn to adults), temporary pacemaker, and blood gas analyser among others.

Kenyatta National Hospital is a public hospital which serves a low to middle income population while Agakhan University Hospital is a private hospital that serves middle to high income population. Both KNH and AKUH were selected in the study because they receive the largest number of critically ill patients.

3.3 STUDY POPULATION

The study population included nurses working in the Critical Care Units and family relatives of patients admitted within the unit. First line relative to the patient was selected.

3.4 SAMPLING CRITERIA FOR CRITICAL CARE NURSES

3.4.1 Inclusion Criteria

- Registered nurses with a license to practice
- Registered nurses working within Critical Care Unit
- Those willing to participate

3.4.2 Exclusion Criteria

- Registered nurses not working within the Critical Care Unit
- Staff on training but were working within the unit
- Students who were working within the unit.

3.5 SAMPLING CRITERIA FOR FAMILY RELATIVES

3.5.1 Inclusion Criteria

- Family relatives whose patients were admitted within the Critical Care Unit
- Those who consented to participate

3.5.2 Exclusion Criteria

- Family relatives whose patients were not admitted within the Critical Care Unit
- Those unwilling to participate

3.6 SAMPLE SIZE DETERMINATION

The sample size was determined using Fischer's (1998) formula.

$$N = \frac{Z^2 \times P \times Q}{D^2}$$

Where:

N= Sample Size

P= Estimated prevalence of family witnessed resuscitation (0.50)

Q= 1- P (0.50)

Z= Standard deviation value of 95% confidence interval i.e. 1.96

D= Confidence limit at 95% confidence interval i.e. 0.05

$$N = \frac{(1.96)^2 \times 0.50 \times (1-0.50)}{(0.05)^2}$$

$$\frac{-0.50 \times 0.50 \times 3.8416}{0.0025}$$

$$=384$$

3.6.1 Sample Size Determination for Family Relatives

The 2009 statistics for monthly bed occupancy for Agakhan Hospital (AKUH) and Kenyatta Hospital (KNH) was given at 50 and 89 respectively; giving a total bed Occupancy of 139:

$$(50 + 89 = 139)$$

Because the study population was less than 10,000 the alternative formula was used

$$\text{Therefore } Nf = \frac{n}{1 + n/N}$$

Where:

n = desired sample population (384)

N = the estimate of the population size (50+89=139)

$$NF = \frac{384}{1 + (384/139)}$$

$$= \frac{384}{1 + 2.8}$$

$$= 101$$

Proportionate number for AKUH was $\frac{101 \times 50}{139} = 36$ respondents

Proportionate number for KNH was $\frac{101 \times 89}{139} = 65$ respondents

3.6.2 Sample size determination for critical care nurses

No. of nurses in AKUH and KNH's critical care unit was 30 and 115 respectively giving a total of 145 nurses (30+115=145)

Because the study population was less than 10,000 the alternative formula was used.

$$\text{Therefore } NF = \frac{n}{1 + n/N}$$

Where:

n = desired sample population (384)

N = the estimate of the population size (30+115=145)

$$NF = \frac{384}{1 + (384/145)}$$

$$= \frac{384}{1 + 2.6}$$

$$\approx 107$$

Proportionate number for AKUII was $\frac{107 \times 30}{145} = 22$ respondents

Proportionate number for KNII was $\frac{107 \times 115}{145} = 85$ respondents

3.7 SAMPLING INTERVAL

Sampling interval = $\frac{\text{total population}}{\text{Sample size}}$

For family relatives the sampling interval was calculated as $139/101$ which came to 1.4 (approximately 1).

For nurses the sampling interval was calculated as $145/107$ which came to 1.4 (approximately 1).

3.8 SAMPLING METHOD

Proportionate simple random sampling method was used to select the study subjects. On the first day of the study, all nurses on duty and all patients IP numbers were listed in each institution. A table of random numbers was then used to identify the first subject and relative in each category in the institutions. Then every next subject was included until the sample size in the respective institution was obtained.

3.9 STUDY INSTRUMENT

A questionnaire was administered as the principle instrument of data collection; which consisted of both closed and open ended questions. Two types of questionnaires were used; one for the nursing staff and the other for the family relatives. The questionnaires were distributed by research assistants to the participants who were requested to fill them in without consultation amongst themselves.

3.10 PRE-TESTING OF THE STUDY INSTRUMENT

Pretesting was done at Nairobi West Hospital using the same inclusion and exclusion criteria. The necessary adjustments were made on the questionnaire.

3.11 STUDY ASSUMPTIONS

The following were some of the study assumptions:

1. The respondents would provide the correct information for the questions asked
2. The respondents would be near accurate

3.12 SELECTION AND TRAINING OF RESEARCH ASSISTANTS

The questionnaires were administered by the principal investigator and 6 research assistants. Training of the research assistants was carried out at the department of nursing sciences. Permission was sort to use one of the lecture halls in the department where the training took place.

3.13 DATA CLEANING

After all questionnaires had been collected, they were checked for completeness and incomplete ones discarded to avoid distortion of the results. The remaining questionnaires were then coded for easier input of the data into the computer.

3.14 DATA ANALYSIS

Analysis and interpretation of the data was done using SPSS computer software program and multivariate analysis.

3.15 MINIMIZING BIAS AND ERRORS

This was achieved by collecting the data during the day shifts as this was when most staff were expected to be on duty. The research assistants explained the purpose of the study to the relatives prior to them signing the questionnaire. Relatives who were unable to read and write and wanted to participate in the study were assisted to fill in the questionnaire.

3.16 DATA PRESENTATION

The results were presented in tables, bar charts and graphs.

3.17 ETHICAL CONSIDERATIONS

Ethical approval was granted by the relevant ethics and scientific review committee and study institutions. Full disclosure of information to the study subjects was done.

All the participants in the study filled in the consent forms prior to participating in the study. Participation was on voluntary basis. The relatives were approached via the Critical Care Unit's in-charge who introduced the principal investigator and team to them. Once the relatives had signed up the consent form, a counselor took them through pre counseling before filling the questionnaires. Refusal by the participants to participate in the study or withdraw during the study did not attract any penalties.

3.18 STUDY LIMITATIONS

Some of the constraints encountered during the study included the unwillingness of the respondents to participate in the study especially the relatives. Therefore an internal counselor within each hospital's critical care unit was used to provide the counseling services.

3.19 DISSEMINATION OF RESULTS

The results of the study were made available to the administration of KNH and AKUH, the departmental heads of the Critical Care Units in the respective hospitals and the University of Nairobi. An abstract will be forwarded to local and international journals for publication and presentation in scientific conferences.

CHAPTER FOUR: RESULTS

The study recruited a total of 190 participants, of which 57.4% (n=109) were nurses and 42.6% (n=81) were family relatives from both Kenyatta National Hospital (KNH) and Aga Khan University Hospital (AKUH). Most of the nurses 78.9% (n=86) enrolled in the study worked at KNH and more than half 56.795 (n=46) of relatives who acted as respondents had patients admitted in the same hospital (KNH). Table 4.1 below summarizes the basic demographic characteristics of both nurses and relatives interviewed.

Table 4.1: Basic demographic characteristics of nurses (n=109) and family relatives (n=81) enrolled in the study

	Nurses (N=109)	Relatives (N=81)	Chi square	P value
Recruited at:	n (%)	n (%)		
Kenyatta National Hospital	86(78.90)	46(56.79)	10.70	0.001
Aga Khan University Hospital	23(21.10)	35(43.21)		
Age				
20-29 years	5(4.59)	30(37.04)	43.64	<0.0001
30-39 years	76(69.72)	29(35.80)		
40-49 years	27(24.77)	15(18.52)		
50 and above	1(0.92)	7(8.64)		
Gender				
Female	74(67.89)	32(39.51)	15.17	<0.0001
Male	35(32.11)	49(60.49)		
Marital status				
Married	88(80.73)	47(58.02)	13.26	0.001
Widowed	3(2.75)	2(2.47)		
Single	18(16.51)	31(38.27)		
Divorced	0(0)	1(1.23)		
Religion				
Catholic	36(33.03)	32(39.51)	7.34	0.086
Protestant	70(64.22)	41(50.62)		
Muslim	3(2.75)	5(6.17)		
Other	0(0)	2(2.47)		
No information	0(0)	1(1.23)		

The nurses and patients differed in terms of all demographic factors except religious beliefs which were similarly distributed among both respondent groups (Fischer's exact $\chi^2=7.34$; $p=0.086$). 69.72% (n=76) of nurses were aged between 30-39 years while only 35.80% (n=29) of relatives were in the same age group. A relatively higher proportion of relatives were also found among the youngest 37.04% (n=30) and oldest 8.64% (n=7) age groups compared to nurses in the same age groups 4.59% (n=5) and 0.92% (n=1) respectively; Fischer's exact $\chi^2=43.64$; $p<0.0001$).

The respondents also differed significantly in terms of gender distribution, with 67.89% (n=74) of nurses being female compared to only 39.51% (n=32) of relatives (Fischer's exact $\chi^2=15.17$; $p<0.0001$). Most respondents in both groups were married; 80.73% (n=88) being nurses and 58.02% (n=47) being relatives. The higher proportion of married nurses could possibly be explained by the age distribution of nurses who were commonly aged over 30 years while 37.04% (n=30) of relatives were below 30 years of age.

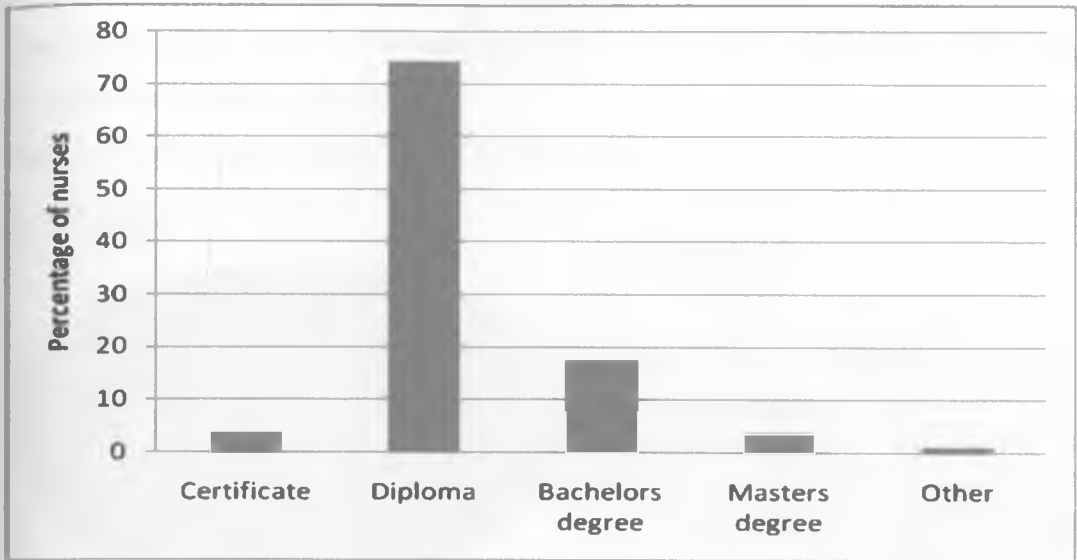
Nurses' descriptive characteristics.

The following section summarizes the descriptive demographic characteristics that were specific to nurses and included information on their professional education, experience in nursing, cadre and any post-basic training or specialization.

Nursing education

As shown in figure 4.1 most nurses 74.3% (n=81), held a diploma qualification. 17% (n=19) of respondents held a bachelors degree in nursing and less than 10% (n=3) held a masters qualification. Although previously nurses with certificate qualification formed the majority of the nursing workforce they are not commonly found in specialized areas like that sampled in this study.

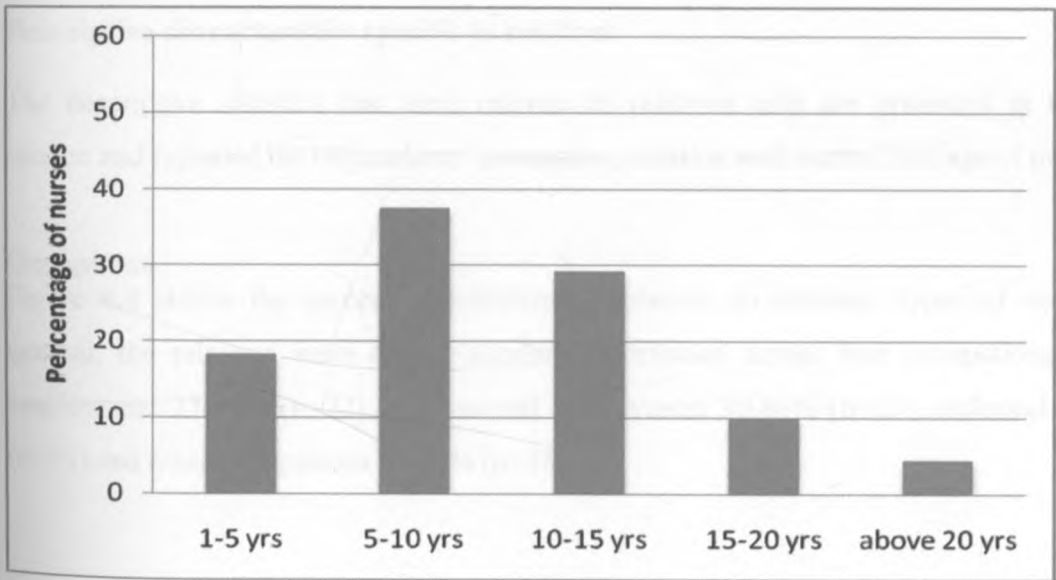
Figure 4.1: Level of education among nurses recruited in the study



Nursing experience

Most nurses had worked for between 5 to 10 years and 11 to 15 years representing 37.61% (n=38) and 29.36% (n=29) of the recruited nurses, respectively.

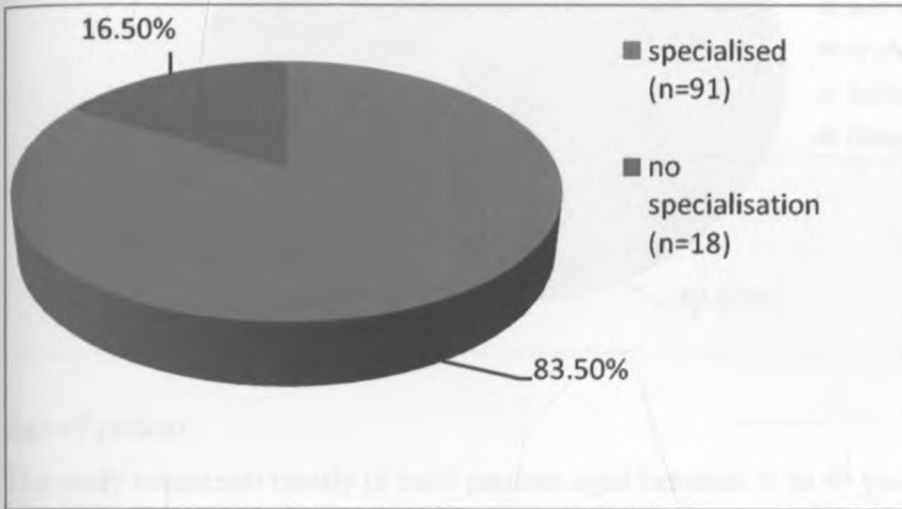
Figure 4.2: Percent distribution of nurses according to years of experience



Post-basic specialization

83.5% (n=91) of nurses had attended post-basic nursing training. The most common areas of specialization were critical care nursing 60.55% (n=66), basic and advanced life support 11.01% (n=12) and anesthesia 5.5% (n=6).

Figure 4.3: Post basic specialization of the nurses



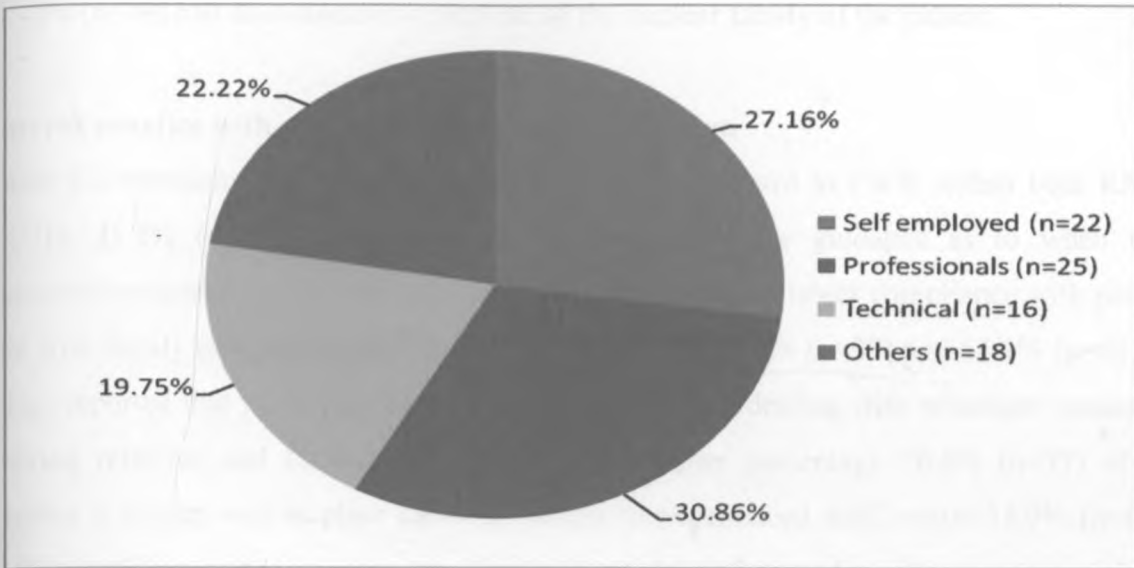
Descriptive characteristics specific to relatives

The descriptive statistics that were relevant to relatives only are presented in the following section and included the respondents' occupation, relation with patient and age of patient.

Occupation

Figure 4.4 shows the percent distribution of relatives in different types of occupations. In general, the relatives were almost similarly distributed across four occupations namely self employment 27.16% (n=22), professional employment 30.86% (n=25), technical jobs 19.75% (n=16) and other occupations 22.22% (n=18).

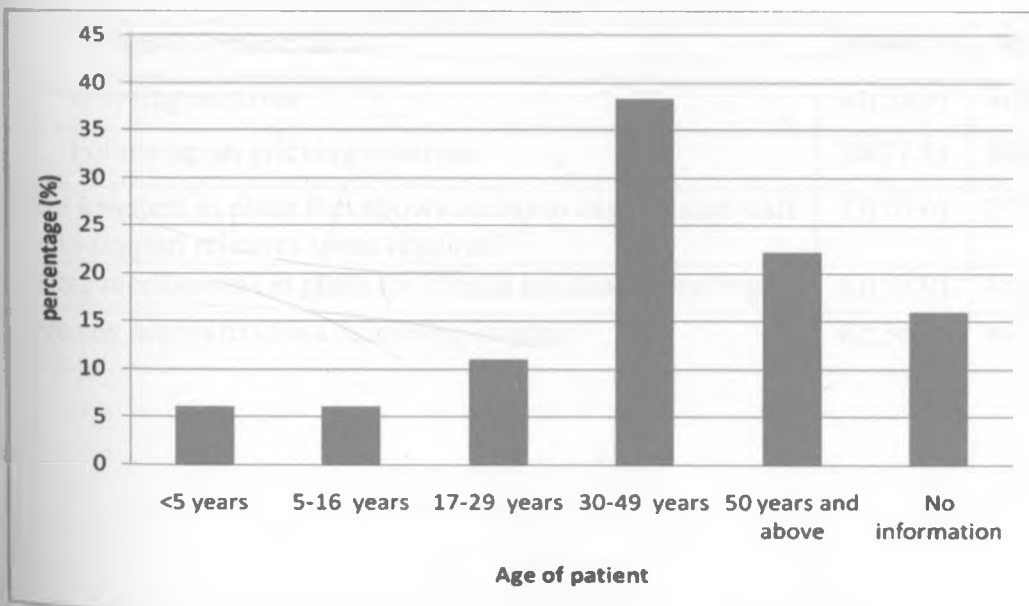
Figure 4.4 Distribution of family relatives in various occupations



Age of patient

The study comprised mostly of adult patients aged between 30 to 49 years 38.27% (n=31), although 12.34% (n=12) of patients belonged to the pediatric age groups 0 to 5 years and 5 to 16 years. (Figure 4.5).

Figure 4.5: Percent distribution of patients by age groups



Relationship with patient

Over half 51.85%, (n=42) of the respondents considered themselves part of the extended family while one-quarter 24.69%, (n=20) had accompanied a friend or colleague and the remaining 23.46% (n=19) had accompanied a member of the nuclear family of the patient..

Current practice with respect to witnessed resuscitation

Table 4.2 represents the nurses reported practice with regard to FWR within both KNH and AKUH. 75.2% (n=82) of nurses reported that appropriate guidance as to when to stop resuscitation existed in their respective institutions. There was lower compliance with policies to deal with family relatives during resuscitation. Between 27.5% (n=30) and 55.9% (n=61) of the nurses reported that there were policies for team members dealing with witnessed resuscitation, grieving relatives and follow up of relatives. A higher percentage 70.6% (n=77) of nurses reported a system was in place allowing access to experienced staff, while 55.9% (n=61) and 56.8% (n=62) reported mechanisms for incident debriefing and access to stress debriefing, respectively.

Table 4.2: Nurses' responses concerning current practices on FWR

NURSES (N=109)	YES n (%)	NO n (%)	No response n (%)
Does guidance exist as to stopping resuscitation?	82(75.2)	18(16.5)	9(8.2)
Are there policies for team members which deal with:			
a. Witnessed resuscitation	44(40.3)	56(51.3)	9(8.2)
b. Grieving relatives	61(55.9)	40(36.7)	8(7.3)
c. Follow up on grieving relatives	30(27.5)	69(63.3)	10(9.1)
Is there a system in place that allows access to experienced staff who can support relatives when required?	77(70.6)	26(23.8)	6(5.5)
Are there mechanisms in place for critical incident debriefing?	61(55.9)	45(41.2)	3(2.7)
Is there any access to stress debriefing in place?	62(56.8)	44(40.3)	3(2.7)

Nurses' and family relatives' perceptions towards family witnessed resuscitation

Both groups of respondents, nurses and relatives, were asked a set of five questions to gauge their perception towards FWR. These questions assessed; their individual desire to participate in FWR, Family relatives right to decide on whether to witness resuscitation, opinion on potential of relatives to disrupt resuscitation, cause emotional stress to staff, and result in law suits. The responses to these questions were analyzed and presented in the following section.

Desire to witness resuscitation

There were differences in opinion among nurses and relatives on whether they wanted to observe the resuscitation of their loved ones as depicted in Table 4.3. The relatives 67.90% (n=55) expressed more desire to be involved in resuscitation than the nurses 46.79% (n=51). These differences were statistically significant at the 95% Confidence Interval level (Fischer's exact $\chi^2 = 8.52$; $p=0.015$).

Table 4.3: Nurses and relatives desire to participate in FWR

	Nurses (N=109)	Relatives (N=81)	Odds ratio	Chi square	P value
	n (%)	n (%)			
Yes	51(46.79)	55(67.90)	1.00	8.52	0.015
No	40(36.70)	19(23.46)	0.44		
Undecided/ No information	18(15.60)	7(8.64)	0.36		

Potential to disrupt resuscitation

The opinions of nurses and relatives on the potential for family members to disrupt resuscitation were different at the 95% Confidence Interval level (Table 4.5). 29.63% (n=24) of relatives thought that involvement of family could not disrupt resuscitation compared to 20.18% (n=22) of nurses who reported that resuscitation cannot be disrupted by family involvement and 11.93% (n=15) of nurses who were undecided.

Table 4.4: Nurses and relatives opinion on disruption of resuscitation by family involvement

	Nurses (N=109)	Relatives (N=81)	Odds ratio	Chi square	P value
	n (%)	n (%)			
Yes	72(66.06)	54(66.67)	1.00	6.67	0.034
No	22(20.18)	24(29.63)	1.45		
Undecided/ No information	15(11.93)	3(3.70)	0.26		

Family's' right to choose whether to witness resuscitation

As shown in table 4.5 nurses and relatives differed concerning the right of family to witness resuscitation. 79.01% (n=64) of relatives believed that the family member had a right to choose whether to witness resuscitation compared to 55.05% (n=60) of nurses (p=0.011).

Table 4.5: Opinion on the right of family member to witness resuscitation

	Nurses (N=109)	Relatives (N=81)	Odds ratio	Chi square	P value
	n (%)	n (%)			
Yes	60(55.05)	64(79.01)	1.00	8.90	0.011
No	22(20.18)	9(11.11)	0.38		
Undecided/ No information	21(19.27)	8(9.88)	0.35		

Emotional stress among staff

Nurses 61.47% (n=67) were more likely to report that presence of family relatives was a source of emotional stress among staff compared to relatives 53.09% (n=43). This association was significant at the 95% Confidence Interval level (Fischer's exact $\chi^2=11.99$; p=0.002).

Table 4.6: Opinions on impact of FWR on staff emotional well-being

	Nurses (N=109)	Relatives (N=81)	Odds ratio	Chi square	P value
	n (%)	n (%)			
Yes	67(61.47)	43(53.09)	1.00	11.99	0.002
No	29(26.61)	32(39.51)	1.71		
Undecided/ No information	13(11.93)	6(7.41)	0.71		

Legal implications of family witnessed resuscitation

There were some differences of opinion among nurses and relatives on whether FWR increased the chances of legal action being taken against staff. More relatives 59.26% (n=48) compared to nurses 49.54% (n=54) thought that legal implications could result from family observation of resuscitations. (Table 4.7) However, these differences were not statistically significant at the 95% Confidence Interval level (Fischer's exact $\chi^2 = 2.44$; p=0.29).

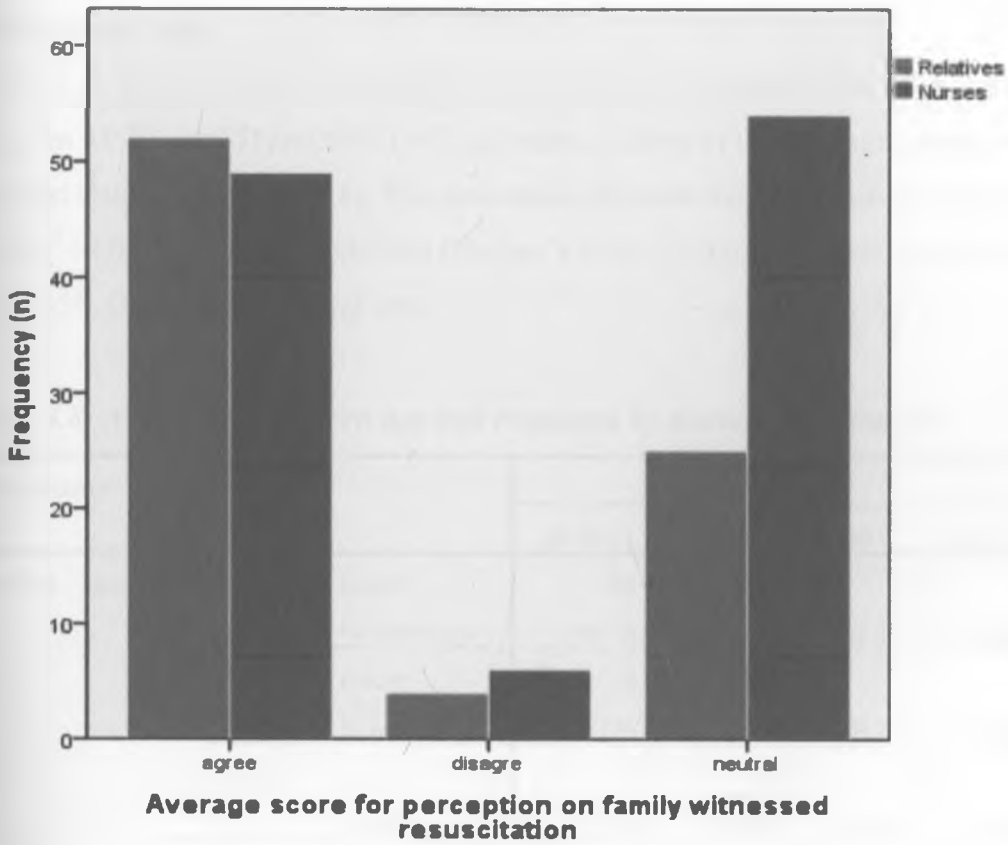
Table 4.7: Opinions on the contribution of FWR to legal malpractice suits

	Nurses (N=109)	Relatives (N=81)	Odds ratio	Chi square	P value
	n (%)	n (%)			
Yes	54(49.54)	48(59.26)	1.00	2.44	0.29
No	37(33.94)	25(30.86)	0.76		
Undecided/ No information	18(16.51)	8(9.88)	0.50		

Summary measure for respondents' perceptions concerning FWR

A summary of respondents' perception (0= Disagree; 1=Undecided; 2= Agree) was measured by calculating an average score based on each subject's responses to the five statements above namely desire to witness resuscitation, opinion on potential disruption of resuscitation, family's right to choose whether to witness resuscitation, emotional distress among staff and legal implications of FWR. The distribution of responses for the summary on FWR for both groups of respondents is presented in figure 4.6 below. The findings indicate that in general most relatives 64.20% (n=52) agreed with all the statements while only 44.95% (n=49) of nurses agreed with the statements. The participants who disagreed with all the five statements were 4.94% (n=4) of relatives and 5.5% (n=6) of nurses.

Figure 4.6: Summary response by nurses and relatives to 5 items assessing their opinion on family witnessed resuscitation



Association between perceptions on FWR and respondents' demographic characteristics

The findings of the bivariate analysis conducted using chi square tests to explore associations between the summary response and demographic characteristics showed the following:

Respondents' age

All the four family relatives disagreeing with all the 5 statements above were aged 30-39 years. Between 48.7% (n=37) and 60% (n=3) of nurses in three of the four age groups were undecided for most statements (Table 4.8). The association between the responses for both nurses (Fischer's exact $\chi^2=4.05$; $p=0.71$) and relatives (Fischer's exact $\chi^2=8.05$; 0.12) on age was not significant at the 95% Confidence Interval level.

Table 4.8: Association between age and responses by nurses and relatives

Respondents				Age				Total
				20-29 y	30-39 y	40-49 y	>50 yr	
Relative	response agree	Count	23	19	8	2	52	
		% within age	76.7%	65.5%	53.3%	28.6%	64.2%	
	disagree	Count	0	2	1	1	4	
		% within age	0%	6.9%	6.7%	14.3%	4.9%	
	neutral	Count	7	8	6	4	25	
		% within age	23.3%	27.6%	40.0%	57.1%	30.9%	
	Total	Count	30	29	15	7	81	
		% within age	100.0%	100.0%	100.0%	100.0%	100.0%	
	Nurse	response agree	Count	2	33	14	0	49
% within age			40.0%	43.4%	51.9%	.0%	45.0%	
disagree		Count	0	6	0	0	6	
		% within age	.0%	7.9%	.0%	.0%	5.5%	
neutral		Count	3	37	13	1	54	
		% within age	60.0%	48.7%	48.1%	100.0%	49.5%	
Total		Count	5	76	27	1	109	
		% within age	100.0%	100.0%	100.0%	100.0%	100.0%	

Respondents' gender

54.3% (n=19) of male nurses and 40.5% (n=30) of female nurses agreed with all the 5 statements (Fischer's exact $\chi^2 = 1.9$; p=0.36) compared to 61.2% (n=30) of male relatives and 68.8% (n=22) of female relatives (Fischer's exact $\chi^2 = 0.94$; p=0.61). Table 4.9

Table 4.9: Association between gender and responses by nurses and relatives

Respondents				Gender		Total
				Female	male	
Relatives	response	agree	Count	22	30	52
			% within gender	68.8%	61.2%	64.2%
	disagree	Count	2	2	4	
		% within gender	6.3%	4.1%	4.9%	
	neutral	Count	8	17	25	
		% within gender	25.0%	34.7%	30.9%	
	Total	Count	32	49	81	
		% within gender	100.0%	100.0%	100.0%	
Nurses	response	agree	Count	30	19	49
			% within gender	40.5%	54.3%	45.0%
	disagree	Count	4	2	6	
		% within gender	5.4%	5.7%	5.5%	
	neutral	Count	40	14	54	
		% within gender	54.1%	40.0%	49.5%	
	Total	Count	74	35	109	
		% within gender	100.0%	100.0%	100.0%	

Respondents' marital status

As shown in table 4.10 none of the widowed nurses agreed with all statements, while 45.5% (n=40) of married and 50% (n=9) of single nurses agreed. Among the relatives, agreement was higher at between 57.4% (n=27) for the married ones and 74.2% (n=23) for singles. These associations were however not significant at the 95% Confidence Interval level (Fischer's Exact $\chi^2=6.09$; p=0.22 for nurses and Fischer's Exact $\chi^2=6.53$; p=0.26 for the relatives).

Table 4.10: Association between marital status and responses by nurses and relatives

Respondents				Marital Status				Total
				divorce	married	single	widowed	
Relatives	response Agree	Count	0	27	23	2	52	
		% within marital	0%	57.4%	74.2%	100.0%	64.2%	
	disagree	Count	0	2	2	0	4	
		% within marital	.0%	4.3%	6.5%	.0%	4.9%	
	neutral	Count	1	18	6	0	25	
		% within marital	100.0%	38.3%	19.4%	.0%	30.9%	
	Total	Count	1	47	31	2	81	
		% within marital	100.0%	100.0%	100.0%	100.0%	100.0%	
	Nurses	response Agree	Count		40	9	0	49
			% within marital		45.5%	50.0%	.0%	45.0%
disagree		Count		4	1	1	6	
		% within marital		4.5%	5.6%	33.3%	5.5%	
neutral		Count		44	8	2	54	
		% within marital		50.0%	44.4%	66.7%	49.5%	
Total		Count		88	18	3	109	
		% within marital		100.0%	100.0%	100.0%	100.0%	

Respondents' religion

Religion was not associated with responses of either nurses or relatives at the 95% Confidence Interval level (Fischer's Exact $\chi^2 = 2.63$; $p = 0.56$ for nurses, and Fischer's Exact $\chi^2 = 4.02$; $p = 0.87$ for relatives). As shown in table 4.11 most of the nurses across religious groups were undecided on most statements while most relatives agreed with the statements.

Table 4.11: Association between religion and responses by nurses and relatives

Respondents			Religion					Total	
			catholic	muslim	no information	other	protestant		
Relatives	Agree	Count	22	4	1	2	23	52	
		% within religion	68.8%	80.0%	100.0%	100.0%	56.1%	64.2%	
	Disagree	Count	1	0	0	0	3	4	
		% within religion	3.1%	.0%	.0%	.0%	7.3%	4.9%	
	Neutral	Count	9	1	0	0	15	25	
		% within religion	28.1%	20.0%	.0%	.0%	36.6%	30.9%	
	Total	Count	32	5	1	2	41	81	
		% within religion	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	
	Nurses	Agree	Count	13	1			35	49
			% within religion	36.1%	33.3%	-	-	50.0%	45.0%
Disagree		Count	3	0			3	6	
		% within religion	8.3%	0%	-	-	4.3%	5.5%	
Neutral		Count	20	2			32	54	
		% within religion	55.6%	66.7%	-	--	45.7%	49.5%	
Total		Count	36	3			70	109	
		% within religion	100.0%	100.0%	-	-	100.0%	100.0%	

Nurses' education

Educational attainment was not significantly related with nurses' responses at the 95% Confidence Interval level (Fischer's exact $\chi^2 = 7.05$; $p = 0.41$).

Table 4.12: Association between education level and responses by nurses

Respondents			Education					Total
			missing	primary	secondary	tertiary	University	
Nurses response Agree	Count		1	1	9	1	37	49
	% within education		100.0%	25.0%	47.4%	25.0%	45.7%	45.0%
disagree	Count		0	1	2	0	3	6
	% within education		.0%	25.0%	10.5%	.0%	3.7%	5.5%
Neutral	Count		0	2	8	3	41	54
	% within education		.0%	50.0%	42.1%	75.0%	50.6%	49.5%
Total	Count		1	4	19	4	81	109
	% within education		100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Length of nursing experience

Only 36.4% (n=4) of nurses with 15-20years of experience and 20% (n=1) with over 20 years experience agreed with FWR statements compared with at least 41.5% (n=17) of those in younger age groups (Fischer's Exact $\chi^2 = 6.65$; $p=0.71$).

Table 4.13: Association between length of experience and responses by nurses

Nurses			Length of Experience					Total
			1-5 yrs	10-15 yrs	15-20 yrs	5-10 yrs	above 20	
response	Agree	Count	11	16	4	17	1	49
		% within experience	55.0%	50.0%	36.4%	41.5%	20.0%	45.0%
	disagree	Count	0	2	0	4	0	6
		% within experience	.0%	6.3%	.0%	9.8%	.0%	5.5%
	Neutral	Count	9	14	7	20	4	54
		% within experience	45.0%	43.8%	63.6%	48.8%	80.0%	49.5%
Total		Count	20	32	11	41	5	109
		% within experience	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Specialization

Specialization showed a statistical significant relationship with nurses' responses at the 95% Confidence Interval level. 48.4% (n=44) of specialist nurses agreed with statements on FWR compared to 27.8% (n=5) of non-specialized nurses (Fischer's Exact $\chi^2 = 7.65$; $p=0.04$).

Table 4.14: Association between specialization and responses by nurses

Nurses responses				Specialization		Total
				No	yes	
Agree	Count	5	44	49		
	% within specialization	27.8%	48.4%	45.0%		
disagree	Count	0	6	6		
	% within specialization	.0%	6.6%	5.5%		
neutral	Count	13	41	54		
	% within specialization	72.2%	45.1%	49.5%		
Total	Count	18	91	109		
	% within specialization	100.0%	100.0%	100.0%		

Relatives' occupation

Table 4.15 shows that most relatives 54.5% (n=12) to 75% (n=12) within each occupation agreed with most of the statement on FWR (Fischer's Exact $\chi^2=5.44$; $p=0.44$).

Table 4.15: Association between occupation and responses by relatives

				Occupation				Total
				others	professional employment	self employed	technical	
Relatives	response Agree	Count	12	16	12	12	52	
		% within occupation	66.7%	64.0%	54.5%	75.0%	64.2%	
	disagree	Count	2	0	1	1	4	
		% within occupation	11.1%	.0%	4.5%	6.3%	4.9%	
	Neutral	Count	4	9	9	3	25	
		% within occupation	22.2%	36.0%	40.9%	18.8%	30.9%	
Total	Count	18	25	22	16	81		
	% within occupation	100.0%	100.0%	100.0%	100.0%	100.0%		

Relation with patient

As shown in table 4.16 below, more than half of the relatives agreed with statements on FWR regardless of their relation with patients (Fischer's Exact $\chi^2=3.39$; $p=0.51$).

Table 4.16: Association between family relation and responses by relatives

				family			Total
				Extended	friend	nuclear	
Relatives	Agree	Count	27	15	10	52	
		% within family	64.3%	75.0%	52.6%	64.2%	
	disagree	Count	2	0	2	4	
		% within family	4.8%	.0%	10.5%	4.9%	
	neutral	Count	13	5	7	25	
		% within family	31.0%	25.0%	36.8%	30.9%	
Total	Count	42	20	19	81		
	% within family	100.0%	100.0%	100.0%	100.0%		

Multivariable analysis

The above summarized responses from nurses and relatives were further analyzed using ordinal logistic regression to explore factors that influence perception on family witnessed resuscitation.

Nurses

The overall model test for the nurses' response presented in table 4.17 produced a LR chi statistic=12.74 (p=0.1). From the observed coefficients in table 4.17; it can be concluded that marital status, religion, years of experience and specialization are all related to the nurses' opinions on family presence during resuscitation. The effect of widowed nurses has a negative coefficient (-3.750) implying that they are less likely to indicate willingness to allow witnessed resuscitation in comparison to their married colleagues (p=0.011). Similarly years of experience had a negative coefficient. Nurses with 15 to 20 years experience 36.4% (n=4), (p=0.053) and those with more than 20 years experience 20.0% (n=1) (p=0.039) were less likely to agree to FWR compared to nurses with 10-15 years experience 50.0% (n=16) and those with less than 5 years experience 55.0% (n=11). The coefficient for religion (+0.834) implies that the nurses professing a religious belief are more likely to agree to witnessed resuscitation compared to those without religious affiliations (p=0.043). Age, gender and educational level do not appear to be related to responses obtained on this question after adjusting for the effect of other factors in the model.

Table 4.17: Ordinal logistic regression of predictors of nurses' response on their desire to witness resuscitation

	Coefficient	Std. Err.	Z statistic	P value	[95% Confidence Interval]	
					Lower Limit	Upper Limit
30-39 years	0.889	1.130	0.790	0.431	-1.326	3.105
40-49 years	2.091	1.283	1.630	0.103	-0.423	4.604
50 and above	-2.272	2.294	-0.990	0.322	-6.768	2.224
Gender	-0.558	0.466	-1.200	0.232	-1.472	0.356
Widowed	-3.750	1.471	-2.550	0.011	-6.634	-0.867
Divorced	0.295	0.637	0.460	0.643	-0.953	1.543
Religion	0.834	0.412	2.020	0.043	0.027	1.642
Experience						
5 to 10 years	-1.127	0.727	-1.550	0.121	-2.552	0.299
10 to 15 years	-1.101	0.754	-1.460	0.144	-2.580	0.377
15 to 20 years	-1.928	0.998	-1.930	0.053	-3.884	0.027
Above 20 years	-2.778	1.348	-2.060	0.039	-5.420	-0.136
Diploma	0.610	1.159	0.530	0.599	-1.662	2.882
Bachelors degree	0.814	1.217	0.670	0.504	-1.573	3.200
Masters degree	0.341	1.513	0.230	0.822	-2.624	3.306
Other	14.086	1164.665	0.010	0.990	-2268.616	2296.788
No specialization	-0.670	0.612	-1.090	0.274	-1.870	0.531
Professional association	0.012	0.217	0.060	0.954	-0.413	0.438

Relatives

Results of the ordinal logistic regression of factors influencing relatives' responses on whether they wanted to witness resuscitation of loved ones are presented in table 4.18. The overall test of the null hypothesis that the coefficient for all the variables in the model are 0 yielded a LR chi statistic of 6.01 ($p= 0.53$). There appears to be no significant relationship between relatives' gender, marital status, or with patients' age and the responses on desire to witness resuscitation. Only occupation and relatives' age showed a significant association with relatives' responses.

Relatives who held professional employment 64.0% (n=16) and those with technical occupations 75% (n=12) agreed with most of the statements on FWR; than those in self employment (p=0.05) (Table 4.15). Older relatives aged between 40-49 years were more likely to agree to FWR than those below 20 years (p=0.019), (Table 4.18).

Table 4.18: Ordinal logistic regression of predictors of relatives' response on their desire to witness resuscitation

	Coefficient	Std. Err.	Z statistic	P value	[95% Confidence Interval]	
					Lower Limit	Upper Limit
30-39 years	-1.636	0.993	-1.650	0.099	-3.581	0.310
40-49 years	-2.702	1.154	-2.340	0.019	-4.964	-0.440
50 and above	-1.892	1.411	-1.340	0.180	-4.657	0.873
Gender	-1.283	0.735	-1.750	0.081	-2.723	0.157
Widowed	16.553	1955.424	0.010	0.993	-3816.008	3849.115
Single	-2.081	2.280	-0.910	0.361	-6.551	2.388
Divorced	-0.591	0.819	-0.720	0.471	-2.197	1.016
Religion	-0.043	0.330	-0.130	0.897	-0.690	0.604
Patients age						
<5 years	-1.684	1.948	-0.860	0.387	-5.502	2.133
5-16 years	-1.244	1.775	-0.700	0.484	-4.723	2.236
17-29 years	-2.524	1.615	-1.560	0.118	-5.689	0.641
30-49 years	-2.314	1.711	-1.350	0.176	-5.667	1.039
50 years and above	0.636	0.824	0.770	0.441	-0.980	2.252
Occupation						
Professional	0.359	0.950	0.380	0.705	-1.503	2.222
Technical	0.617	1.011	0.610	0.542	-1.365	2.599
Others	0.991	0.507	1.960	0.051	-0.002	1.984

Nurses' perception of specific issues concerning FWR

More than half of the nurses consistently agreed with statements aimed to measure their perception on family and patients right during FWR. Table 4.19 summarizes these responses.

Table 4.19: Nurses' perception on specific issues around FWR

	N=109	
	YES n (%)	No n (%)
Family members accompanied by a staff member should be allowed to be present during resuscitation.	67 (61.47)	42 (38.53)
I would support family presence during resuscitation	55(59.63)	44(40.37)
Family members' presence during resuscitation affects my confidentiality	64 (58.72)	45 (41.28)
Family presence may disrupt the resuscitation process and delay the decision to stop	88 (80.73)	21 (19.27)
The patient has a right for his/her family member(s) to be present during a medical or trauma resuscitation.	84 (77.06)	25 (22.94)
If the patient's family prefers to be present during resuscitation, they require a support staff to be with them.	91 (83.49)	18 (16.51)
Family presence may interfere with teaching of students during resuscitation	94 (86.24)	15 (13.76)
In the presence of family members' healthcare professionals may change their decisions	73 (66.97)	37 (33.03)
Family members' presence during resuscitation may compromise the confidentiality of the patient's information	90 (82.57)	19 (17.43)
Average	79 (72.99)	30 (27.01)

Relatives' perception on specific issues

Only a small percentage 20.99% (n=17) of relatives thought that there was no benefit to be gained from FWR. As shown in table 4.20, most relatives would like to be given a choice on whether to witness resuscitation. 66.67% (n=54) of the relatives were not equipped to deal with FWR and would prefer having a supportive staff present during FWR 70.37% (n=57).

Table 4.20: Relatives perception of FWR

	N= 81		
	YES n (%)	NO n (%)	No response n (%)
I believe my patient would be supportive of my presence during the process	40 (49.38)	30 (37.04)	11 (13.58)
I would like to be given a choice to decide whether to witness the resuscitation	59 (72.84)	15 (18.52)	7 (8.64)
I would like a supportive staff present with me during the process	57 (70.37)	15 (18.52)	9 (11.11)
Relatives may interfere with treatment	40 (49.38)	34 (41.98)	7 (8.64)
Procedures involved may offend relatives	54 (66.67)	21 (25.93)	6 (7.41)
Staff may offend relatives	35 (43.21)	39 (48.15)	7 (8.64)
Relatives are not equipped to deal with it	54 (66.67)	22 (24.69)	7 (8.64)
There is no benefit to be gained	17 (20.99)	56 (69.14)	8 (9.88)
Average	54.94	35.50	9.57

Table 4.21: nurses' policy preferences towards FWR

	N= 109		
	YES n (%)	No n (%)	No response n (%)
Prefer a written policy allowing the option of family presence during CPR	84 (77.06)	22 (20.18)	3 (2.75)
Prefer a written policy prohibiting the option of family presence during CPR	37 (33.94)	68 (62.9)	4 (3.670)
Prefer no written policy but want the unit to allow the option of family presence during CPR	32 (29.36)	74 (67.89)	3 (2.75)
Availing a staff who will brief the relatives prior to witnessing the resuscitation process	97 (88.99)	8 (7.34)	4 (3.67)
Establishing rules of what to expect during the resuscitation to avoid interruptions	99 (90.83)	8 (7.34)	2 (1.83)
Support of the relatives during the resuscitation	100 (91.74)	6 (5.50)	3 (2.75)
Average	75 (68.65)	31 (28.44)	3 (2.90)

Advantages towards FWR

Table 4.22: Respondents advantages towards FWR

	N=109		
	YES n (%)	No n (%)	No response n (%)
Nurses			
It provides an atmosphere that helps in the grieving process	81 (74.31)	24 (22.02)	4 (3.67)
Helps increase relatives' knowledge of the patients' medical condition	67 (61.47)	35 (32.11)	7 (6.42)
The family will see that everything possible was done to their loved one	100 (91.74)	5 (4.59)	4 (3.67)
Average	83 (75.84)	21 (19.57)	5 (4.59)
Relatives	N=81		
Witnessing resuscitation helps in the grieving process	50 (61.73)	22 (27.16)	9 (11.11)
Witnessed resuscitation gives me more knowledge about my patient's condition	47 (58.02)	25 (30.86)	9 (11.11)
My presence reassures me that all possible medical interventions were done	63 (77.78)	12 (14.81)	6 (7.41)
Average	53 (65.84)	20 (24.28)	8 (9.89)

Disadvantages towards FWR

Table 4.23: Respondents disadvantages towards FWR

	N=109		
Nurses	YES n (%)	No n (%)	No response n (%)
Family presence interferes with patient care and resuscitation process	71 (65.14)	32 (30.28)	6 (4.59)
Witnessing resuscitation is too traumatic for the relatives	87 (79.82)	18 (16.51)	4 (3.67)
Average	79 (72.48)	25 (23.40)	5 (4.13)
Relatives	N= 81		
Witnessing resuscitation is too traumatic for me	29 (35.80)	46 (56.79)	6 (7.41)
I may interfere with the resuscitation process	24 (29.63)	48 (59.26)	9 (11.11)
Average	27 (32.72)	47 (58.03)	7 (9.26)

CHAPTER FIVE: DISCUSSION OF RESULTS

5.1 INTRODUCTION

The study was carried out in the critical care units of Kenyatta National hospital (KNH) and Agakhan University Hospital (AKUH). A total of 190 participants; both nurses 57.4% (n=109) and relatives 42.6% (n=81) were involved in the study. Of the nurses, 78.9% (n=86) were from KNH and 21.10% (n=23) were from AKUH. Of the relatives, 56.79% (n=46) were from KNH while 43.21% (n=35) from AKUH.

5.2 CURRENT PRACTICE OF FAMILY WITNESSED RESUSCITATION

75.2% (n=82) of nurses reported that appropriate guidance existed as to when to stop resuscitation in their respective institutions. 55.9% (n=61) and 56.8% (n=62) of the nurses reported mechanisms were in place for incident debriefing and access to stress debriefing. However, there was lower compliance with policies to deal with family relatives during FWR. Between 27.5% (n=30) and 55.9% (n=61) of the nurses reported that there were policies for team members dealing with grieving relatives and follow up of relatives. Despite this lower compliance: a high percentage 70.6% (n=77) of nurses reported a system was in place that allowed access to experienced staff that could support relatives when required.

Despite the hospitals used in the study having clear guidelines on resuscitation and debriefing of staff, they lacked policies or guidelines on family presence during resuscitation. Miller and Stiles (2009) reported that few hospitals have policies regarding family presence during resuscitation. They further added that having a policy in place will help reduce the difference in opinion between the health care professionals. According to Guzzetta (2000), only 5 percent of critical care units in the U.S. had written policies allowing family presence despite support of this practice by professional organizations and critical care experts since the 1980s. Clift, (2006) further added that surveys of nurses' practice found that most critical care nurses had been requested by family members to be present during resuscitation and invasive procedures and a majority of the nurses had brought families to the bedside, despite the lack of formal hospital policies.

77.1% (n=84) of the critical care nurse respondents were in favour of having a written policy allowing the option of family presence during resuscitation further showing support of family witnessed resuscitation but with proper laid down guidelines. According to Guzzetta (2000), a survey of 1,000 critical care and emergency nurses, conducted in 2003, revealed that 95% of respondents worked in critical care units and emergency departments with no written family presence policies.

5.3 PERCEPTIONS TOWARDS FWR

The perception of the respondents (nurses' and family relatives) was based on the following: desire to witness resuscitation, potential of the relatives to disrupt the resuscitation process, families' right to choose to witness resuscitation, FWR caused emotional stress to staff and legal implications of FWR. In general, the relatives 64.20% (n=52) were more positive towards witnessed resuscitation than nurses 44.95 % (n=49).

5.3.1 Desire to witness resuscitation

Relatives 67.90% (n=55) were more likely to favor involvement of family during resuscitation than nurses 46.79% (n=51); table 4.3. These differences were statistically significant at the 95% Confidence Interval level (Fischer's exact $\chi^2=8.52$; $p=0.015$). Current studies indicate that most families would like to be present during resuscitation and would make the same choice again (Davidson, 2001). Some authors have argued that paternalistically protecting families by barring them from the resuscitation room is no longer warranted because many bystanders witness critical events in the field. Television shows such as *ER (Emergency Room)*, have given many individuals an idea of what they might see if they are present during resuscitation (Davidson, 2001).

5.3.2 Potential for relatives to disrupt the resuscitation process

Despite the difference in opinion between the nurses and the relatives on the desire to witness resuscitation, a majority of both; relatives 66.67% (n=54) and nurses 66.06% (n=72) thought that relatives would disrupt the resuscitation. Only 29.63% (n=24) of relatives and 20.18% (n=22) of nurses thought that involvement of family could not disrupt resuscitation. These findings echoed Helmer (2000)'s study that one of the 3 primary reasons healthcare professionals were reluctant

to allow family presence during resuscitation was that they (family members) would become disruptive during the process. These results were similar to those of Yanturali et al (2005) who stated that family witnessed resuscitation would lead to interference and litigation. Other studies (McMahon, 2009) found no patient care disruptions and no adverse psychological effects among family members who participated.

5.3.3 Families right to choose to be present during resuscitation

Nurses and relatives differed concerning the right of family members to witness resuscitation. 79.01% (n=64) of relatives believed that the family members have a right to choose whether to witness resuscitation compared to 55.05% (n=60) of nurses (p=0.011). In other studies, 94% to 100% of family members who participated in family presence during resuscitation stated they would do so again in the future (Clark, 2005). The family members further emphatically asserted that it was their right to be present during this process.

5.3.4 FWR causes emotional stress to staff

Nurses were more likely to report that presence of family members was a source of emotional stress among staff compared to relatives. 53.09% (n=43) of relatives thought FWR was a source of emotional stress compared to 61.47% (n=67) of nurses (Table 4.6). This association was significant at the 95% Confidence Interval level (Fischer's exact $\chi^2 = 11.99$; p=0.002). Goodenough (2001) found that family witnessed resuscitation was a threat to staff and harmful to implement in contrast to Meyers et al. (2000) and Boyd (2000) who found it to be of no harm and that it produced no significant changes on the stress levels of healthcare workers. However in a more recent study, the most frequently documented concern among healthcare workers was that family members would become too emotional and would interfere with patient care (Critchell, 2007). This concern in his study was the number one legitimate argument against family presence and no one wants any interruption in patient care.

5.3.5 Legal implications of FWR

More relatives 59.26% (n=48) compared to nurses 49.54% (n=54) thought that legal implications could result from family observation of resuscitations (Table 4.7). However, these differences were not statistically significant at the 95% Confidence Interval level (Fischer's exact $\chi^2 = 2.44$;

p=0.29). Similar findings were documented by Moreland (2005) who stated that healthcare workers feared that family witnessed resuscitation would increase legal liability. His sentiments were echoed by both Rosenzweig (1998) and Cole (2005).

5.4 FACTORS THAT AFFECT DIFFERENCES IN PERCEPTION

5.4.1 Critical Care Nurses' perception.

The coefficient for religion (+0.834) table 4.17, implied that critical care nurses professing a religious belief were more likely to agree to family presence during resuscitation as compared to those without religious affiliations (p=0.043). Baumhover (2008) documented similar results that the higher the level of spirituality of the health care professionals the more likely they were to support family witnessed resuscitation.

Ellison (2003), nurses who held a professional certification, worked in emergency and critical care departments, and were members of a professional organization were more favorable towards family presence than other nurses and they invited family presence during resuscitation more often. He further documented that nurses with more experience were more in support of FWR than those with less. 48.4% (n=44) of critical care nurses with specialization agreed with statements on FWR compared to 27.8% (n=5) of non-specialized nurses (Exact $\chi^2=7.65$; p=0.04). The study revealed that nurses with 15 to 20 years experience 36.4% (n=4), (p=0.053) and those with more than 20 years experience 20.0% (n=1) (p= 0.039) were less likely to agree to FWR compared to nurses with 10-15 years experience 50.0% (n=16) and those with less than 5 years experience 55.0% (n=11). Conversely (Cole, 2000); documented that, more experienced staff opted for FWR and this was thought so because they felt more competent in their resuscitative efforts than less experienced staff members who feared carrying out a resuscitative effort for the first time.

Critical care nurses who were widowed were less likely to indicate willingness to allow family presence during resuscitation FWR (P=0.011). Age, gender and educational level didn't seem to affect the nurses' perception towards family witnessed resuscitation. Mazer (2004) reported that age, level of education, income level and end of life planning didn't influence the belief towards FWR.

5.4.2 Relatives' perception

Occupation and age were the main factors that affected the relatives' perception towards family witnessed resuscitation. Relatives who held professional employment 64.0% (n=16) and those with technical occupations 75% (n=12) agreed with most of the statements on FWR; than those in self employment (p=0.05) (Table 4.15). Older relatives aged between 40-49 years were more likely to agree to FWR than those below 20 years (p=0.019), (Table 4.18); this disagrees with Ersoy (2009) who reported age was not a factor.

Macy (2006) reported that the hospital setting strongly affected the decision to allow family witnessed resuscitation; those from an urban setting supported witnessing resuscitation less than those from a sub-urban setting. However as per the bivariate and multivariate analysis in the study there was no difference between the respondents in the two hospitals.

There was no significant relationship between gender and marital status and the responses of relatives' on their desire to witness resuscitation. Apart from these, Ersoy (2009) further added that level of education as well did not significantly affect the relatives' willingness to witness resuscitation.

5.5 PREFERENCES TOWARDS FWR

Despite critical care nurses' not being in favor of FWR, a majority of them 83.49% (n=91) said they would support it if the relative was accompanied by a staff member during the process. The findings are similar to that of Grice (2003) where he reported that nurses would allow family presence during resuscitation if the relatives were escorted. The role of the escort was felt to explain, prevent interference and to provide emotional support. 70.37% (n=57) of the relatives were in agreement with the nurses. Maxton (2008) stated that the support staff should preferably be an experienced and intuitive nurse who can recognize and adapt to the changing needs of the family members.

Of the respondents (family relatives) who had previously witnessed a resuscitation, 14.8% (n=12) were encouraged by critical care nurses to witness resuscitation while 7.4% (n=6) were encouraged by physicians; this number was however very little to infer any significance. In previous studies by Redley (2006), he discovered that both nurses and physicians indicated a positive personal preference for FWR although the preference was stronger among nurses. Moreland (2005) attributed the difference in opinion between nurses and physicians to nurses' holistic view of patients and that nurses were the first persons that patients and family came into contact with on arrival to hospital. Boudreaux (2002) agrees with this saying nurses' attitude towards family presence was consistently more positive than were physicians' attitude.

5.6 ADVANTAGES TOWARDS FWR

The primary benefit identified by the critical care nurses towards FWR was that the family of the patient will see that everything possible was done 91.7% (n=100). 74.3% (n=81) of the nurses reported they would support witnessed resuscitation because it provided an atmosphere that helped in the grieving process of the relatives. 77.8% (n=63) of the relatives however reported they would support witnessed resuscitation because it reassured them that all possible medical interventions were done; and 61.7% (n=50) reported that their presence during the process helped during the grieving process. Both Maclean et al (2003) and Wagner (2004) identified benefits of FWR as including; satisfying the family members that all possible medical interventions were done and it increased their knowledge of their patient's medical condition. The most common advantage mentioned by relatives and staff in multiple studies was that "witnessing resuscitation helped the family know that everything possible was done".

5.7 DISADVANTAGES TOWARDS FWR

79.8% (n=87) of the critical care nurses cited that witnessing resuscitation for the relatives would be too traumatic for them, 35.8% (n=29) of the relatives were in agreement, while 56.8% (n=46) were in disagreement. According to Robinson et al (1998) who carried out a randomized control study evaluating the psychological effects of witnessing resuscitation of a loved one, one of their conclusions was that: none of those who witnessed resuscitation reported being frightened by the process or needing to leave the room and all were content with their decision to be present.

In a study carried out at Arkansas Hospital, only 38% of the medical professionals would consider witnessed resuscitation, one of the reasons against this was that the process was too traumatic for the relatives to view (Aldridge, 2005). However in other studies, researchers found that no family members had traumatic memories 2 months after the event, Yanturali et al, (2005).

5.8 CONCLUSION

In conclusion, both critical care nurses and family relatives had mixed opinions on witnessing resuscitation; the relatives were however more receptive to the practice than the nurses. More than half of the respondents had no experience of family presence during resuscitation. However of the critical care nurses who had had an opportunity to resuscitate in the presence of relatives described their experience as manageable.

Among the critical care nurses, religion, specialization, years of experience and marital status were the main factors that affected their perception towards the practice. Religion and specialization elicited a positive perception towards witnessed resuscitation, a finding that was supported in other studies. Years of experience and marital status however elicited a negative perception in that the more experienced the nurses became the lesser they supported the practice; the widowed nurses were also unwilling to support the practice.

Age and occupation were the main factors that affected the perception of the relatives. Age elicited a positive perception, the older the relative the more receptive they were towards witnessing resuscitation. Relatives with professional occupations had positive perceptions towards the practice in comparison to those who were self employed.

There were no policies in place regarding witnessed resuscitation and a majority of the respondents felt the practice would be adopted better with a formal policy in place and if the relatives were accompanied and supported by a professional staff during the process.

Family presence during resuscitation is a natural outgrowth of family-centered care, which regards the family as the primary source of strength and support of the patient. Family witnessed resuscitation is not a new practice; its several decades old and it is time Africa as a continent and Kenya as a country followed suit in the latest current medical practices.

5.9 RECOMMENDATIONS

Since both Institutions used in the study; Kenyatta National Hospital and Agakhan University Hospital; are training institutions an educational training program on witnessed resuscitation maybe included into the nurses' curriculum within the training schools. This is because, nurses have the most contact with family members of critically ill patients and are therefore at the grassroots and are the main targets of the program to change their perceptions. According to Bassler (2007), this was tried on critical care nurses and it worked.

Nursing is an evidence-based practice; therefore clinical trials may also be carried out in order to adopt evidence based practice guidelines for example the effects of witnessed resuscitation on healthcare providers.

The results of this study indicate that the critical care units have no written policies or guidelines for family presence during resuscitation. The implications of nurses' differences about whether a written policy is needed may reflect discomfort with family presence or resistance to changing long-standing practice. A policy on family presence could be beneficial if it detailed the responsibilities of nurses during family presence. The Emergency Nurses Association and American Heart Association have developed policy guidelines which are available to institutions that would like to implement Family Witnessed Resuscitation.

Policy making organs for example the Ministry of Health (MOH) and professional bodies; Nursing Council of Kenya (NCK) and National Nurses Association of Kenya (NNAK); should get together to prepare policies that support FWR within the hospital setup. The purposes of these policies will be to 'think and decide' ahead of time how to deal with such requests from relatives and also to protect the healthcare professionals from litigation. They should also develop documentation standards for family presence and include rationale for when family presence would not be offered as an option to the family members.

Finally, further research is needed on the perceptions of critical care nurses in other areas such as the accident and emergency department. The perceptions of physicians as well as those of the patient need to be incorporated as well.

TIME FRAME (MAY 2010 TO APRIL 2011)

ACTIVITY	DURATION IN WEEKS															
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Problem Identification	■															
Proposal writing		■														
Seeking consent from ethical committee			■	■												
Selection and training of research assistants					■											
Pretesting of questionnaires						■										
Administration of questionnaire							■	■	■	■						
Data cleaning and entry											■					
Data analysis												■	■			
Research report, writing and presentation														■	■	
Compiling of final report																■
Defense of thesis																■

BUDGET

PARTICULARS	UNIT COST(KSHS)	TOTAL COST (KSHS)
HUMAN RESOURCE		
(a) Training of Research Assistants		
1 Principal researcher	500/= x 2 days	1000
6 Research assistants	300/= x 2 days	3600
(b) Salaries (pretesting)		
1 Principal researcher	500/= x 2 days	1000
6 Research assistants	300/= x 2 days	3600
© Actual Research		
1 Principal researcher	500/= x 5 x 4 days	10,000
6 Research assistants	300/= x 5 x 4 days	36,000
Transport costs	150/= x 4 x 4 days	2400
MATERIALS AND SUPPLIES		
Foolscaps- 1 ream	300	300
Folders/clipboard	100	700
Stapler	50	50
Staples	50	50
Duplicating paper	350	350
Stationery(ball pens, pencils, pens, erasers and rulers)	-	500
PROPOSAL		
Typing	300/=	300
Printing	500/=	500
Proposal binding 5 copies	50/=	250
Photocopying questionnaires 8 pages	3/= x 208	4992
Typing final report		300
Printing final report 1 copy	500/=	500
Photocopying final report 5 copies	240/=	1200
Data analysis	-	3000
Report binding 5 copies	50	250
SUB TOTAL		70842.00
10% Contingencies		7084.20
GRAND TOTAL		77,926.20

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LIST OF APPENDICES

APPENDIX 1: QUESTIONNAIRE FOR CRITICAL CARE NURSES

“Perception of nurses and patients’ relatives towards family witnessed resuscitation in Critical Care Units of Agakhan University Hospital and Kenyatta National Hospital”.
Please fill in the questionnaire as truthfully as possible. Place a tick (✓) in the appropriate box.

DO NOT include your name.

DATE: _____ INTERVIEWER: _____ CODE: _____

Hospital Name: 1. KNH....

2. Aga Khan..

SOCIO-DEMOGRAPHIC DATA:

1. Age:

1. 20 – 29 years...

2. 30 – 39 years...

3. 40 – 49 years...

4. 50 and above...

2. Gender:

1. Male...

2. Female...

3. Marital Status:

1. Married.....

2. Widowed...

3. Divorced.....

4. Single.....

4. Educational Status:

1. Certificate...

2. Diploma...

3. Graduate/Degree...

4. Masters Degree

5. Doctorate/PHD...

6. Others (specify)...

5. Religion:

1. Catholic

2. Protestant

3. Muslim

4. Other (Specify) -----

6. Years of Experience:

1. 1 - 5 years.....

2. 5 - 10 years...

3. 10 - 15 years..

4. 15 - 20 years..

5. Above 20 years..

7. Position/ Cadre in the unit:

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

8. Institution of training (basic nursing training):

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

9. Have you had any specialized training apart from the basic nursing?

1. Yes.....

2. No.....

If yes, state the field of study.....

10. Are you affiliated to any professional organization?

1. Yes.....

2. No.....

If yes, state the name of the organization.....

PERCEPTIONS TOWARDS FAMILY WITNESSED RESUSCITATION:

SECTION A: KNOWLEDGE ON FAMILY WITNESSED RESSUSCITATION

11. The following are situations that may necessitate CardioPulmonaryResuscitation.

	YES	NO	COMMENTS
Acute respiratory failure			
Acute myocardial infarction			
Common cold			
Severe Burns			
Acute renal failure			
Tonsillitis			

12. Place a tick in the appropriate column.

	YES	NO	COMMENTS
Does guidance exist as to stopping resuscitation?			
Are there policies for team members which deal with:			
d. Witnessed resuscitation			
e. Grieving relatives			
f. Follow up on grieving relatives			
Is there a system in place that allows access to experienced staff who can support relatives when required?			
Are there mechanisms in place for critical incident debriefing?			
Is there any access to stress debriefing in place?			

13. Have you had any training on the following courses:

	YES	NO
Basic Life Support (BLS)		
Advanced Cardiac Life Support (ACLS)		
Advanced Trauma Life Support (ATLS)		
Pediatric Advanced Life Support (PALS)		
Others (specify)		

14. Are you aware of any institution that allows patients' relatives to be present during resuscitation?

1. Yes..... 2.No.....

3. Others (specify).....

15. Would you like to be present during resuscitation of your loved one?

1. Yes..... 2.No.....

3. I don't know...

SECTION B: ATTITUDE TOWARDS FAMILY WITNESSED RESUSCITATION

Use the below key to answer the following questions:

1....agree, 2....strongly agree, 3....neutral, 4.....disagree, 5....strongly disagree

Staff members' beliefs:

16. Family members accompanied by a staff member should be allowed to be present during resuscitation.

1	2	3	4	5

17. I would support family presence during resuscitation.

--	--	--	--	--

18. Family members' presence during resuscitation is emotionally stressful to staff.

--	--	--	--	--

19. Family members' presence during resuscitation affects my confidentiality.

--	--	--	--	--

20. The presence of the family may disrupt the the resuscitation process.

--	--	--	--	--

21. Family presence may disrupt the resuscitation process and delay the decision to stop.

--	--	--	--	--

Patients and families rights:

22. The patient has a right for his/her family member (s) to be present during a medical or trauma resuscitation.

--	--	--	--	--

23. Family members have a right to be present during a medical or trauma resuscitation.

--	--	--	--	--

24. If the patient's family prefer to be present during resuscitation. they require a support staff to be with them.

--	--	--	--	--

25. Family presence may interfere with teaching of students during resuscitation.

--	--	--	--	--

26. In the presence of family members' healthcare professionals may change their decisions.

--	--	--	--	--

27. Family members' presence during resuscitation may compromise the confidentiality of the patient's information.

--	--	--	--	--

28. Family members' presence would expose health care professionals to malpractice suits.

--	--	--	--	--

SECTION C: PRACTICE CONCERNS TOWARDS FAMILY WITNESSED RESUSCITATION

29. Have you ever participated in CPR?

1. Yes.....

2.No.....

If yes, was your participation active or passive.....

30. Were the relatives present during the resuscitation?

1. Yes.....

2.No.....

If yes, describe your experience:

	YES	NO
Systematic		
Manageable		
Chaotic		
Unpleasant		
Others (specify)		

31. In your opinion list any advantages towards family witnessed resuscitation (FWR)?

	YES	NO	COMMENTS
It provides an atmosphere that helps in the grieving process			
It helps reduce fear and anxiety of relatives			
Helps increase relatives' knowledge of the patients' medical condition			

The family will see that everything possible was done to their loved one			
A bond is developed between the patient's relative and resuscitation team			
Others (specify)			

32. In your opinion list any disadvantages towards family witnessed resuscitation?

	YES	NO	COMMENT
Family presence interferes with patient care and resuscitation process			
Witnessing resuscitation is too traumatic for the relatives			
Witnessing resuscitation exposes the resuscitation team to liability and litigation			
There is a shortage of staff to support the relatives during the resuscitation			
Others (specify)			

33. What are some of the policy options regarding family witnessed resuscitation you would like implemented within your institution?

a) Prefer a written policy allowing the option of family presence during CPR.

1. Yes.....

2.No.....

b) Prefer a written policy prohibiting the option of family presence during CPR.

1. Yes.....

2.No.....

c) Prefer no written policy but want the unit to allow the option of family presence during CPR.

1. Yes.....

2.No.....

34. What do you think are some of the needs that should be considered when implementing a policy on family witnessed resuscitation in the unit?

	YES	NO	COMMENT
Availing a staff who will brief the relatives prior to witnessing the resuscitation process			
Establishing rules of what to expect during the resuscitation to avoid interruptions			
Support of the relatives during the resuscitation			
Others (specify)			

35. Do you think patients and/or relatives should sign consent forms on admission regarding their presence during resuscitation?

1. Yes.....

2.No.....

36. Any personal comment.

.....

Thank you for taking your time to respond to this questionnaire.

APPENDIX 2: QUESTIONNAIRE FOR FAMILY RELATIVES

“Perception of nurses and patients’ relatives towards family witnessed resuscitation in Critical Care Units of Agakhan University Hospital and Kenyatta National Hospital”.

Please fill in the questionnaire as truthfully as possible. Place a tick (✓) in the appropriate box.

DO NOT include your name.

DATE: _____ INTERVIEWER: _____ CODE: _____

Hospital Name: 1. KNH.....

2. Aga Khan..

SOCIO-DEMOGRAPHIC DATA:

1. Age:

1. 20– 29 years...

2. 30 – 39 years...

3. 40 – 49 years...

4. 50 and above...

2. Gender:

1. Male..

2. Female..

3. Marital Status:

1. Married.....

2. Widowed...

3. Divorced.....

4. Single.....

4. Profession:

.....

5. Educational Status:

1. Primary level.....

2. University level.....

3. Secondary level.....

4. Tertiary level.....

4. Others (specify).....

6. Religion:

1. Catholic

2. Protestant

3. Muslim

4. Other (Specify) -----

7. Relationship to patient:

Age of patient.....

Relationship to patient.....

SECTION A: KNOWLEDGE ON FAMILY WITNESSED RESUSCITATION

8. Do you know what resuscitation of a patient (revival) means?

1. Yes....

2.No.....

9. Of the following statements, what do you understand by the term 'resuscitation'?

STATEMENT	YES	NO	COMMENTS
It involves rhythmically applying pressure to the chest of a patient in order to pump blood through the heart			
To revive from an unconscious state			
To make a person active or vigorous again			
To give medication to a patient			
Others (specify)			

10. Are you aware of any institution (hospital) that allows patients' relatives to be present during resuscitation?

1. Yes.....

2.No.....

3. Others (specify).....

11. Have you had any training whether formal or informal on first aid

1. Yes.....

2.No.....

SECTION B: ATTITUDE TOWARDS FAMILYWITNESSED RESUSCITATION

12. Has anyone close to you; besides the patient in hospital; ever been resuscitated?

1. Yes.....

2.No.....

3. I don't know...

13. The following are statements on family presence during resuscitation; please tick the appropriate column.

	YES	NO	COMMENTS
If present, I would like to witness the revival of my loved one			
I believe my patient would be supportive of my presence during the process			
I would like to be given a choice to decide whether to witness the resuscitation			
I would like a supportive staff present with me during the process			

14. The following are some concerns by hospital staff concerning family witnessed resuscitation. (Tick where appropriate).

	YES	NO	COMMENTS
Relatives maybe disruptive to staff			
Relatives may interfere with treatment			
Procedures involved may offend relatives			
Staff may offend relatives			
Stress levels of the staff would increase			
Relatives are not equipped to deal with it			
Relatives have no right to be there			
There is no benefit to be gained			
Presence of relatives may have legal consequences			

SECTION C: PRACTICE ON FAMILY WITNESSED RESUSCITATION

15. Have you ever witnessed resuscitation of a patient?

1. Yes...

2. No.....

If yes state where:

1. Television.....

2.Roadside.....

3. Hospital.....

4.Internet.....

Others (specify).....

16. What was your 1st experience like during the resuscitation?

1. Unpleasant.....

2.In control of self.....

3. Unable to control self.....

4. Others (specify).....

17. Who encouraged your presence during the resuscitation?

1. Doctor.....

2.Nurse.....

3. Self.....

4.Others (specify).....

18. If asked, would you mind being present during another resuscitation attempt?

1. Yes.....

2.No.....

19. What do you think are some factors that may influence your decision on whether to be present or not during resuscitation of your loved one?

	YES	NO	COMMENT
Religion			
Culture			

Previous experiences			
Level of education			
Income Level			
Institutional policy			
Desire to take responsibility towards my health			

20. In your opinion, what are some of the advantages/ disadvantages for a relative to be present during resuscitation of their loved one?

STATEMENTS	YES	NO	COMMENTS
Witnessing resuscitation helps in the grieving process			
Witnessed resuscitation assists in closure			
My presence reassures me that all possible medical interventions were done			
Witnessing resuscitation gives me more knowledge about my patient's condition			
Witnessing resuscitation reduces my fears and anxiety			
Witnessing resuscitation is too traumatic for me			
I may interfere with the resuscitation process			
Others (specify)			

21. Any personal comment.

.....

Thank you for taking your time to respond to this questionnaire.

APPENDIX 3: CONSENT FORM FOR CRITICAL CARE NURSES.

Dear Participant,

My names are Teresa Omoding and I am a postgraduate student at the University of Nairobi studying for a Masters degree in Critical Care Nursing. I am conducting a study on the **“Perception of nurses and patients’ relatives towards family witnessed resuscitation in Critical Care Units of Agakhan University Hospital and Kenyatta National Hospital”**.

Witnessed resuscitation is defined as the process of active ‘medical’ resuscitation in the presence of family members of the patient. Despite guidelines having been developed by some international organizations for example the “Royal College of Nursing” in the UK; witnessed resuscitation has been a widely debated topic all over the world. As a profession, nursing is committed to the caring of patients and their families as inextricable wholes therefore; family presence has significance in terms of nursing’s holistic, caring, family-centered framework.

The purpose of this study is to explore the perceptions in terms of knowledge, attitude and practice of nurses and patients’ relatives towards family presence during resuscitation of their loved one(s). This study aims at providing information for the nurses to understand the impact of resuscitation on the patients’ relatives and to get the public opinion on the preferences towards family witnessed resuscitation.

By signing this form you will have consented to participating in the study. Your participation is on voluntary basis. You also have the right to withdraw at any time without penalty. Filling the questionnaire will take between 30 to 45 minutes. You are free to ask any questions about the study at any time. In case of difficulty with the questionnaire or clarification; my research assistants will be of available.

A meeting will be organized by the researcher with the relevant study institutions to communicate the study findings. The findings will also be published in national and international research journals of scientific research ethics.

The study has no material or monetary benefits and there are no risks involved. Your views and contribution towards this debate will be highly appreciated.

I kindly request you to participate in the study by filling this form and the questionnaire. Anonymity and confidentiality of gathered information is guaranteed.

Participants are required to fill in the questionnaire without consulting each other.

Thank you.

Signature of researcher _____ Date _____

Signature of participant _____ Date _____

APPENDIX 4: CONSENT FORM FOR FAMILY RELATIVES.

Dear Participant,

My names are Teresa Omoding and I am a postgraduate student at the University of Nairobi studying for a Masters degree in Critical Care Nursing. I am conducting a study on the **“Perception of nurses and patients’ relatives towards family witnessed resuscitation in Critical Care Units of Agakhan University Hospital and Kenyatta National Hospital”**.

Resuscitation is defined as the process of reviving a person from unconscious or unresponsive state. Witnessed resuscitation is defined as the process of resuscitating a patient in the presence of the family members.

I invite you to participate in this study whose purpose is to explore your understanding of witnessed resuscitation and its impact on your decision making regarding the same. The study has no material or monetary benefits and there are no risks involved.

By signing this form you will have consented to participating in the study; prior to this you will undergo counseling by a trained counselor. Your participation is on voluntary basis and will not result in any physical or psychological harm. You also have the right to withdraw at any time without penalty. Filling the questionnaire will take between 30 to 45 minutes. You are free to ask any questions about the study at any time. Your views and contribution towards this debate will be highly appreciated. In case of difficulty with the questionnaire or clarification; my research assistants will be of available. The findings will be published in national and international research journals of scientific research ethics.

I kindly request you to participate in the study by filling this form and the questionnaire. Anonymity and confidentiality of gathered information is guaranteed.

Participants are required to fill in the questionnaire without consulting each other.

Thank you.

Signature of researcher _____ Date _____

Signature of participant _____ Date _____

**APPENDIX 5: LETTER SEEKING AUTHORITY TO CONDUCT
RESEARCH**

DEPARTMENT OF NURSING SCIENCES
UNIVERSITY OF NAIROBI
P.O. BOX 19676
NAIROBI

CHAIRPERSON
RESEARCH AND ETHICS COMMITTEE
KENYATTA NATIONAL HOSPITAL
P.O BOX 20723 - 00202
NAIROBI

Dear Sir/Madam,

REF: AUTHORITY TO CONDUCT RESEARCH

I am a second year student in the University of Nairobi pursuing a postgraduate degree in nursing. I request for authorization to conduct a research on "Perception of nurses and patients' relatives towards family witnessed resuscitation in Critical Care Units of Kenyatta National Hospital and Agakhan University Hospital".

The research is conducted in part fulfillment for the award of the degree of Masters of Science in Nursing (Critical Care). Research findings will be used by both hospitals involved in the study.

I would be most grateful for your kind consideration.

Yours faithfully,

Omoding Teresa I.

APPENDIX 6: LETTER OF APPROVAL FROM KNH ETHICAL 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: KNHolan@Ken.Healthnet.org

Ref KNH-ERC/ A/464

16th April 2010

Omoding Teresa
School of Nursing Sciences
College of Health Sciences
University of Nairobi

Dear Omoding

RESEARCH PROPOSAL: "THE PERCEPTION OF NURSES AND PATIENTS' RELATIVES TOWARDS FAMILY WITNESSED RESUSCITATION IN CRITICAL CARE UNITS OF KENYATTA NATIONAL HOSPITAL AND AGAKHAN UNIVERSITY HOSPITAL"
(P56/03/2010)

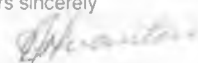
This is to inform you that the KNH/UON-Ethics & Research Committee has reviewed and **approved** your above revised research proposal for the period 16th April 2010 to 15th April 2011.

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


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

c.c. Prof. K. M. Bhatt, Chairperson KNH/UON-ERC
The Deputy Director CS, KNH
The Director, School of Nursing Sciences, UON
The HOD, Records, KNH
Supervisors: Dr. Blasio O. Omuga, School of Nursing, UON
Mrs. Lucy Kivuti-Bitok, School of Nursing Sciences, UON

APPENDIX 7: LETTER OF ACCEPTANCE FROM NATIONAL SCIENCE AND TECHNOLOGY CENTRE (NSTC)

REPUBLIC OF KENYA



NATIONAL COUNCIL FOR SCIENCE AND TECHNOLOGY

Telegrams: "SCIENCETECH", Nairobi
Telephone: 254-020-241349, 2213102
254-020-310571, 2213123
Fax: 254-020-2213215, 318245, 318249
When replying please quote

P.O Box 30623-00100
NAIROBI-KENYA
Website: www.ncst.go.ke

Our Ref:

Date:

NCST/RRI/12/1/MAS/91

14th May, 2010

Omoding Teresa
Nairobi University
P.O Box 30197
Nairobi

RE: RESEARCH AUTHORIZATION

Following your application for authority to carry out research on "*The Perception of Nurses and Patients' Relatives Towards Family Witnessed Resuscitation in Critical Care Units of Kenyatta National Hospital and Agakhan University Hospital*" I am pleased to inform you that you have been authorized to undertake your research in *Nairobi Province* for a period ending *15th April, 2011*.

You are advised to report to *the Provincial Commissioner, the Provincial Director of Education and the Provincial Medical Officer of Nairobi Province* before embarking on your research project.

Upon completion of your research project, you are expected to submit two copies of your research report/thesis to our office.

A handwritten signature in black ink, appearing to read 'P. N. Nyakundi'.

P. N. NYAKUNDI
FOR: SECRETARY/ CEO

Copy to:
The Provincial Commissioner
Nairobi Province

APPENDIX 8: LETTER OF AUTHORITY TO CONDUCT RESEARCH IN KNH

Teresa Omoding
Department of Nursing Sciences
University of Nairobi
P.O. Box 19676
NAIROBI

29-04-2010

TO,
The Deputy Director
Clinical Services
Kenyatta National Hospital
P.O. Box 20723-00202
NAIROBI

6/5/2010
Approved
HLO

Dear Sir/Madam

REF: AUTHORITY TO CONDUCT RESEARCH

I am a final year student at the University of Nairobi pursuing a postgraduate degree in nursing. I request for authorization to conduct a research within the hospital on "**Perception of nurses and patients' relatives towards family witnessed resuscitation in Critical Care Units of Kenyatta National Hospital and Agakhan University Hospital**".

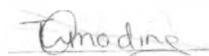
The research is conducted in part fulfilment for the award of the degree of Masters of Science in Nursing (Critical Care) Please find attached the following:

- Approval letter from Kenyatta National Hospital/ University of Nairobi Ethics and Research Committee
- Copy of the research proposal

Research findings will be made available to both hospitals on completion.

I look forward to your favourable response.

Yours Sincerely


Omoding Teresa

APPENDIX 9: LETTER OF AUTHORITY TO CONDUCT RESEARCH IN AKUH



THE AGA KHAN UNIVERSITY

31st May 2010

Teresa Omoding
School of Nursing Sciences
University of Nairobi
P.O. Box 20804-00202
Nairobi, Kenya

Dear Teresa,

Re: The perception of nurses and patients' relatives towards family witnessed resuscitation in critical care unit of Kenyatta National Hospital and Aga Khan University Hospital

It is my pleasure to inform you that your submitted research proposal has been approved by the Aga Khan University Research Ethics Committee.

Please note that as the Principal Investigator, you have the full administrative, scientific and ethical responsibility for the management of the research project in accordance with the University policies and guidelines. It also a requirement that you avail the services of a professional counselor who will psychologically prepare the respondents before and after the interviews and to ensure that there is no emotional harm to the respondents.

You will be required to present the final report of your study to the Aga Khan University Research Office.

Best wishes,

Mr. John Arudo
Chair, AKU (EA) - Research Ethics Committee

*1st Parkland Avenue, Off Limuru Road P.O. Box 39310, Parklands - 00623, Nairobi, Kenya.
Telephone: 254 20 3747483, 3745808 Fax: 254 20 3747004 E-mail: aku_ea@aku.ac.ke
Website: www.aku.edu*

APPENDIX 10: RESUSCITATION PROCEDURE

Cardiopulmonary resuscitation (CPR) is a combination of rescue breathing and chest compressions delivered to victims thought to be in cardiac arrest. When cardiac arrest occurs, the heart stops pumping blood. CPR can support a small amount of blood flow to the heart and brain to “buy time” until normal heart function is restored.

Cardiac arrest is often caused by an abnormal heart rhythm called ventricular fibrillation (VF), when VF develops, the heart quivers and doesn't pump blood. The victim in VF cardiac arrest needs CPR and delivery of a shock to the heart, called defibrillation. Defibrillation eliminates the abnormal VF heart rhythm and allows the normal rhythm to resume. Defibrillation is not effective for all forms of cardiac arrest but it is effective to treat VF, the most common cause of sudden cardiac arrest. The American Heart Association adopted new CPR science guidelines in November 2005. Most recently (2010) the Resuscitation guidelines have been revised

Resuscitation involves a series of assessments and interventions. Steps of CPR may vary depending on the type of cardiac arrest. "The American Heart Association has stressed the importance of good CPR the aim being to "push hard, push fast, allow full chest recoil after each compression, and minimize interruptions in chest compressions.

RESUSCITATION GUIDELINES (UK), 2010

Sequence for 'collapsed' patient in-hospital

1, Ensure personal safety

2. Check the patient for a response

When a healthcare professional sees a patient collapse, or finds a patient apparently unconscious in a clinical area, he should first shout for help, then assess if the patient is responsive by gently shaking his shoulders and asking loudly, 'Are you all right?'

It will be possible to undertake several actions simultaneously if other members of staff are nearby.

3A. If the patient responds:

Urgent medical assessment is required. Call for help according to local protocols. This may be a resuscitation team (e.g. medical emergency team (MET)).

While waiting for the team, assess the patient using the ABCDE (Airway Breathing Circulation Disability Exposure) approach.

Give the patient oxygen – use pulse oximetry to guide oxygen therapy.⁸⁹

Attach monitoring (minimum of: pulse oximetry, ECG and blood pressure) and record vital signs.⁶⁷

Obtain venous access.

Prepare for handover to team using SBAR (Situation, Background, Assessment, Recommendation)⁹⁰ or RSVP (Reason, Story, Vital signs, Plan)⁹¹ communication framework.

3B. If the patient does not respond:

Shout for help (if this has not already been done).

Turn the patient onto his back.

- Open the airway using head tilt and chin lift.
- If you suspect that there is a cervical spine injury, try to open the airway using a jaw thrust. Maintaining an airway and adequate ventilation is the overriding priority in managing a patient with a suspected spinal injury. If this is unsuccessful, use just enough head tilt to clear the airway. Use manual inline stabilisation to minimise head movement if sufficient rescuers are available. Efforts to protect the cervical spine must not jeopardise oxygenation and ventilation.

Keeping the airway open, look, listen, and feel to determine if the victim is breathing normally. This should be a rapid check and should take less than 10 s:

- o Listen at the victim's mouth for breath sounds.
- o Look for chest movement.
- o Feel for air on your cheek.

Agonal breathing (occasional gasps, slow, laboured, or noisy breathing) is common immediately after cardiac arrest and is not normal breathing – it is a sign of cardiac arrest and should not be mistaken for a sign of life.

Those experienced in clinical assessment may wish to assess the carotid pulse for less than 10 s. This may be performed simultaneously with checking for breathing or after the breathing check.

The exact sequence will depend on the training of staff and their experience in assessment of breathing and circulation.

4A. If the patient has a pulse or other signs of life:

Urgent medical assessment is required. Depending on the local protocols this may take the form of a resuscitation team.

While awaiting this team, assess the patient using the ABCDE approach.

Follow the steps in 3A above whilst waiting for the team.

The patient is at high risk of further deterioration and cardiac arrest and needs continued observation until the team arrives.

4B. If there is no pulse or other sign of life:

- 1 One person starts CPR as others call the resuscitation team and collect the resuscitation equipment and a defibrillator. If only one member of staff is present, this will mean leaving the patient.
- 2 Give 30 chest compressions followed by 2 ventilations.
- 3 Minimise interruptions and ensure high-quality compressions.
- 4 The correct hand position for chest compression is the middle of the lower half of the sternum.
- 5 The recommended depth of compression is at least 5 cm (not more than 6 cm) and the rate is at least 100 compressions min⁻¹ (not more than 120 min⁻¹). Allow the chest to completely recoil in between each compression.
- 6 If available, use a prompt and/or feedback device to help ensure high quality chest compressions.
- 7 The person providing chest compressions should change about every 2 min, or earlier if unable to continue high quality chest compressions. This change should be done with minimal interruption to compressions.
- 8 Maintain the airway and ventilate the lungs with the most appropriate equipment immediately at hand. A pocket mask, which may be supplemented with an oral airway, is usually readily available. Alternatively, use a supraglottic airway device (e.g. laryngeal mask airway (LMA)) and self-inflating bag, or bag-mask, according to local policy.
- 9 Tracheal intubation should be attempted only by those who are trained, competent and experienced in this skill. Waveform capnography should be available routinely for confirming tracheal tube placement (in the presence of a cardiac output) and subsequent monitoring of an intubated patient. Waveform capnography can also be used to monitor the quality of CPR (see ALS guidelines).
- 10 Use an inspiratory time of 1 s and give enough volume to produce a normal chest rise. Add supplemental oxygen as soon as possible.
- 11 Once the patient's trachea has been intubated or a supraglottic airway device has been inserted, continue chest compressions uninterrupted

(except for defibrillation or pulse checks when indicated), at a rate of at least 100 min⁻¹, and ventilate the lungs at approximately 10 breaths min⁻¹. Avoid hyperventilation (both excessive rate and tidal volume), which may worsen outcome.

● If there is no airway and ventilation equipment available, consider giving mouth-to-mouth ventilation. If there are clinical reasons to avoid mouth-to-mouth contact, or you are unwilling or unable to do this, do chest compressions until help or airway equipment arrives. A pocket mask or bag mask device should be available rapidly in all clinical areas.

● When the defibrillator arrives, apply self-adhesive defibrillation pads to the patient and analyse the rhythm. These should be applied whilst chest compressions are ongoing. The use of adhesive pads will enable more rapid assessment of heart rhythm than attaching ECG electrodes.⁹²

● If using an automated external defibrillator (AED) switch on the machine and follow the AED's audio-visual prompts.

● For manual defibrillation, minimise the interruption to CPR to deliver a shock. Using a manual defibrillator it is possible to reduce the pause between stopping and restarting of chest compressions to less than 5 s.

● Plan what to do if the rhythm is shockable before CPR is stopped. Safety issues should also be addressed and planned for while chest compressions are ongoing.

● Pause briefly to assess the heart rhythm. With a manual defibrillator, if the rhythm is ventricular fibrillation/pulseless ventricular tachycardia (VF/VT), charge the defibrillator and restart chest compressions. Once the defibrillator is charged and everyone apart from the person doing compressions is clear, pause the chest compressions, rapidly ensure that all rescuers are clear of the patient and then deliver the shock. Restart chest compressions immediately after shock delivery. This sequence should be planned before stopping compressions.

● Continue resuscitation until the resuscitation team arrives or the patient shows signs of life. Follow the universal algorithm for ALS (see ALS

guidelines).

- Once resuscitation is underway, and if there are sufficient staff present, prepare intravenous cannulae and drugs likely to be used by the resuscitation team (e.g., adrenaline).

- Identify one person to be responsible for handover to the resuscitation team leader. Use a structured communication tool for handover (e.g., SBAR, RSVP).^{90, 91} Locate the patient's records and ensure that they are available immediately the resuscitation team arrives.

4C. If the patient is not breathing but has a pulse (respiratory arrest):

- Ventilate the patient's lungs (as described above) and check for a pulse every 10 breaths (about every minute).

Only those competent in assessing breathing and a pulse will be able to make the diagnosis of respiratory arrest. If there are any doubts about the presence of a pulse, start chest compression and continue until more experienced help arrives.

5. If the patient has a monitored and witnessed cardiac arrest:

If a patient has a monitored and witnessed cardiac arrest in the cardiac catheter laboratory or early after cardiac surgery:

- Confirm cardiac arrest and shout for help.

- If the initial rhythm is VF/VT, give up to three quick successive (stacked) shocks if necessary. Start chest compressions immediately after the third shock and continue CPR for 2 min.

- This three-shock strategy may also be considered when a conscious patient has a witnessed VF/VT cardiac arrest and is already monitored using adhesive defibrillator electrodes with a manual defibrillator.

- A precordial thump in these settings works rarely⁹³⁻⁹⁵ and may succeed only if given within seconds of the onset of a shockable rhythm.⁹⁶ Delivery of a precordial thump must not delay calling for help or accessing a defibrillator. It is therefore appropriate therapy only when several clinicians are present at a witnessed, monitored arrest, and when a defibrillator is not immediately to

hand. In practice, this is only likely to be in a critical care environment such as the emergency department or ICU, or in the cardiac catheter laboratory or pacing room.