ADDIS ABABA UNIVERSITY COLLEGE OF HEALTH SCIENCES DEPARTMENT OF NURSING & MID-WIFERY

CHALLENGES AND COPING MECHANISMS OF NURSES WORKING IN INTENSIVE CARE UNITS OF GOVERNMENTAL AND NONGOVERNMENTAL HOSPITALS OF ADDIS ABABA CITY FROM SEPTEMBER 2011 - MAY 2012

A THESIS SUBMITTED TO DEPARTMENT OF NURSING AND MIDWIFERY ADDIS ABABA UNIVERSITY COLLEGE OF HEALTH SCIENCES IN PARTIAL FULFILMENT OF THE REQUIREMENT OF THE DEGREE OF MASTER OF SCIENCE IN ADULT HEALTH NURSING

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Annex:

Abbreviations

AACN---American Association of Critical care Nurses

AARHB---Addis Ababa Regional Health Bureau

ICN---International Council of Nurses

ICU--- Intensive Care Unit

IRB---Institutional Review Board

NGO---Non-Governmental Organization

RN---Registered Nurse

UK---United Kingdom

USA---United States of America

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Abstract

Introduction: The interplay of high technology and high acuity in critical care makes the intensive care unit (ICU) environment one of the most complicated for healthcare facilities. Most hospitalized patients with critical conditions are cared for in ICUs. Nurses with limited ICU experience consider caring for highly dependent patients more challenging than experienced nurses and may perceive that ICU setting is a more strenuous and stressful environment in which to work.

Objective: The aim of this study was to assess the challenges and coping mechanisms of nurses working in intensive care unit in caring for patients in governmental and non-governmental Hospitals of Addis Ababa, Ethiopia, 2012.

Methods: Descriptive cross sectional study was conducted to assess the challenges and coping mechanisms of nurses working in intensive care units in caring for patients in governmental and non-governmental Hospitals in Addis Ababa. A total of 207 intensive care unit nurses were involved in the study.

Result: A total number of 207 nurses who were working in intensive care units of both governmental and nongovernmental hospitals were participated in the study, of which 102 (49.3 %) were working in government hospitals in neonate, pediatrics, medical and surgical intensive care units, where as the rest 105 (50.7 %) were working in nongovernmental hospitals in neonate, pediatrics, medical, surgical, emergency and cardiac intensive care units. Among all respondents 85 (41.1 %) didn't get adequate information from physicians about the patient's over all condition. Majority 156 (75.4%) of nurses were assigned in intensive care units without their choice. The result shows that majority 136 (65.7 %) of nurses feels demoralization when they were unable to perform procedure for their patients in their respective working units followed by feeling of inferiority which accounts 18.4 %.

Conclusion and recommendation: Nurses in intensive care units have no adequate supplies to provide care for their patients and also there is poor team sprite in the intensive care units of both governmental and nongovernmental hospitals. Nurse- patient- ratio in the study site indicates that nurses are highly overloaded. Therefore there should be proper staffing policy in each hospital to maintain quality health care service.

Key words: - challenges & Coping strategies

CHAPTER ONE

Introduction

1.1. Background

There is growing evidence that critical care services face significant change over the years as demand for intensive care unit (ICU) beds continues to escalate. As a result, there is an increasing number of highly dependent patients being cared for in general wards, thus placing increased pressure on the multi-disciplinary team. Nurses with limited ICU experience consider caring for highly dependent patients more challenging than experienced nurses and may perceive that ICU setting is a more strenuous and stressful environment in which to work (1).

In hospital critical care units, many of the individual challenges confronting other hospital units intersect, making the critical care setting the most complex environment in the healthcare facility. While other units may need to manage one or two of these challenges at a time, critical care settings must manage them all simultaneously while remaining focused on the delivery of safe patient care. These challenges include managing a high-tech environment and ensuring staff competency in operating the equipment, providing high-quality care to the facilities of sickest patients, and tending to the needs of staff members working in a very stressful environment. The interplay of high technology and high acuity in critical care makes the intensive care unit (ICU) environment one of the most complicated for healthcare facilities. Most hospitalized patients with critical conditions are cared for in ICUs, patient care areas designed to provide extraordinary treatment by specially trained healthcare professionals, often with the use of high-tech equipment (2).

Most critically ill patients are cared for in an ICU. These patients receive the most aggressive care and are monitored minute by minute. The primary goal of aggressive care in the ICU is to stabilize and restore patients to their prior state of health. However, an increasing number of patients are receiving terminal care in ICU settings, contrary to the original intent of an ICU. Nurses who deliver terminal care in an ICU must withhold or withdraw life-sustaining therapies, which often involve procedures beyond the skill and experience of general, medical-surgical nurses. For example, terminal care procedures may include palliative sedation in which patients are given medications to induce varying degrees of unconsciousness. Nurses in the ICU may also be asked to titrate and wean vasoactive drips, stop tube feedings, and administer other pain medications. Additionally, nurses are often asked to perform these procedures while simultaneously dealing with family members who are experiencing emotional crises (3).

1.2 Statement of the problem

Intensive care unit (ICU) remain complex, challenging environments for the delivery of healthcare. In the era of increasingly sophisticated organ support, patients with multiple medical conditions and specialization in the field, the care of critically ill patients can no longer be accomplished by a single healthcare professional (4). Alternatively; working in the Intensive care unit (ICU) produces formidable stresses for nursing personnel. A major problem for nurses is the repetitive exposure to death and dying, posing threats of object loss and personal failure. Some may use defensive distancing techniques to support continued function in ICU but this raises secondary adaptive problems. The strenuous demanding work overload and lack of gratification from obtunded patients also add to the problems of maintaining self-esteem. The special nature of the work promotes communication breakdowns with physicians, relatives, nursing and hospital administration, leading to lack of support from these crucial groups. These and similar factors are examined in this study in terms of their psychological and interpersonal demands on ICU nurses, resulting in maladaptive maneuvers (5).

Nursing is considered to be inherently stressful. Many challenges exist in intensive care environments. These involve the constant interaction with seriously-ill patients: uncertainty about the illness outcomes, demoralizing situations when patients do not get better despite the nurses and doctors' best efforts; and having to deal with distraught families. In the intensive care environment situations often call for immediate decisions with life and death implications (e.g. cardiac arrests and having to implement resuscitation procedures) (6).

To the best of our knowledge, there was no published data on the challenges and coping mechanisms of nurses working in intensive care unit in provision of care for patients in Ethiopia.

Therefore this study was conducted to identify the challenges and coping mechanisms of nurses working in intensive care units in both Government and non-governmental hospitals of Addis Ababa, Ethiopia.

1.3. Significance of the study

International studies on ICU nurses have shown the challenges in caring for patients. Taken further, these challenges, barriers and impact on care have severe consequences for ICU nurses by reducing their effectiveness and subsequently producing burnout. However, in the Ethiopian context, there is a paucity of empirical evidence on the challenges ICU nurse's face and the coping mechanisms they use to address them. Thus, this present study would address the gap in the literature by examining the challenges and coping mechanism ICU nurses in government and non-government hospitals use.

This study is very important for different bodies in addressing the issues related to the quality of nursing service to the community.

Firstly, the study would be designed in the broad context of understanding why the intensive care unit is considered to be stressful area and the quality of patient care is affected, it would be undertaken to assess the quality of service being provided in each Hospitals.

Secondly, the study would provide certain directions for the nursing profession to provide the optimal nursing service.

Thirdly, it would also essential for both governmental and non-governmental Hospitals to adjust for the structural, procedural and administrative improvement of the ICU to provide the optimal nursing care for their patients.

Fourthly, the study would provide information for policy makers to draw strategies to address the problems associated with the challenges that influence the quality of care and service to patients.

Finally, the study might become a solution for the nation at large since there are no previous researches that are done on the intensive care unit to assess the challenges that hinders the nursing service delivery.

CHAPTER-TWO

LITRATURE REVIEW

The literature review is organized under three main headings: challenges in the ICU, barriers to optimal care in ICU and coping mechanisms. Supportive empirical evidence is subsumed under each heading and sub-heading. This chapter concludes with the presentation of a conceptual framework, which would guide the study design and analysis.

2.1 CHALLENGES IN ICU

In recent years, due to rapid advancement of medical technology, increasing job complexity and ethical dilemmas associated with it workloads in ICU have increased. Stress has been acknowledged as a significant problem in ICU since their inception almost four decades ago. Today, evidence indicates that ICUs are a stressful work environment for nurses. Critical care nurses work in an environment that is highly stressful for even the best-prepared individual. ICUs are assuming an ever increasing responsibility for patient care. ICU nurses are confronted not only with the impending crises faced by patients and families, but also demand for technical excellence(7).Barriers to optimal care are the obstacles or hindrances that ICU nurses experience, which preclude them from delivering optimal terminal care (4).

A research studies conducted to identify barriers that hinder optimal care in ICU, identified the following barriers: (1) lack of involvement in the plan of care, (2) differences between the medical and nursing practice models, (3) disagreement among physicians and other healthcare team members, (4) perception of futile care and unnecessary suffering, (5) unrealistic expectations of the family, and (6) lack of experience and education of the nurse (4).

2.1.1 Communication Barriers

Critically ill patients are particularly frail, with complicated medical courses that put them at high risk of medical errors in comparison with patients hospitalized on regular wards. A recent American study found that communication errors are frequent (involved in one-third of major cardio-respiratory events in the ICU) and more likely to occur during late shifts (8).

In the US, quality improvement initiatives have involved implementing physician-led multidisciplinary rounds where clinicians encourage all team members to communicate and contribute to the patient decision-making process. The introduction of this intervention was associated with a decline in adverse event rates over the course of a year. Jain and colleagues reported that better communications during rounds were central to the improvements, as they enhanced interdisciplinary teaching and the coordination of patient care (9). Attitudinal research has also provided some interesting findings such as positive perceptions of teamwork and communication are associated with lower self- reported error rates in the Netherlands (10). Specifically, positive perception of factors such as timely and accurate information transfer was associated with lower perception of errors, although no predictive relationships were established. Lastly, Puntillo and McAdam have discussed the importance of clear and constructive communication for improving end-of-life care in the ICU. Specifically, nurses have reported that there is poor communication between nurses and doctors during decision-making on end-of-life care (11).

Error-reporting systems in the US are now frequently focused upon poor communication as an antecedent to error in the ICU. A recently conducted analysis of published ICU critical incident studies found that just under half of all contributory factors underlying critical incidents were

related to nontechnical skills (e.g. teamwork and decision-making), with poor communication frequently being reported as contributing to the occurrence of critical incidents (12). The review concluded that information on the contributory role of communication is often superficial, with little analysis being performed on the team members most susceptible to error, or the specific communication problems that result in critical incidents(13).

In one of the most extensive human factors investigations of error in the ICU, Donchin and colleagues found that nurse and doctor communications occurred in just 2% of all activities performed in their unit. Alongside safety, communication skills in the ICU have also been shown to be important for the quality of care received by patients. For example, high levels of collaboration between nurses and doctors have been shown to result in improved patient mortality rates and reduced average patient length of stay (13).

Stressful experiences may lead to work-related problems and ultimately burnout. Moreover, nursing stress can compromise patient care (7). In particular, differences in training and perspective are cited as resulting in communication problems, with a lack of communication on issues of end-of-life care resulting in poorer information being provided to patients' families (13).

A recently conducted analysis of published ICU critical incident studies found that just under half of all contributory factors underlying critical incidents were related to nontechnical skills (e.g. teamwork and decision-making), with poor communication frequently being reported as contributing to the occurrence of critical incidents (13). Effective team communication and coordination are recognized as being crucial for improving quality and safety in acute medical settings such as the intensive care unit (14).

Studies of communication failures in medical teams have indicated the influence that hierarchical and social factors have upon the behavior of junior medical staff. Communication failures can emerge from junior team members being reluctant to communicate openly with senior team members because of a fear of either appearing incompetent, or of being rejected, embarrassed, or reprimanded. Attitudinal research in the US has indicated that ICU team members have divergent perceptions of their communication behaviors', with more nurses than doctors reporting difficulties in speaking-up about problems with patient care, and fewer nurses reporting that teamwork between nurses and doctors is well coordinated (15,16). Not only do such factors increase the likelihood of medical errors occurring, but also the extent to which communication in the ICU is open may influence the degree to which patient care duties are understood (17).

The literature shows that direct communication (face-to-face communication or real time communication) is the preferred mode of communication in Intensive Care Units (18). However, because work in the ICUs can be fragmented and frequently interrupted, direct communication may not be optimal, therefore leading to communication breakdowns and possibly medical errors (19). According to The Joint Commission, two-thirds of the root causes of sentinel events in the period 1995-2005 were communication-related (20). A sentinel event is defined by the TJC as any unanticipated event in a healthcare setting resulting in death or serious physical or psychological injury to a person or persons, not related to the natural course of the patient's illness. However, relatively little is known about the relationship between communication and patient safety, in particular in ICUs (21).

2.1.2. Lack of Involvement in Decision Making

In relation to decision-making, the nurses recognized the limitations to their authority. Although nurses had an obligation and an ethical responsibility to provide pain relief effectively, they often struggled to fulfill this responsibility due to institutional regulations or limited coordination with other healthcare providers (22).

2.1.3. Lack of resources

The optimal provision of critical care resources remains unknown. Critical care delivery varies substantially between countries, with heterogeneity of structure and quality. A regionalized system of critical care may be one option to optimize quality of care within a context of constrained resources. The availability of resources to care for critically ill patients varies across countries, ranging even in developed countries from three ICU beds per 100,000 populations in the UK to over 20 beds per 100,000 in Germany and the USA. It remains unsure as to what constitutes appropriate provision of critical care resources, although a few aspects of the overall delivery of care become apparent. First, in most developed countries, the proportion of hospital beds dedicated to the ICU is relatively constant, with the USA being a notable exception. Second, data from the UK suggest that extremely low provision of ICU beds may be detrimental (23). Recent analysis of the impact of a drive to modernize critical care in the UK that included a 35% increase in ICU beds between 2000 and 2006 found a significant decrease in hospital mortality (24). However, these findings must be balanced against the possibility that high availability of ICU beds, such as in the USA, could be associated with an overuse of critical care services. For example, a recent study demonstrated that nearly half of terminal hospitalizations

involve critical care in the USA, which is not consistent with the majority of studies of peoples' wishes regarding end-of-life care [25, 26].

A research study conducted by S.P. Beaua , on registered nurses' perception of factors causing stress in the intensive care environment found lack of human and material resources were a major causes. It also found that 87.5% of respondents were unable to cope with excessive workload, shortage of personnel and inadequate resources. Positive responses to the statements indicate that registered nurses are also involved in the performance of non-nursing duties such as messenger work, serving food for patients, and lifting of heavy patients (6).

2.1.4. Work over Load

Nurses, as one of the professional service groups, tend to be exposed to extreme workloads. Their work loads are generally characterized by having a high contagious potential, being labor-intensive, having an overwhelming job shifting, and experiencing malicious complaints from patients. Compare to other general and professional service jobs, nursing requires handling complicated and dynamic occurrences under strict time pressures. Studies have generally revealed that continuously excessive workloads tend to lower their job satisfaction and deteriorate in turnover intentions. These contextual difficulties indeed continuously challenge a nurse's temper and professional performance (27).

Few studies have evaluated optimal nurse staffing ratios and hours in different clinical settings; instead, they reported the overall correlation with selected patient outcomes (28). The effect size varied widely using different definitions of RN to patient ratio. An additional patient per RN per shift was associated with increased relative risk of mortality by 6-7 percent in surgical patients (29). An increased patient/RN ratio in the evening was associated with a 90 percent increase in

relative risk of death in ICUs. Each additional patient per RN was associated with a 5 percent increase in failure to rescue (30). Few studies examined the effect on patient outcomes on nurse staffing strategies, such as overtime hours and contract or agency nurses (31, 32).

Nurses in particular play a key role as members of the ICU team. One large variable across ICUs is the nurse-to-patient ratio, which may be one-to-one in some units and as high as one-to-three or one-to-four in other units. Broader studies of the impact of nurse-to-patient ratios in the hospital suggest that more patients per nurse are associated with higher rates of complications (33), although few data are available that specifically examine nursing in the ICU. One study of ICU patients who underwent esophageal resection found that having a nurse care for more than two patients at night was associated with higher complication rates and greater resource use. The gold standard of one nurse for each patient is attractive, but may be considered unachievable in practice owing to the shortage of critical care nurses and the high costs associated with the additional staffing. Recent British recommendations promote a nurse–patient ratio of at least one nurse for two patients. Theoretically, the nurse-to-patient ratio should be adjusted to the workload intensity and nurse experience (skills and knowledge) and consequently be flexible within units across time. Further studies are needed to evaluate the feasibility and effectiveness of flexible nurse–patient ratios in the ICU (34).

Staffing patterns in ICUs vary markedly, including the background and specialty of the attending physician, the nurse-to-patient ratio, and the presence of other specialists, such as pharmacists, respiratory therapists, physical therapists, and social workers. The question of the need for intensivist coverage for care of critically ill patients remains a debate, primarily in the USA (35). Although most European ICUs are fully staffed by intensivists, the USA has a hodge–podge of staffing systems; with only approximately one-third of ICUs covered by intensivists

(36).Workload, time pressure, and the lack of support from management are the primary predictors of distress (37).

A nurse shortage, in combination with increased workload, has the potential to threaten quality of care (38, 39). Hospitals with inadequate nurse staffing have higher rates of adverse events such as hospital acquired infection, shock, and failure to rescue (39). Systematic reviews of the published literature show that better nurse staffing is associated with less hospital mortality and failure to rescue, and shorter lengths of stay (28). A simulation model based on extensive research on nurse staffing estimates the need for additional nurses to achieve the quality goals set for hospital care (40).

Although perceptions towards the construct of work related stress may vary from one nurse to another, studies, in general, view this term as a representation of physiological or psychological reactions, or both, that are caused by routine work. Stress emerges when the work environment or job requirements constantly exceed one's limits in terms of individual job capability, or personal cognition towards the work and the associated environment, or psychological tolerance (12). In general, the term "job" includes varied types of employment or assignments that exceed those items stated in individual job specification (37).

2.1.5. Night Duty

Nurses as health care providers are obliged to work during the day and during the night to cater for the needs of sick people. While Intensive care nurses were vulnerable to a stressful environment because of the complex nature of patient's health problems that require an extensive use of very sophisticated technology. Nurses' turnover is expensive. It affects the safety and effectiveness of service in Intensive Care Units. Frequent night duty is a major factor influencing

turnover. A research done by Mathew & Campbell on thirty nurses, who choose to leave intensive care unit within last eight month, shows that 50% of the staff left intensive care unit, because of general dissatisfaction with a variety of aspects of their job, specifically night duty(41).

The shift length for critical care nurses is another structural aspect of staffing that may impact outcomes. The majority of studies published on the effects of different shift lengths (most often 8 versus 12h) on quality of patient care and nurse outcomes are not focused on critical care nurses, have a lack of methodological quality (no standardized measure of nursing care quality or nurses outcomes), and show discrepancies in their results (42). Underlying mechanisms remain unclear. A 12h shift may be more attractive to some nurses (working fewer days per month leads to increasing free time and better quality of life) and nurse managers (easier scheduling) and involves fewer handovers of care. But 12h shifts might be also associated with an increased risk of burnout syndrome, decreased direct nursing care activities, and decreased weekly or monthly contact with medical staff (e.g., nurses working 12h shifts rarely work more than three consecutive days), which may influence patient and nurse outcomes(43).

The International Council of Nursing (ICN) recognizes that many health care providers' services are accessible on twenty-four hour basis, making shift work a necessity. At the same time ICN is very concerned that shift work may have a negative impact on the individual's health, ability to function, thus affecting the services provided (41). For example, Jordan University Hospital conducted a research study to determine whether night shift affects the social aspect of nurses. Results showed that 60% of respondents stated that their social life was sometimes affected, 33% stated that their social life was always affected which means 93% of the nurses were affected and

7% were not affected. The aspect of social life involved nurse's families, work relationships and other social groups (41).

2.1.6. Administrative Issues and Working Environment

Organizational or environmental stressors identified are related to center around lack of managerial support; excessive workloads; shortages of staff; and conflicting roles. Internal work related stressors include insufficient knowledge and skills and were found to be the most commonly occurring stressors (6). The physical facility including noise, physical hazardous and badly restricted work areas have their own impact of care provision in ICU (37).

Creating supportive and enabling work environment for nursing staff is a way of finding solution to the problem of stress and burnout associated with their duties. Nurses who perceived their work as supportive were more satisfied with their jobs and in their ability to provide high quality patient care (44).

Emergency cases, danger lists, and patient pains, some of which may be perceived by young nurses as exceptional stressors originated from patients and family. Administrative regulation, such as those on medical disputes, scheduling, rotations, special mission orders, unidentified patients, workloads or unpredictable service demands are challenges that affects care provision of ICU nurses to their patients (37).Unsatisfactory management attitudes towards nursing staff also affect the work of ICU nurses(6).

The actual use of the control that the individuals have in their job to cope with stressful working situation is a determinant of their health and well-being. For instance in a study of Dutch nurses, the investigators found that overall job control was positively related to employees' well-being but for nurses who used active or control coping, high job control reduced the increase in

emotional exhaustion due to job demands. In contrast, for nurses with low active coping, and high job control overtaxed such individuals when faced with high job demands, resulting in a lowered well-being; having high levels of control acted as a stressor for these individuals (44).

Increased managerial pressure can impact an employee well-being. By virtue of their superior position in an organization, managers and supervisors, intentionally or unintentionally can cause stress for their subordinates. When under pressure, many managers may react by exhibiting a negative managerial style. Managerial support such as effective communication and feedback are important factor for employee well-being. Poor supervisor support has been linked with increased stress level and symptoms of depression. Additionally, a bullying management style is detrimental to workers' health. Bullying at work is linked with employee ill-health including psychosomatic stress symptoms, muscles-skeletal symptoms, anxiety and depression (44).

2.1.7. Lack of Knowledge and In-service Training

Some departments like Intensive care units and Trauma and Emergency units are expected to have the knowledge and skills required to function competently in a high technology environment, and to utilize critical thinking skills in the planning and implementation of excellent care. However, some nurses lack the experience to take responsibility for these specialized units. The nurse, who lacks the necessary knowledge and practical skills, could find working in these specialized units and environments stressful (45).Additionally, knowledge and techniques, like care techniques, timely judgment, and patient education, are critical to perform services properly. Lacking such knowledge, for this not only generates potential disputes, but also horrifies nurses by being accused of mal-practice lawsuits (46).

A research conducted by S.P. Beaua, on registered nurses' perception of factors causing stress in the intensive care environment found that unavailability of in-service education is also viewed as a serious problem. It stated that 54.2% of the respondents strongly disagree that in-service education is in existence and also 29.29% of the respondents disagreed to the same statement, giving a total of 83.4% negative responses. This means that all respondents are saying that there is no in-service education in their work environment (6).

A study carried out with 81 critical care nurses showed that 38% of nurses frequently called physicians to modify medications and tended to depend on the doctors to decide on pain management. Pain intervention involves more clinical judgment, since pain is difficult to measure. Nurses need to be equipped with adequate knowledge of pain management in making accurate and relevant clinical judgments. From the participants' reflections on their practice, it seems that nurses' knowledge is vital in their decision making in pain management. Generally in critical care, a culture exists whereby everyone in a team has his/her own role to play and functions in the hierarchy of roles (47).

2.1. 8. Ethical challenges

Caring for critically ill patients in an intensive care unit means that difficult ethical problems must be faced and resolved (48). Two aspects of intensive care create ethical problems. First, intensive care is costly as a result of the high investment of human and technological resources, implying material costs as well as emotional strain on health providers due to patients' suffering and dying. Secondly, in intensive care, life and death issues are often imminent. Intensive care units are traditionally focused on providing care for living persons, with often dramatic efforts to preserve life. Treatment of critically ill patients in today's intensive care unit is dictated by the latest developments in life-sustaining and life-saving technology. The greater control over life

and death through advanced resuscitative techniques, life-support systems, monitoring equipment and computers not only transforms all previous limitations of mortality, but also appears to challenge basic ethical principles. Although advances in technology allow for better recovery and longer lives for critically ill patients, the same technological advances also give rise to moral and ethical questions. Questions such as: When can treatment be stopped or continued to a less than maximal degree? Who decides these issues and by what standards? The resolution process in these new and open-ended questions requires critical analysis of ethical dilemmas according to the main principles of medical ethics. Among the many ethical problems facing physicians and nurses in intensive care units, some are encountered frequently: withholding or withdrawing life-sustaining treatment, overtreatment, do-not-resuscitate status, artificial hydration and nutrition, distribution of limited resources, lack of respect for the patient as a person, and differences in perspective between physicians and nurses (49).

Ethical issues and dilemmas are inherent in nursing practice. An adverse experience termed “moral distress” is thought to be a serious problem for nurses, particularly those who practice in critical care areas. Moral distress has been defined as painful feelings and/or psychological disequilibrium that occurs in situations in which the ethically right course of action is known but cannot be acted upon. As a result, persons in moral distress act in a manner contrary to their personal and professional values (50).

In summary, ethical issues have emerged in recent years as a major component of health care for critically ill patients (51).Advances in science and medical technology, recognition of ethics as a foundation for clinical practice, acknowledgement of new rights, an unlimited array of health care choices, and changes in social and family systems related to health care have strongly influenced the approach to critically ill patients during the last few decades (52, 53). Thus,

intensive care units have developed to provide intensive monitoring and treatment with high technology equipment for critically ill patients (54).

Coping Mechanisms

Coping refers to a phenomenon that an individual alters their personal perception and behavior in response to the conflicts raised from the environment the individual exchanges with. In workplaces, people develop proper attitudes and behaviors by reacting to difficulties or barriers they encounter during their accomplishment and mission (55).

Lazarus &Folkman categorized the stress coping behavior as two strategies of “problem focused” and “emotion focused”. The former represents actions that are taken to solve the problem directly, and the latter refers to action that an individual change the personal attitudes towards emotion that was irritated by external stimuli (55, 56). However, categorizing the coping behaviors into two distinctive types while describing a stress-coping behavior may be oversimplified (57).

Problem oriented approaches center on finding the causes of the current problem. This is an active and rational approach. Alternatively, emotion oriented approaches aim to ease the respondent’s emotional reactions by accepting stress as part of life, or as natural, by which to alleviate painful feelings. Compare to the emotional-focused method, the problem-focused method is generally more acceptable as a positive or preferred reaction to stress (58). Nurses capable of dealing with stress tended to adopt a problem or active coping strategies. This particular approach may include taking courses to upgrade professional knowledge or to sharpen their problem-solving techniques, seeking support from supervisors or colleagues, and other alternatives that would effectively enrich their personal knowledge and capability in dealing with

inevitable stress (59). Focusing on what and how the problems occur and how the problem is defined and handled is the core of the problem-oriented behavior (60). Since this method reduces the complexity of a problem in which logical alternatives aim for solution becomes possible. This has been proven a more efficient way in dealing with work stresses, thus are generally recommended by healthcare management experts (59).

On the other hand, the emotion reaction that nurses may have in response to a stress may include some of the following ways while on duty, such as complaining, performing duties in a passive manner, fewer intents of cooperating, absent from work for any reason. These reactions would be a drawback for personal growth and would cause negative impact on service quality (60).

It is interesting to note that a nurse is unique as an independent human, with distinctive ways of responding to a difficult situation. Many studies have shown that an individual nurse may behave quite differently in response to perceived stress with associated coping mechanisms. Factors influencing these responses may include gender (61), age, and education (62). However, the effects of personal factors, such as the effects of education, religion (60), marital status, size of household (63), and the number of children (62, 64), on stress perception and associated coping behaviors had not come to a consensus. It is also questionable whether being older in age may represent having more life experiences or managing stress differently. Similarly, having an individual with higher nurse status and position or being more knowledgeable in predicting and coping with possible job related stresses may have adequate coping mechanisms (63).

Social support coping (a problem-focused and emotion-focused strategy) was highly regarded and often used. Nurses expressed their feelings with each other and received validation from each other. Family and friends provided different forms of emotional and physical support.

Several nurses also commented that “God” and “their church” were sources of social support. A few indicated that their pets were a calming influence. Nurses believed that their pets “tuned” into them, made physical contact, and somehow regulated their emotions (65).

A research conducted on Iranian nurses’ coping strategies for job stress showed that the most frequently used coping strategies include; being organized, helping others, continuing education, ensuring up to date knowledge of equipments and drug regimes, maintaining social communication, being more tolerant, taking to others, making an effort to relax, and having hobby. Similarly, some nurses used coping strategies like; having higher income, experienced colleagues support, decrease in workload, attending educational programs, using humor, group work, out of work activities, positive feedback from managers, attending stress management programs and peer support (66).

Nurses employ variety of reactions to cope with different stressors without necessarily causing less productivity. The main categories obtained from nurses’ experience indicated the following different strategies. First, work management strategy: was work management which decreases stress without necessarily causing less productivity. It comprises two sob categories: (a) anticipating tasks- participants believed that they were overloaded with work causing stress due to time constraints. Therefore, time management skill help them used their time more efficiently, get their priorities in order, anticipating lack of equipments, consider safety measures and being prepared for possible crisis. (b) Doing the tasks well- nurses expressed that they employed strategies like observing safety considerations & doing tasks on time. Second; self control strategies which includes; preparing for work (nurses were aware of the importance of adequate rest before starting their job), avoidance strategy (like leaving the ward for a movement). Thirdly; emotional strategy: it includes (a) emotional satisfaction such as satisfaction with patient

improvement and (b) acting out; it comprises aggressiveness, resentment, silence, crying laughing and facing difficulties agreeably. Fourthly, spiritual strategy; includes the role of religious beliefs, reading the Quran, praying, trust in God indicate that nurses employ spiritual strategies to cope with stressors. Fifth; cognitive strategies such as positive thinking, looking for positive aspects in every situation, and the value of the nursing occupation were related to this strategy. Sixth, interactional strategies such as: interaction with the Colleagues, interaction with the Patients, and interaction with the family members (66).

In summary, several descriptive international studies have identified challenges and barriers for practicing ICU nurses. Some of these studies have highlighted the impact or consequences of these challenges to ICU nurses' quality of patient care and work life. Similarly, a few studies have also suggested factors that facilitate the coping mechanisms of individuals. However, to date, no Ethiopian study has assessed the challenges of ICU nurses in caring for patients. Therefore, this study is designed to assess the challenges and coping mechanisms of intensive care unit nurses working at governmental and non-governmental hospitals in Addis Ababa. Such a study would fill the gap in the literature for Ethiopian health care professionals.

Conceptual Framework of the Study

The conceptual frame work of the study was adopted from Iranian Clinical Nurses' Coping Strategies for Job Stress with some modification. This framework contains five variables: organizational factors, work environment factors, personal factors, socio demographic factors and coping mechanisms which is further determined by the others. The following diagram illustrates how ICU nurses work experience, knowledge, training, work load, space of work area, and resources can affect the delivery of patient care in ICU.

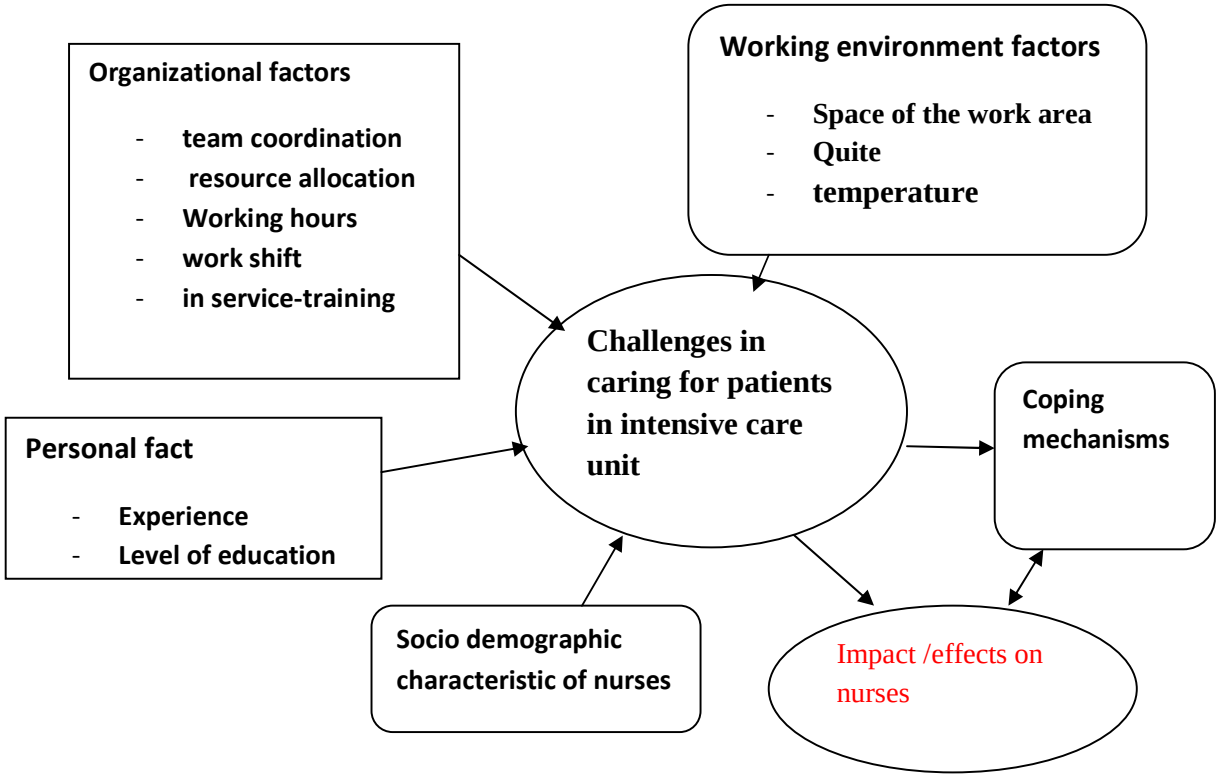

Fig 1 conceptual frame work of the study which is adopted from Iranian Clinical Nurses' Coping Strategies for Job Stress with some modification

CHAPTER- THREE

OBJECTIVES

General objective

-To identify the challenges and coping mechanisms of nurses working in intensive care units of governmental and non-governmental Hospitals in Addis Ababa, Ethiopia, 2012

Specific objectives

- To identify the challenges that nurses working in intensive care units face.
- To describe the impact of challenges on nurses in intensive care units in provision of care.
- To assess the coping mechanisms that nurses used to deal with challenges that occur in intensive care units.

CHAPTER FOUR

METHODS AND MATERIALS

4.1 Study Area and Period

The study was conducted in Addis Ababa which is the capital city of Ethiopia and seat of African Union & Economic Commission for Africa. Addis Ababa has a population size of over 3 million (303809) with annual growth rate of 2.1 (67). The city is divided into ten sub cities and 99 kebeles (lowest level administrative unit in the city). Addis Ababa is located between 8055' and 9005' North Latitude and between 38040' and 38050' East Longitude and the total Land area is 54,000 hectares. It was established in November 1887 by Emperor Menelik II and Empress Taitu. Its average elevation is 2,500 meters above sea level, and hence has a fairly favorable climate and moderate weather conditions. Availability of health and educational services i.e. public and private clinics, health centers and hospitals; and private kindergartens, primary and secondary schools; and colleges and universities of adequate standard made the city very attractive (68).

The city has thirteen governmental hospitals, of which, 5 are under Addis Ababa Regional Health Bureau (AARHB) and 5 are specialized referral (central) Hospitals. Two are defense forces (military) referral hospitals and one hospital under army force. Furthermore the city has 27 health centers under the AARHB and 6 health centers are expected to be opened soon (68).

There are 2 hospitals, three health centers and 31 different level clinics established by non-government organizations (NGOs). The city also has 30 private hospitals and more than 700 different level private clinics (68).

Governmental Hospitals which deliver ICU service includes: Federal commission police referral Hospital, Ras Desta Hospital, Tikur Anbessa Hospital, St.Paulose Hospital and Yekatit 12 Hospital. Similarly, non-governmental Hospitals which deliver ICU service includes: Addis cardiac Hospital, Betel Hospital, Betezata Hospital, Cure Hospital, Hayat Hospital, International Cardiovascular Hospital, Korea Hospital, Land Mark Hospital, St.Gebrael Hospital, St. Yared Hospital and Yordanos Hospital.

The study was conducted from September, 2011 to May, 2012.

4.2. The study design

A descriptive cross sectional study was employed to assess the challenges and coping mechanisms of nurses working in intensive care units.

4.3. Source population

All nurses working in all intensive care units in both governmental and non-governmental hospitals of Addis Ababa.

4.4. Study Population

All nurses working in the intensive care units of governmental and non-governmental Hospitals were invited to participate in the study.

4.5. Inclusion and Exclusion Criteria

4.5.1. Inclusion criteria are as follows: all nurses working in intensive care units who are 18 years and older; able to read, understand and write English; and gave consent to participate in the study.

4.5.2. Exclusion criteria are as follows nurses who were not willing to participate in the study and nurses who are on long term leave of absence.

4.6. Sample size determination and sampling procedure

4.6.1 Sampling procedure

Sampling procedure was necessary if samples were derived from the source population. In this study, since all nurses working in intensive care units were included in the study a special sampling procedure was not employed. It implies that the source population and the sample of the study were equal.

4.6.2 Sample size determination

The sample size of the study was 207 nurses from both governmental and nongovernmental hospitals.

4.7. Study Variables

4.7.1. Independent variables

Socio-demographic characteristics

- Age, sex, marital status, gender and ethnicity background

Organizational factors

- team coordination
- resource allocation
- Working hours
- work shift
- in service-training

Personal factors

- Experience
- Level of education

Working environment factors

- Space of the work area
- Quite
- Temperature

4.7.2. Dependent Variables

. Challenges in intensive care unit

.Coping mechanisms

4.8 Operational Definitions

Organizational Factors: are factors which are related to the Hospitals' policy on staffing, resource allocation, number of working hours, availability of means to upgrade the knowledge and skill of their employees.

Environmental Factors: are those which are related to the setting of the units which further affects care provision. It includes space of the unit, temperature and quiet in the room.

Personal Factors: those are factors which are related to the employee's knowledge to perform the activities, work experience and level of education which further affects care provision.

Coping Mechanisms are strategies that intensive care unit nurses use to maintain or resolve challenges occurring in their setting.

Challenges: are constraints that influences nurses in intensive care unit during care provision for their patients.

Impact of challenges: are the effects or negative consequences of challenges on nurses in intensive care units, such as demoralization, inferiority, and decrease motivation to work

Governmental Hospitals: are those which are owed by federal or regional governmental states

Nongovernmental Hospitals: are those which are owed by individuals and other organizations

4.9. Data Collection Instrument and Procedures

A self-administered open-ended and closed ended questionnaire of English version was administered by trained data collectors to consenting participants. The questionnaire for assessing work environment and its challenges were developed based on the objectives of the study and the questionnaire for coping mechanisms was adopted from the dynamics of a stressful encounter: Cognitive appraisal, coping and encounter outcomes; Journal of Personality and Social Psychology with some modification based on the study objectives.

Whilst reliability and validity were not formally established, great care and attentions was made to ensure questionnaires were relevant to the subjects being studied. Items in the questionnaire were formulated by defining the concept and identifying the dimensions that are components of the concept. Due to small number of source population to conduct pre-test, the questionnaire was given for my friends and staffs in school of nursing, Hawassa university for verification of content validity. They evaluated the questionnaire's scope of coverage and extent to which the questionnaire items reflected the concept under consideration.

The questionnaire contains three parts. Part one: socio demographic characteristics of the participants; part-two: work environment and its challenges and part three is about coping mechanisms.

4.10. Data Quality Control

The investigator was counter check the data for errors through double entry. Additionally the supervisors and investigator were closely followed up data entry and daily counter check data from the questionnaires for completeness.

A database was developed and maintained using SPSS 16 for Windows. Data was coded using a numbering system and the coded data was stored in a locked filing cabinet. The coded data was entered into the database.

4. 11. Data Processing and Analysis

Upon completion of the questionnaires, the forms were checked for completeness, cleaned and the data was coded to enter into the EPI-INFO (v. 3.5.1) statistical software to generate descriptive statistics such as mean and standard deviation. The entered data was exported into SPSS for window version 16.0 for analysis and final cleaning. Analysis was done based on variables outlined in the conceptual framework. Finally the associations between variables were assessed using the odds ratio.

4.12. Ethical Consideration

The study was conducted after getting ethical clearance from IRB of department of nursing and midwifery, School of Medicine & College of Health Sciences, Addis Ababa University. Permission from each Hospital was obtained to conduct the research. The entire study participants were informed about the purpose of the study and their consent was obtained before distributing the questionnaire. The researcher addressed any questions participants had about the study prior to obtaining written consent.

4.13 Freedom to Withdraw

Participants were aware of that they could withdraw from the study at any time and if they chose to withdraw from the study or refused to answer a question, that their employment would not be affected at the institution where they work.

4.14 Confidentiality

Confidentiality was honored throughout the study. All information was remained confidential. The researcher kept code numbers in a sealed envelope within a locked cabinet. Data was saved on a password-protected computer.

4.15 Benefits and Risks

There were no known risks for participating in this study. Although there were no direct benefits to participants, the study results would inform senior administrators at various hospitals and government officials about the study results. Findings from this study had the potential to change future practice and educational requirements for nurses working in ICUs as well as provide them with problem solving skills and strategies to manage stress and challenges faced in ICUs.

4.16 Compensation

There was no cost to participate in this research study beyond the time spent completing the questionnaire

CHAPTER 5

RESULT

5.1 Socio demographic characteristics of respondents

A total number of 207 nurses who were working in intensive care units of both governmental and nongovernmental hospitals were participated in the study, of which 102 (49.3 %) were working in government hospitals in neonate, pediatrics, medical and surgical intensive care units, where as the rest 105 (50.7 %) were working in nongovernmental hospitals in neonate, pediatrics, medical, surgical, emergency and cardiac intensive care units.

Among all respondents 26 (12.6 %) were males and 181 (87.4 %) were females. Majority of the respondents were in the age group of 20-30 years which accounts 63.3% followed by 31-40 years age group and above 40 years, 29.5 % and 7.2% respectively. Most of the respondents were belongs to orthodox religion (117, 56.5 %) and Amhara ethnic group (86, 41.5%). One hundred nineteen (57.5 %) were diploma in nursing and the marital status of most respondents (106, 51.2 %) was single. The title of majority of the study participants was senior nurse (106, 51.2 %) and most of them were working in medical intensive care unit (90, 46.9 %) and also about 45.4 % had 3- 5 years clinical work experience (table1).

Table 1: socio demographic characteristics of nurses in intensive care units of governmental and nongovernmental hospitals of Addis Ababa, 2012

characteristics	Hospitals		Total
	Governmental	nongovernmental	
Sex			
Male	12	14	26 (12.6%)
female	90	91	181 (87.4%)
Age			
20-30	72	57	131 (63.3%)
31-40	27	34	61 (29.5 %)
Above 40	3	12	15 (7.2%)
Religion			
Orthodox	61	56	117 (56.5%)
Catholic	1	4	5 (2.4%)
Muslim	8	3	11 (5.3%)
Protestant	31	40	71 (34.3%)
Others	1	2	3 (1.4 %)
Level of qualification			
Diploma nurse	45	74	119 (57.5%)
BSc nurse	57	31	88 (42.5 %)
Ethnicity			
Amhara	33	57	86 (41.5 %)
Oromo	22	32	54 (26.1 %)
Tigre	10	14	24 (11.6 %)
Others	37	6	43 (20.8%)

Marital status			
Single	54	52	106 (51.2 %)
Married	45	44	89 (43 %)
Divorced	3	5	8 (3.9 %)
Widowed	---	4	4 (1.9 %)
Title			
Junior nurse	51	46	97 (46.9 %)
Senior nurse	47	59	106 (51.2 %)
Others	4	--	4 (1.9 %)
Working unit			
Neonate ICU	30	9	39 (18.8 %)
Pediatrics ICU	13	1	14 (6.8 5)
Medical ICU	42	48	90 (46.9 %)
Surgical ICU	17	31	48 (23.2 %)
Emergency ICU	--	1	1 (0.5 %)
Cardiac ICU	--	15	15 (7.2 %)
Work experience			
Less than 2 years	31	27	58 (28 %)
3- 5 years	42	52	94 (45.4 %)
Above 5 years	29	26	55 (26.6 %)
TOTAL	102 (49.3 %)	105 (50.7 %)	207 (100%)

5.2. Intra-personal and inter personal factors affecting the care provision of nurses in ICU

In both governmental and nongovernmental hospitals the majority 128 (61.8 %) of nurses working in ICUs had no past experience in the unit. From all nurses who were working in nongovernmental hospital 69.9 % had no past ICU experience similarly 61.8 % nurses in

governmental hospitals had no past ICU experience. Most nurses in both governmental and nongovernmental hospitals had willingness to continue working in ICUs, 54.9% and 52.4% respectively.

Majority of nurses in governmental ICUs took training while working in ICU compared with nurses in nongovernmental hospitals which accounts 87.3 % and 80 % respectively. Among all respondents 85 (41.1 %) didn't get adequate information from physicians about the patient's over all condition. Most nurses in governmental hospitals face communication problem with their patients than nurses in nongovernmental hospitals, 88.2 % and 84.4% respectively. Majority of nurses who are working in governmental intensive care units faced conflict with ICU teams than nurses in nongovernmental intensive care units, 91.2% and 85.7%respectively. Among all nurses in nongovernmental hospitals 67.6% were faced resistance from their patients and patient families during care provision compared with 56.9% of nurses in governmental hospitals.

Table 2: frequency and percentage distribution of personal (intra personal) and inter-personal factors that affect the care provision of nurses in intensive care units of governmental and nongovernmental hospitals of Addis Ababa, 2012

Variables	**Hospitals**		
	Governmental	Nongovernmental	Total
	NO (%)	NO (%)	NO (%)
past ICU experience			
yes	39 (38.2)	40 (38.1)	79(38.2)
no	63 (61.8)	65 (69.9)	128(61.8)
total	102 (100)	105 (100)	207 (100)

Willingness to work in ICU			
Yes	56 (54.9)	55 (52.4)	111 (53.6)
No	46 (45.1)	50 (47.6)	96 (46.4)
Total	102 (100)	105 (100)	207 (100)
take training in ICU			
Yes	89 (87.3)	84 (80)	173 (83.6)
No	13 (12.7)	21 (20)	34 (16.4)
Total	102 (100)	105 (100)	207 (100)
Communicate effectively with ICU teams			
Yes	98 (96.1)	99 (94.3)	197 (95.2)
No	4 (3.9)	6 (5.7)	10 (4.8)
Total	102 (100)	105 (100)	207 (100)
Get adequate information from physicians about the patient			
Yes	64 (62.7)	58 (55.2)	122 (58.9)
No	38 (37.3)	47 (44.8)	85 (41.1)
Total	102 (100)	105 (100)	207 (100)
Communication problem with patients			
Yes	90 (88.2)	89 (84.4)	179 (86.5)
No	12 (11.8)	16 (15.2)	28 (13.5)
Total	102 (100)	105 (100)	207 (100)
Conflict with ICU teams			
Yes	93 (91.2)	90 (85.7)	183 (88.4)
No	9 (8.8)	15 (14.3)	24 (11.6)
Total	102 (100)	105 (100)	207 (100)

Resistance from patient or family			
Yes	58 (56.9)	71 (67.6)	129 (62.3)
No	44 (43.1)	34 (32.4)	78 (37.7)
Total	102 (100)	105 (100)	207 (100)

5.3. Organization related factors affecting the care provision of nurse working in ICU

Nurses in nongovernmental hospitals had cooperative hospital management compared with nurses in governmental hospitals, 86.7 % and 79.4 % respectively. Most 187 (90.3 %) of nurses respond that there was no in-service training being conducted in their working hospitals.

Thirty nine (38.2%) nurses who were working in governmental hospitals respond inadequate material provision to provide care for their patients in ICU similarly forty five (42.9 %) nurses in nongovernmental hospitals respond inadequate material provision from the hospital to provide care for their patients. Majority (156, 75.4%) of nurses were assigned in intensive care units without their choice, of which 78 were in governmental hospitals and the rest 78 were in nongovernmental hospitals. Fifty eight (28%) of the study participants respond that they had no authority to make independent nursing intervention, of which 33 belongs in governmental and 25 were in nongovernmental hospitals.

Among all participants the majority (175, 84.6%) respond that they had no guideline to manage pain. Forty nine (48%) nurses in governmental hospitals work less than 40 hours per week where as 62 (59%) of nurses in nongovernmental hospitals work 40-56 hours per week. Eighty three (40.1%) of the total nurses in intensive care units were assigned for more than 4 patient. And

also most (72.5 %) of the nurses respond that work shift, specifically night duty has negative impact on their social life (table 3).

Table 3: Distribution of organizational factors that determines the care provision of nurses' in intensive care units of governmental and nongovernmental hospitals of Addis Ababa, 2012

variables	**Hospitals**		
	Governmental	Nongovernmental	Total
	NO (%)	NO (%)	NO (%)
Cooperative hospital management			
Yes	81 (79.4)	91 (86.7)	172 (83.1)
No	21 (20.6)	14 (13.3)	35 (16.9)
Total	102 (100)	105 (100)	100 (100)
in-service training / education in the Hospital			
Yes	16 (15.7)	4 (3.8)	20 (9.7)
No	86 (84.3)	1o1 (96.2)	187 (90.3)
Total	102 (100%)	105 (100)	207 (100)
Provision of adequate supplies to provide care			
Yes	63 (61.8)	60 (57.1)	123 (59.4)
No	39 (38.2)	45 (42.9)	84 (40.6)
Total	102 (100)	105 (100)	207 (100)
Way of assigning nurses in ICU			
personal will	11 (10.8)	22 (21)	33 (15.9)
being assigned	78 (76.5)	78 (74.3)	156 (75.4)
being rotated	13 (12.7)	5 (4.8)	18 (8.7)
Total	102 (100)	105 (100)	207 (100)
Authority to make independent			

nursing intervention	69 (67.6)	80 (76.2)	149 (72)
Yes	33 (32.4)	25 (23.8)	58 (28)
No	102 (100)	105 (100)	207 (100)
Total			
Guideline to manage pain in ICU			
Yes	7 (6.9)	25 (23.8)	32 (15.4)
No	95 (93.1)	80 (76.2)	175 (84.6)
Total	102 (100)	105 (100)	207 (100)
support from hospital management			
Yes	68(66.7)	76 (72.4)	144 (69.6)
No	34 (33.3)	29 (27.6)	63 (30.4)
Total	102 (100)	105 (100)	207 (100)
Work shift			
Night duty's negative impact on social life			
Yes	74 (49.3)	76 (50.7)	150 (72.5)
No	28 (49.1)	29 (50.9)	57 (27.5)
Total	102 (100)	105 (100)	207 (100)
Number of working hours per week			
Less than 40 hours	49 (48)	40 (38.1)	89 (43)
40-56 hours	47(46.1)	62 (59)	109 (52.7)
Above 56 hours	6 (5.9)	3 (2.9)	9 (4.3)
Total	102 (100)	105 (100)	207 (100)
Number of patients assigned for each ICU nurse			
Less than 3 patients	41 (40.2)	37 (35.2)	78 (37.7)
3-4 patients	19 (18.6)	27 (25.7)	46 (22.2)
Above 4 patients	42 (41.2)	41 (39)	83 (40.1)
Total	102 (100)	105 (100)	207 (100)

5.4. Work environment factors

Among all respondents (170, 82.1 %) responds the space of intensive care units were appropriate, the rest 37 (17.9 %) responds the space of the unit was not appropriate to provide care. According to the respondents governmental hospital ICU had appropriate space compared to nongovernmental hospitals which accounts 91.2% and 73.3 % respectively. Majority (82.1 %) of nurses responds the presence of noise in their working units. And also 26.5 % of nurses respond the room temperature of working unit is not appropriate for both the care giver and patients.

Table 4: Distribution of work environment factors that affects the care provision of nurses' in intensive care units of governmental and nongovernmental hospitals of Addis Ababa, 2012

Variables	**Hospitals**		
	Governmental NO (%)	Nongovernmental NO (%)	Total NO (%)
appropriate space in the unit			
Yes	93 (91.2)	77 (73.3)	170 (82.1)
	9 (8.8)	28 (26.7)	37 (17.9)
Noise in the unit			
Yes	93 (91.2)	77 (73.3)	170 (82.1)
No	9 (8.8)	28 (26.7)	37 (17.9)

5.5 Commonly occurred difficulties in intensive care unit

As shown in table 5 the most problems that they faced in intensive care units were unable to perform the procedures for their patients and difficulty of understanding the diagnosis of their patients, 39.6 % and 23.7 % respectively.

Table 5: Distribution of difficulties face in intensive care units of governmental and nongovernmental hospitals of Addis Ababa, 2012

	Difficulties	number	Percent (%)
	unable to perform the procedure	82	39.6
	difficulty of understanding the Dx	49	23.7
	unable to operate machines	26	12.6
	unable to interpreting findings	48	23.2
	others	2	1.0
	Total	207	100.0

5.6 communications with intensive care unit team members

Majority 144(69.6%) of nurses responds their communication while working in intensive care units were with nurses in ICU. Forty five (21.7 %) of nurses communicate with physicians in ICUs. Only 1 % of nurses respond their communication with pharmacies.

Table 6: frequency and distribution of communication of nurses in intensive care units with their team members in governmental and nongovernmental hospitals of Addis Ababa, 2012

Team members	Frequency	Percent (%)
nurses in ICU	144	69.6
Pharmacies	2	1.0
head nurses	15	7.2
Physicians	45	21.7
Others	1	0.5
Total	207	100

5.7 conflict with ICU team members

From the total study participants 183 (88.4 %) faced conflict with other members in ICU.

Most 114 (62.3%) had conflict with physicians followed conflict with head nurses which accounts 17.5%.

Table 7: conflict of nurses in intensive care units with their team members in governmental and nongovernmental hospitals of Addis Ababa, 2012

ICU teams in which conflict occurs in most cases	Number	Percent (%)
Head nurses	32	17.5
Nurses who work in ICU	28	15.3
Physicians	114	62.3
Supervisors	3	1.6
Others	6	3.3
Total	183	100

5.8 Factors affecting communication of nurses in ICU with their patients

As shown in table 8 most (75.4%).of the participants respond the common barrier of communication with patients was language difference followed by the health condition of the patient.

Table 8: factors affecting communication of nurses in ICU with their patients in governmental and nongovernmental hospitals of Addis Ababa, 2012

Factors	Number	Percent
language difference	156	75.4
health condition of the patient	36	17.4
age difference	14	6.8
Others	1	.5
Total	207	100.0

5.9 effects of challenges on nurses in intensive care units

The result shows that majority 136 (65.7 %) of nurses feel demoralization when they were unable to perform procedure for their patients in their respective working units followed by feeling of inferiority which accounts 18.4 %. And also majority 133 (64.3 %) respond that lack of managerial support causes decrease motivation to work.

Table 9: effects of challenges on nurses in intensive care units in governmental and nongovernmental hospitals of Addis Ababa, 2012

challenges	**Effects**	**Number**	Percentage (%)
Unable to perform procedures	Demoralization	136	65.7
	Inferiority	38	18.4
	Fear of being insulted by the patient	17	8.2
	Fear of being criticized by my supervisors	9	4.3
	Others	7	3.4
Lack of supportive management	Decrease motivation	133	64.3
	Decrease work performance	41	19.8
	Decrease opportunity to upgrade knowledge	33	15.9

According to the analysis done using multivariate analysis there was significant association between difficulties faced in intensive care units with sex. It indicates that males who are working in intensive care units are 4.6 times susceptible to face difficulties in their units (p value= 0.046). And also there was significance association between difficulties faced in ICU with the age group of 20-30 years and 31-40 years of respondents (p value= 0.007 & p-value= 0.039 respectively). It indicates that being young in relation to others is preventive. Implies that nurses at the age of less than or equal to 40 years are not as such susceptible to face difficulties in intensive care units. Finally conflict with intensive care unit teams doesn't predispose nurses for difficulties.

Table 10: multivariate analysis of face difficulty in ICU with selected independent variables, nurses in intensive care unit, 2012

Characteristics	**Face difficulties**			
	Yes	**No**	**OR (95 % CI)**	**P value**
	No (%)	no (%)		
Sex				
Male	23 (88.5%)	3 (11.5 %)	4.591 (1.029, 20.492)	0.046
Female	176 (97.2%)	5 (2.8 %)		
Age				
20-30 years	128(97.7 %)	3 (2.3 %)	0.094 (0.017, 0.0516)	0.007
31- 40 years	59(96.7 %)	2 (3.3 %)	0.136 (0.020, 0.901)	0.039
Above40 years	12 (80 %)	3 (20 %)		
Conflict with ICU teams	179 (97.8 %)		0.112 (0.026, 0.482)	0.003
Yes		4 (2.2 %)		
No	20 (83.3 %)	4 (16.7 %)		

Coping mechanisms

The coping strategies in which nurses in intensive care units used were prioritized based on their means and standard deviation after computing the maximum and minimum values in excel from the four scaled questionnaire (used a great deal=3, frequently used=2, used some times=1 and not used=0)

1. 1. **Coping strategies of nurses for lack of in-service training and supportive management**

As shown in table 11 the top 3 coping strategies were taking advantages of others experience (mean= 2.3092, s.d= 0.80717), positive thinking about work (mean=2.1836, s.d= 0.85623)and attempt to change the work unit (mean= 1.6957, s.d= 1.0654) for lack of in-service training & lack of supportive management.

Table 11: Coping strategies of nurses for lack of in-service training and supportive management in governmental and nongovernmental hospitals of Addis Ababa, 2012

Coping strategies	N	Sum	Mean	Std. Deviation
Taking advantages of others experience	207	478.00	2.3092	0.80717
Positive thinking about my work	207	452.00	2.1836	.85623
Attempt to change my work unit	207	351.00	1.6957	1.06540
Referring the problem to the head nurse	207	327.00	1.5797	0.95642
Referring the problem to higher officials of the hospital	207	288.00	1.3913	0.99344
Attempt to leave the hospital as a whole	207	275.00	1.3285	1.10089

2. **Coping strategies of nurses for lack of knowledge**

As shown in table 12 the top three coping strategies were using references (Mean= 2.1063, s.d= 0.82926), assign friends to perform the procedure (mean=1.7295, s.d= 0.85004) and seek advice from nurses (mean= 1.6763, s.d= 0.86830) for lack of knowledge

Table 12: Coping strategies of nurses for lack of knowledge in governmental and nongovernmental hospitals of Addis Ababa, 2012

Coping mechanisms	**N**	**Sum**	**Mean**	Std. Deviation
I used references to refer if the procedure beyond my know-how	207	436.00	2.1063	0.82926
Assign my friends to perform the procedure	207	358.00	1.7295	0.85004
Seek advice from nurse	207	347.00	1.6763	0.86830
Seek help from physicians	207	321.00	1.507	0.86242
Leave the procedure from performing	207	229.00	1.1063	0.94423

3. Coping strategies for work overload

Based on the mean average the most commonly used coping strategies were prioritize the activities (m= 2.5556, s.d= 0.71432), doing tasks on time (m= 2.0676, s.d= 0.72089) and being prepared for possible crisis (m= 2.1691, s.d= 0.81575) as shown in table 1

Table 13: Coping strategies of nurses for work overload in governmental and nongovernmental hospitals of Addis Ababa, 2012

Coping strategies	N	Sum	Mean	Std. Deviation
Prioritize the activities	207	529.00	2.5556	0.71432
Doing tasks on time	207	454.00	2.1932	0.78292
Being prepared for possible crisis	207	449.00	2.1691	0.81575
I knew what had to be done, so doubled efforts	207	428.00	2.0676	0.72089
Observing safety considerations	207	409.00	1.9758	0.77859
Seek help from my friends in other ward	207	393.00	1.8986	0.82694

4. Coping strategies for night duty

Based on the result the most commonly used coping strategies were organize shift schedules (m=2.2174, s.d= 0.77965), Use recreation activities at night (m=1.8116, s.d= 0.88035) and adequate rest before starting the work (m= 1.8068, s.d= 0.88205) as shown in table 14.

Table 14: Coping strategies of nurses for night duty in governmental and nongovernmental hospitals of Addis Ababa, 2012

Coping strategies	N	Sum	Mean	Std. Deviation
Organize shift schedules	207	459.00	2.2174	.77965
Use recreation activities at night	207	375.00	1.8116	.88035
Adequate rest before starting the work	207	374.00	1.8068	.88205
Inform my families	207	331.00	1.5990	.98464

5. Coping strategies for conflict with ICU teams

Based on the result the most commonly used coping strategies were talk to likely friends (m=1.9710, s.d=0.8528), ask apologize immediately (m=1.9662, s.d=0.88340) and came up with a couple of solutions (m=1.7101, s.d=0.80233) as shown in table 15.

Table 15: Coping strategies of nurses for conflict with ICU teams in governmental and nongovernmental hospitals of Addis Ababa, 2012

Coping strategies	N	Sum	Mean	Std. Deviation
Talk to my likely friends	207	408.00	1.9710	0.85283
Ask apologize immediately	207	407.00	1.9662	0.88340
Came up with a couple of solutions	207	354.00	1.7101	0.80233
Avoid the problem	207	350.00	1.6908	0.92488
Read religious books	207	343.00	1.6570	0.99671
Drew on past experience	207	328.00	1.5845	0.91448
Avoided being with people in general	207	288.00	1.3913	0.86828
Leave the ward for a movement	207	232.00	1.1208	0.97839
Take drinks	207	197.00	0.9517	1.15228

6. Coping mechanisms for communication problem with ICU teams and patients

Based on the result the most commonly used coping strategies were take time to talk with members (m=1.7729, s.d= 0.85705), explore the events further (m=1.6763, s.d= 0.85705) and Perform only that activities that I understand (m=1.6184, s.d= 0.83854) as shown in table 16

Table 16: Coping strategies of nurses for communication problem with ICU teams and patients in governmental and nongovernmental hospitals of Addis Ababa, 2012

Coping strategies	N	Sum	Mean	Std. Deviation
Take time to talk with members	207	367.00	1.7729	.91463
Explore the events further	207	347.00	1.6763	.85705
Perform only the activities that I understand	207	335.00	1.6184	.83854
Use interpreters	207	267.00	1.2899	.97196
Decide not to deal with members	207	214.00	1.0338	1.00185

Analysis of correlation matrix indicates that using attempt to leave the hospital as a coping strategy is positive correlated with the total number of hours per week and number of patients assigned for each nurse. As the number of hours per week increases, nurses' perception to leave their working hospital increases but the relation is weak. Similarly as the number of patients assigned for each nurse increases, nurses perception to leave their hospital increases, the relation is weak (r= 0.0203, p-value= 0.003 and r= 0.141, p-value= 0.042 respectively). The use of prioritizing activities as a coping mechanism is inversely related with the total number of hours per week and the number of patients assigned for each nurses. It reveals that as the number of working hours per week and the number of patient assigned increases, the use of prioritizes the

activities as a coping mechanism decrease but the relation is weak in both cases. (r= -0.233, p-value= 0.001 and r= _0.175, p-value=0.012 respectively). Take adequate rest before starting work and take drink as a coping mechanisms have positive correlation with total number of hours and they have inverse related with work experience. The strength of association is weak in both mechanisms.

Table 17: correlation matrix analysis of coping mechanisms with work experience, number of hours and number of patients in governmental and nongovernmental hospitals of Addis Ababa, 2012

Coping strategies	Work experience	Total hours per week	No. of patients assigned
Attempt to leave the hospital		0.203**	0.141*
Pearson Correlation (r)	---		0.042
P -value		0.003	
Prioritize the activities		- 0.233**	- 0.175*
Pearson Correlation (r)	---		0.012
P –value		0.001	
Take adequate rest before starting work	- 0.168*	0.140*	-----
Pearson Correlation (r)	0.016	0.044	
P- value			
Doing tasks on time			-0.147*
Pearson Correlation (r)			0.034
P value			
Adequate rest before starting work	- 0.168*	0.140*	
Pearson Correlation (r)	0.016	0.044	

p-value			
Avoid the problem	---	----	-0.151*
Pearson Correlation (r)			0.030
p-value			
Take drink	- 0.189**		-----
Pearson Correlation (r)	0.007	0.200**	
p- value		0.004	
Drew on past experience	- 0.152*	---	----
Pearson Correlation (r)	0.028		
p-value			

CHAPTER SIX

Discussion

In hospital critical care units, many of the individual challenges confronting other hospital units intersect, making the critical care setting the most complex environment in the healthcare facility. The results of this study indicated that nurse-physician communication in intensive care units was not adequate. From all study participants 41.1 % respond that they didn't get adequate information about their patient's condition, as a result 23.7 % of nurses who were working in intensive care units on governmental and nongovernmental hospitals face difficulties of understanding the diagnosis of their patients. In addition to this 23.2 % of nurses faced a problem of unable to interpret the findings of the patient. It was similar with a study conducted on ICU critical incidents in US found that just under half (50%) of all contributory factors underlying critical incidents were related to nontechnical skills (e.g. teamwork and decision-making), with poor communication frequently being reported as contributing to the occurrence of critical incidents. The review concluded that information on the contributory role of communication is often superficial, with little analysis being performed on the team members most susceptible to error, or the specific communication problems that result in critical incidents. This might indicate that poor communication between intensive care unit teams might be one of the reason for the difficulties occurred in ICU on care givers and patients (12, 13).

The availability of resources to care for critically ill patients varies across countries. In this study 40.6 % of the study participants respond that there was no adequate material to provide care for

patients in intensive care units. The figure was lower when we compare with a research study conducted by S.P. Beaua revealed that factors causing stress in the intensive care environment found lack of human and material resources were a major causes. It also found that 87.5% of respondents were unable to cope with excessive workload, shortage of personnel and inadequate resources. This might be due to variations among study participants and the setting of intensive care units (6).

Creating supportive and enabling work environment for nursing staff is a way of finding solution to the problem occurred in intensive care units. In this study, 88.4 % of nurses faced conflict with ICU teams, of which 62.3 % of nurses faced conflict with physicians, 17.5 % faced conflict with head nurses and the rest with nurses who work in ICU 15.3%. It implies that conflict among nurses comprises 32.8 %. The figure is high compared with a study conducted to identify stressors in intensive care unit which found that conflicts were perceived by 5,268 (71.6%) respondents. Nurse–physician conflicts were the most common (32.6%), followed by conflicts among nurses (27.3%) and staff-relative conflicts (26.6%). This might be due to poor team sprite and lack of cooperative leadership in the study sites (22).

Nurses, as one of the professional service groups, tend to be exposed to extreme workloads. In this study nurses who were working in governmental and nongovernmental hospitals were not proportional to the patient number in ICUs. From all participants 22.2 % of nurses were assigned for 3 to 4 patients and also 40.1 % of nurses were assigned for more than 4 patients. It implies that 62.3 % of nurses were assigned for 3 and above patients. This figure is higher compared with recent British recommendations of a nurse–patient ratio of at least one nurse for two patients. Theoretically, the nurse-to-patient ratio should be adjusted to the workload intensity and nurse experience (skills and knowledge) and consequently be flexible within units across time.

This difference might be due to poor staffing policy of hospitals and shortage of nurses who were willing to work in ICUs. (34).

Nurses in Intensive care units are expected to have the knowledge and skills required to function competently in a high technology environment, and to utilize critical thinking skills in the planning and implementation of excellent care. Knowledge and techniques, like care techniques, timely judgment, and patient education, are critical to perform services properly. In this study 90.3 % of nurses respond that there was no in-service training or education in their working hospitals. The result is higher as compared to the study conducted at Nelson Mandela Metropolitan University on registered nurses' perception of factors causing stress in the intensive care environment found that unavailability of in-service education was also viewed as a serious problem. It stated that 54.2% of the respondents strongly disagree that in-service education was in existence and also 29.29% of the respondents disagreed to the same statement, giving a total of 83.4% negative responses. This means that all respondents were saying that there was no in-service education in their work environment. This difference might be due to unorganized set of units in each hospital and most of the hospitals included in this study were nongovernmental, as a result most hospitals have no their own training centers (6, 45, 46).

Nurses as health care providers are obliged to work during the day and during the night to cater for the needs of sick people. While Intensive care nurses were vulnerable to a stressful environment because of the complex nature of patient's health problems that require an extensive use of very sophisticated technology. Frequent night duty is a major factor influencing turnover. In this study nurses prefer day time to work in ICUs; among all participants 72.5 % respond that night duty had negative impact on their social life. This figure is lower compared with a study

conducted at Jordan University Hospital to determine whether night shift affects the social aspect of nurses. Results showed that 60% of respondents stated that their social life was sometimes affected, 33% stated that their social life was always affected which means 93% of the nurses were affected and 7% were not affected. The aspect of social life involved nurse's families, work relationships and other social groups. This difference might be due to difference in the perception of study participants to night duty, implies in real situations some nurses in this study engaged in night duty for a means of economical income (duty salary) (41).

Increased managerial pressure can impact an employee well-being. The result in this study showed 64.5 % of nurse responds that lack of managerial support caused decrease motivation to work. Similarly, the study conducted in Nigeria showed that poor supervisor support has been linked with increased stress level and symptoms of depression. When under pressure, many managers may react by exhibiting a negative managerial style. Managerial support such as effective communication and feedback are important factor for employee well-being. This similarity might be due to the complexity of intensive care units to control compared with other units (44).

The result in this study showed that majority 136 (65.7 %) of nurses feel demoralization when they were unable to perform procedure for their patients in their respective working units. Similarly a study conducted on moral distress of state nurses in a medical intensive care unit in Rush university medical center, Chicago stated "moral distress" was thought to be a serious problem for nurses, particularly those who practice in critical care areas. As a result, persons in moral distress act in a manner contrary to their personal and professional values. This might be due to the stressful situation of the intensive care units (50).

The findings of this study also indicated that nurses who were working in intensive care units used different coping strategies for different challenges. Coping strategies nurses used mostly to cope with lack of in-service training and supportive management were taking advantages of others experience, positive thinking about work and attempt to change the work unit. Nurses in this study used different coping strategies for lack of knowledge such as using references, assign friends to perform the procedure and seek advice from nurses. Work overload was another challenge that nurses faced. They mostly used prioritizing the activities, doing tasks on time and being prepared for possible crisis. Similarly for other challenges such as conflict with ICU teams, communication problem with ICU teams and patients they used the following strategies talk to likely friends, ask apologize immediately and came up with a couple of solutions, take time to talk with members explore the events further and Perform only the activities that they understand. The result in this study is similar with the coping mechanisms / strategies that Iranian nurses used. It found that the most frequently used coping strategies by Iranian nurses. The main categories obtained from nurses' experience indicated the following different strategies. First, work management strategy: was work management which decreases stress without necessarily causing less productivity. It comprises two sob categories: (a) anticipating tasks- participants believed that they were overloaded with work causing stress due to time constraints. Therefore, time management skill help them used their time more efficiently, get their priorities in order, anticipating lack of equipments, consider safety measures and being prepared for possible crisis. (b) Doing the tasks well- nurses expressed that they employed strategies like observing safety considerations & doing tasks on time. Second; self control strategies which includes; preparing for work (nurses were aware of the importance of adequate rest before starting their job), avoidance strategy (like leaving the ward for a movement).

Thirdly; emotional strategy: it includes (a) emotional satisfaction such as satisfaction with patient improvement and (b) acting out; it comprises aggressiveness, resentment, silence, crying laughing and facing difficulties agreeably. Fourthly, spiritual strategy; includes the role of religious beliefs, reading the Quran, praying, trust in God indicate that nurses employ spiritual strategies to cope with stressors. Fifth; cognitive strategies such as positive thinking, looking for positive aspects in every situation, and the value of the nursing occupation were related to this strategy. Sixth; interactional strategies: such *as* interaction with the colleagues, interaction with the Patients, and interaction with the family members. This might be due to similarity of work challenges that nurses faced during care provision (66)

Limitation and strength of the study

Limitations

- Lack of references which were conducted in Ethiopia and on study sites
- The study did not incorporate qualitative methods that enable triangulation of the general information due to logistic and time constraints.

Strength

- Since there was no past study conducted in the nation, this study might be used as baseline information for further studies.

CHAPTER SEVEN

CONCLUSION AND RECOMENDATION

Conclusions

Most researches indicate intensive care units; remain challenging environments for the delivery of healthcare. Alternatively; working in the Intensive care unit produces formidable challenges for nursing personnel. As a result, the care of critically ill patients can no longer be accomplished by a single healthcare professional.

This study revealed that nurses assigned in intensive care units not based on their experience and willingness rather it is based on the organization will and this predispose them for a number of challenges since there is no in-service training in most hospitals. Nurses have no adequate supplies to provide care for their patients and also there is poor team sprite in the intensive care units of both governmental and nongovernmental hospitals. Nurse- patient- ratio in the study site indicates that nurses are highly overloaded.

Recommendations

Based on the study findings, the principal investigator would like to recommend the following points for concerned bodies

- Ministry of Health and Ethiopian Nurse Association should develop a sound credentialing program for critical care providers and validate the skills of nurses in critical care settings and other ICU staff members
- Governmental and nongovernmental hospital managements should assesses the ICU culture and environment in order to identify problems in early stages and to improve care delivery.
- Governmental and nongovernmental hospital managements should educate or train ICU staff to promote the development of skills and knowledge of care givers.
- Governmental and nongovernmental hospital managements should adjust patient-nurse- ratio in intensive care units.
- Ministry of Health and Addis Ababa health bureau should follow the staffing policy of hospitals to maintain quality of health service.

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Annex I

ADDIS ABABA UNIVERSITY SCHOOL OF MEDICICE &COLLEGE OF HEALTH SCIENCES DEPARTEMENT OF NURSING AND MIDWIFERY

INDIVIDUAL CONSENT FORM

My name is ----------. I am working with the research team of Addis Ababa University department of Nursing & Midwifery. At ----------Hospital, intensive care unit, we are here to collect data to assess the challenges and coping mechanisms of nurses working in intensive care units in caring for patients in governmental and nongovernmental hospitals of Addis Ababa city. We believe that this study would help to bring change in nursing care service. We would like to assure you that your name will not be mentioned in the questionnaire and the information that you will give us will be kept confidential and only used for research purpose.

You have full right to refuse, to take part or to interrupt the study at any time. But the information that you will give us is quite useful to achieve the objective of the study and to bring change in nursing care delivery.

Are you willing to participate in the study?

1- Yes 2 - No

If the answer is yes, thanks! Conduct the interview.

If the answer is no, Thanks!

Data collector name ---------- signature ----------date----------

Annex-II

Study Information Sheet (SIS)

- Title of the project: challenges and coping mechanisms of nurses working in intensive care unit in caring for patients in governmental and nongovernmental hospitals of Addis Ababa city.
- Background of the study: The interplay of high technology and high acuity in critical care makes the intensive care unit (ICU) environment one of the most complicated for healthcare facilities. Most hospitalized patients with critical conditions are cared for in ICUs, patient care areas designed to provide extraordinary treatment by specially trained healthcare professionals, often with the use of high-tech equipment. Nurses with limited ICU experience consider caring for highly dependent patients more challenging than experienced nurses and may perceive that ICU setting is a more strenuous and stressful environment in which to work.
- Objective: to assess the challenges and coping mechanisms of nurses working in intensive care units in caring for patients in governmental and non-governmental Hospitals of Addis Ababa, Ethiopia, 2012
- Significance of the study:

  This study will be very important for different bodies in addressing the issues related to the quality of nursing service to the community. The study will be designed in the broad context of understanding why the intensive care unit is considered to be stressful area and the quality of patient care is affected, it will be undertaken to assess the quality of service being provided in each Hospitals. It will provide certain directions for the nursing profession to provide the optimal nursing service and also it will be essential for both

governmental and non-governmental Hospitals to adjust for the structural, procedural and administrative improvement of the ICU to provide the optimal nursing care for their patients.

- Study site and period of the study: The study will be conducted in Addis Ababa which is the capital city of Ethiopia. This study will be done from September 2011 to May 2012.
- Confidentiality: The response of study participant is completely confidential. Their names not included in the study and will never be used in connection with any of the information they give.
- Rights of participation: Participants are not forced to be participated (Voluntary Participation).
- Termination of the study: participants are free to withdraw from the study at any time, and this will not have any impact on their subsequent management.
- Benefits and Risks

  There are no known risks for participating in this study. Although there are no direct benefits to participants, the study results will inform senior administrators at various hospitals and government officials about the study results. Findings from this study has the potential to change future practice and educational requirements for nurses working in ICUs as well as provide them with problem solving skills and strategies to manage stress and challenges faced in ICUs.
- Address of principal investigator: Mobile: +251910045704

  Mail: ame0457@gmail.com

Annex III

Self administered questionnaires on challenges of ICU nurses in caring for patients

Part-I: socio demographic characteristics

Serial No.	Questions	Responses
1	Sex	1. ------ Male 2----- Female
2	Age in years	----------
3	Religion	1, Orthodox 3. Catholic 2. Muslim 4. Protestant 5, others
4	level of qualification	a). Certificate . b). Diploma c). Bachelor Degree in Nursing (BSc N) d). Master in nursing (MSc N) e) others (specify)----------
5	Ethnicity	1. Amhara 2. Oromo 3. Tigre 4. others (Specify)----------
6	Marital status	1. Single 2. Married 3. Divorced 1. Widowed
7	Title	1. Junior nurse 2. Senior nurse 3, others----------
8	Working Hospital	1. Governmental 2. Non governmental
9	Working unit	1. Neonate ICU 2. Pediatric ICU 3. Medical ICU 4. Surgical ICU 5. Emergency ICU 6. Cardiac ICU 7. Others(specify)
10	Work experience in years	----------

PART-II: work environment in intensive care unit and its challenges

No.	Questions	Response
1	Have you had any ICU experience other than your present setting?	1. Yes 2. No
2	How you are assigned to work in intensive care unit?	1. Personal will 2. Being assigned 3. Being rotated 4. others (specify)----------
3	Do you want to continue working in ICU for the future? If your answer is no	1. Yes 2. No Please specify the reason ----------
4	Has the work area appropriate space to give care?	1. Yes 2. No
5	Have the work area adequate supplies /materials to give care?	1. Yes 2. No
6	Is there any noise in the room? If your answer is yes what are the causes?	1. Yes 2. No 2. Specify ----------
7.	Is the room temperature comfortable for both client and the care giver?	1. Yes 2. No
8	Is there a guideline to manage pain for patients admitted in ICU?	1. Yes 2. No
9	Have you ever taken training while working in ICU? If your answer is Yes, list the types of training that you took?	1. Yes 2. No Specify----------
10	Is there in-service training in your Hospital?	1. Yes 2. No
11	Did you face a difficulty while giving care for your patient in ICU?	1. Yes 2. No
12	Which difficulties you mostly face in ICU during care provision?	1. Unable to perform the procedure 2. Difficulty of understanding the diagnosis of

		the patient 3. Unable to operate machines 4. Unable to interpreting the findings 5. Others (specify)----------
13	From whom you need help/ advice when the case of the patient is beyond your knowledge?	1. Nurses 2. Physicians 3. Others (please specify)----------
14	What do you feel, if you are unable to perform the procedure?	1. Demoralization 2. Inferiority 3. Fear of being insulted by the patient 4. Fear of being criticized by my supervisors 5. Others (specify)----------
15	Do you communicate with ICU teams effectively? If no, what affects your communication?	1. Yes 2. No Please specify----------
16	With whom you mostly communicate with during care provision in ICU?	1. Nurses who works in ICU 2. Head nurses 3. Pharmacists 4. physicians 5. Others (specify)----------
17	Which factors affect your communication with ICU teams during care provision?	1. Level of experience 2. Knowledge level 3. Professional difference 4. Others(please specify)----------
18	What is the effect of decrease communication with ICU members on you?	1. Decrease work effectiveness 2. Feel of isolation 3. Job dissatisfaction 4. Others (specify)----------
19	Do you get adequate information from a physician regarding the medical condition of a patient?	1. Yes 2. No
20	Have you ever face conflict with your co-workers in ICU?	1. Yes 2. No
	If yes, with whom the conflict occurs in most cases?	1. Head nurses 2. Nurses who works in ICU

		3. Physicians 4. Supervisors 5. Others (specify)----------
21	Does conflict with your co-workers affect job satisfaction?	1. Yes 2. No
22	Did you face communication problem with your patient(s)?	2. Yes 2. No
23	Which factors mostly affect your communication with your patient?	1. Age difference 2. Sex difference 3. Language difference 4. Health condition of the patient 5. Others (please specify)----------
24	Do communication barriers hinder your care provision for your patient?	1. Yes 2. No
25	Have you ever face resistance from the patient or families during care provision?	1. Yes 2. No
	If your answer is yes, how you solve the problem?	1. By discussing with the patient or families 2. By discussing with ICU members 3. By stopping the procedure from performing 4. Others (specify))
26	Do you involve in clinical decision making process?	1. Yes 2. No
27	Do you have the authority to make independent clinical decisions for your patient based on your assessment?	1. Yes 2. No
	If your answer for Q16 is 'No" who interferes in your decision making?	Specify----------
	What is the effect of lack of involvement in decision making on your work?	Please specify----------
28	Is the Hospital management Cooperative?	1. Yes 2. No

29	Does the management of your Hospital encourage you to upgrade your knowledge?	1. Yes 2. No
30	Do you get support from the Hospital management?	1. Yes 2. No
31	What effect does lack of managerial support has on your work in ICU?	1. Decrease motivation 2. Decreases work performance 3. decrease opportunities to upgrade knowledge 4. Please (specify)----------
32	How many hours you work in ICU per week?	Specify ----------
33	For how many patients are you assigned to provide care?	Specify the number ----------
34	Do increase working hours affect your interaction with your friends, families and patients?	1. Yes 2. No
35	Which duty time is preferable for you? Why it is preferable?	1. Day 2. Evening 3. Night Specify----------
36	Has night duty negatively impact on your social life?	1. Yes 2. No

Part –three: Coping strategies

Part –three: coping mechanisms that ICU nurses use for the challenges occurred in ICU

No.		Statements	Responses

	Challenges		USED A GREAT DEAL 3	FREQUENTLY USED 2	USED SOMETIMES 1	NOT USED 0
	Lack of in-service training & supportive management	Taking advantage of others experience				
		Positive thinking about my work & I express my feeling to get chance				
		Attempt to change my working unit				
		Attempt to leave the Hospital as a whole				
		Referring the problem to the head nurse				
		Referring the problem to the higher officials of the Hospital				
	Lack of knowledge	Seek advice from nurses				
		Seek help from physicians				
		Leave the procedure from performing				
		Assign my friends to perform the procedure				
		I use references to refer if the procedure beyond my know-how				
	Work overload	Prioritize the activities				
		Being prepared for possible crisis				
		Observing safety considerations				
		Seek help from my friends assigned in other wards				
		Doing tasks on time				
		I knew what had to be done, so I doubled my efforts to make things work				
	Night duty	Organize shift schedules				
		Use recreational activities at night				
		Adequate rest before starting the work				
		Inform my families since it affects				

		my family life				
	Conflict with ICU teams	Avoid the problem				
		Ask apologize immediately				
		Leave the ward for a movement				
		Talk to my likely friends				
		Take drinks				
		Read religious books				
		Avoided being with people in General				
		Drew on past experiences; I was in a similar situation before				
		Came up with a couple of different solutions to the problem				
	Communication problem with in ICU teams & patients	Explore the evens further				
		Take time to talk with members				
		Decide not to deal with members				
		Perform only the actives that I understood				
		Use interpreters				

Curriculum Vitae /CV/

Personal Detail

- Name Amare Tarekegn
- Sex M
- Nationality Ethiopian
- Marital statues Single
- Date of birth Oct. 22,1981 E.C
- Place of birth Gonder
- Address Hawassa
- Contact Address 0910-04-57-04 / 0918-15-91-65

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1. **Educational Back ground**
   - Elementary Licha
   - High school Estie M/Eyesus
   - Higher Education Jimma university
2. **Language skill**

	Writing	**Speaking**
Amharic	Excellent	Excellent
English	Excellent	Excellent

3. **Qualification**

   BSc .N, **Msc** candidate

4. **Training attended**
   - **TOT** and management of obstetric emergencies provided by Hawassa university and southern Ethiopia Gwent health link UK.(October 25 to 30,2009)
   - **PMTCT** conducted by SNNPR
   - Expanded Program of Immunization /EPI/ in Addis Ababa prepared by WHO
   - Teaching methodology prepared by Hawassa University
5. **Experience**

   1/. **Hawassa University**, school of Nursing and Midwifery as an instructor/GA-I /

   2/ **COC** examiner/assessor/ in **SNNPR/**south Nation, Nationality & people Regional state/

6. **Reference**

   Ato Aweke Yilma (Nursing and Midwifery Department Head)

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Declaration

I, the undersigned, declare that this thesis is my original work in partial fulfillment of the requirements for the degree of Master of Science in adult health nursing. All sources of materials used for this thesis have been acknowledged.

Name of the student: Amare Tarekegn

Date ---------- signature----------

Name of advisor: Erdaw Tachbele (PhD cand)

Date ----------signature----------