In The Name of God

TEHRAN UNIVERSITY OF MEDICAL SCIENCE

International Campus

Nursing and Midwifery School

TITLE: “Assessing the Relationship between Nurses' Attitudes toward Palliative Care and Ethical Climate in Neonatal Intensive Care Units In Tanzania 2024-2025”.

“A thesis submitted as partial fulfillment of the requirement for Master of Science (MSc) Degree”

In

Neonatal Intensive Care Nursing

By

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CERTIFICATION

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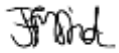
DECLARATION

I am Jina Simai Mohamed, I declare that everything written in this dissertation is the original work of the researcher, except for those used for the references mentioned in the text. It offers to Tehran University of Medical science is the master's course at TUMS-IC. This award has not been awarded and will not be offered to any other institution for the same or different award.

Signed: 

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DEDICATION

I give my greatest thanks to Almighty God for His guidance and blessings throughout my journey.

I extend my deepest gratitude to my family—my mother, father, siblings, niece, and nephew—for their unwavering support, love, and encouragement through all times.

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ABSTRACT

Title: “Assessing the Relationship between Nurses' Attitudes toward Palliative Care and Ethical Climate in Neonatal Intensive Care units in Tanzania 2024-2025”.

Background: Palliative care aims to enhance the quality of life for patients and their families, irrespective of illness severity. In neonatal intensive care units (NICUs), American Academy of Pediatrics (AAP) and the National Association of Neonatal Nurses (NANN) recommend integrating palliative care, particularly in nations like Tanzania that have high rates of infant morbidity and mortality. Nurses play a vital role in providing end-of-life care for newborns, yet may face emotional and ethical challenges. There is a scarcity of research examining nurses’ attitudes and the ethical climate influences palliative care in NICUs, and existing studies reveal inconsistent of findings.

Objective: This study aims to assess the relationship between nurses' attitudes toward palliative care and ethical climate in neonatal intensive care units in Tanzania.

Materials and Methods: The study design is a descriptive cross-sectional study. The study population comprises 170 nurses working in neonatal intensive care units of 12 hospitals selected as study area in Tanzania. Non probability convenience sampling methods was used to recruit participants in the study. Data collection involved three structured questionnaires, including sociodemographic, nurse’s attitude toward palliative care and nurses ‘perceptions to the ethical climate in NICUs. **S**PSS26 was used to analyze the data. While numerical variables were summarized using mean and standard deviation and categorical variables were summarized using frequency and percentage. Nurse attitude and perception to ethical climate were determined based on mean score. The relationship of the variables were determined based on a Pearson correlation coefficient from the responses to nurses' attitudes and ethical climates domains questions. A p-value of less than 0.05 was considered significant in all tests.

Results: The results revealed that among 170 nurses who participate, majority were age range 20-40 (85.3%). Nurses were lacking of training in palliative care were about 74. 7%. However, 75. 3% believed that their nursing education sufficiently prepared them for handling neonatal death and end-of-life care. The nurses exhibited a positive attitude toward palliative care with higher mean score of 81. 8, SD of 12.7. Also nurses demonstrated favorable ethical climates within NICUs with higher average score of 86. , SD of 14.2. Additionally, no significant relationship existed between nurses’ attitudes toward the organization and their perceptions of colleagues and hospitals ($p = 0.539$, $r = 0.047$), ($p =$

0.244, r = 0.090) respectively. A positive, strong and significant correlation was identified between nurses' attitudes toward palliative care and the ethical climate in neonatal intensive care units ($p < 0.001$, $r = 0.760$).

Conclusion: Nurses expressed a positive attitude toward PC and perceived favorable supportive to the ethical climate in NICUs. There was strong, significant and positive relationship between nurse's attitude and ethical climate toward PC in NICUs Tanzania. This means that the more favorable ethical climate the more positive attitude toward PC in NICUs. To strengthen the existed relationships and improve PC practices, policy-makers should create guidelines for neonatal PC that can be used in Tanzania. Additionally, addressing factors that negatively impact nurses' attitudes is crucial. While nurses generally perceived the ethical climate more favorable, challenges related to cultural, religion and spiritual care were noted as infrequently represented. Hence, findings indicated that a more studies are needed to evaluate the influence of culture, religion and spiritual factors toward attitude in PC.

Keywords: Palliative Care; Nurses' Attitudes; Ethical Climate; Neonatal Intensive Care Unit; Tanzania.

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LIST OF ABBREVIATIONS

ABBREVIATION	DEFINITION
AAP	America Academic of Pediatric
APCA	African Palliative Care Association
CPC	Clinical Pastoral Care
CBIs	Cognitive-Behavioral Interventions
EBP	Evidence-Based Practices
EOLC	End Of Life Care
HECS	Hospital Ethical Climate Survey
HICs	High-Income Countries
IAHPC	International Association of Hospice and Palliative Care
LMICs	Low and Middle-Income Countries
NICU	Neonatal Intensive Care Unit
NANN	National Association of Neonatal Nurses
NPC	Neonatal Palliative Care
NIMR	National Institute for Medical Research
NIPCAS	Neonatal Palliative Care Attitudes Scale
PC	Palliative care
SDGs	Sustainable Development Goals
USA	United State of America
UK	United Kingdom
WHO	World Health Organization

GLOSSARY

TERM	DEFINITION
Palliative care	Relieve suffering and enhance the quality of life for patients and their families, regardless of the severity of the illness.
End of life care	Support for people who are in the last months or years of their life.
Neonate	Is a baby under 28 days of age
Premature	A baby born before 37 weeks of gestation have passed.
Nurse	A person trained to care for the sick or infirm, especially in a hospital.
Attitude	Personal feelings, emotion, belief and knowledge and is affected by culture, religion and racial.
Ethics	Relating to moral principles or the branch of knowledge dealing with these. "Ethical issues in nursing.
Neonatal palliative care	Prevent and relieve the suffering of neonates who are not going to recover,
Life threatening disease	Serious disease that can cause death.
Life limiting disease	Describe an incurable condition that will shorten a person's life, though they may continue to live active lives for many years.
Holistic care	Caring for the whole person — providing for your physical, mental, spiritual, and social needs.
Hospice care	Specialized care that provides physical comfort and emotional, social and spiritual support for people nearing the end of life.
Terminal illness	An irreversible or incurable disease condition from which death is expected in the foreseeable future.
Spiritual Care	Practices, beliefs, objects and/or relationships that people often turn to for help in times of crisis or concern.

LIST OF STATISTICAL SYMBOLS

SYMBOLS	MEANING
%	Percentage
M	Mean
SD	Standard Deviation
SPSS	Statistical Package of Social Sciences
N	Number
<	Less than
>	More than
R	The correlation coefficient
P	Probability
P	Estimated Proportion of the Population
Z	Z-value
D	Margin of Error
A	Cronbach's Coefficient
&	And

1.0 Chapter one

Introduction

Chapter one

Introduction

1.1 Chapter overview

The aim of this chapter was to explain the background, problem statement and rationale of the research, general and specific objectives, assumptions, questions and theoretical and operational definitions of the variables, justification and significant of the study.

1.2 Background

Palliative care is defined as [the] an approach to relieve physical and psychological suffering or to alleviate suffering and improve quality of life in patients with progressive disease or severe disability (1). According to World Health Organization (WHO) defines palliative care as the prevention and relief of suffering of adult and pediatric patients and their families facing the problems associated with life-threatening illness. These problems include the physical, psychological, social and spiritual suffering of patients, and psychological, social and spiritual suffering of family members (2, 3). However, palliative care is applicable in different settings of nursing practice such as, neonatal nursing. The American Academy of Pediatrics (AAP) and the National Association of Neonatal Nurses (NANN) recommend that palliative care be provided as standard care in neonatal intensive care units (4). Neonatal palliative care becomes an option for critically ill neonates when death is inevitable (5). Neonatal palliative care is a multidimensional concept, to provide the standard of neonatal palliative care an integrated plan must be together which is related to a holistic care approach, family -centered care including family expectations and demands, supporting neonates nature which are uncertain prognosis and unusual signs of neonates pain, family`s culture, values and religion consideration, resources utilization, good communication skills, providing nursing advocacy, provide neonatal comfort and improving quality of life and good death (6). Nowadays, with advances in medical technology, diagnostic and screening methods, early diagnosis of congenital anomalies and fetal defects in the first trimester of pregnancy is possible, and families can be informed of such problems through prenatal genetic testing and laboratory evaluations. As a result, the newborn will later recognize a critically ill neonate who must be hospitalized in the neonatal intensive care unit (NICU) in case of survival (7, 8). Hence, all diagnostic and therapeutic procedures must be critically reviewed and evaluated in this regard. Certainty, previous studies has shown that patients receiving primary palliative

care have longer survival and a better prognosis compared to patients receiving standard care (9, 10).

In Tanzania, population-based studies have shown that neonatal mortality has varied between 26 and 40 deaths per 1,000 live births over the past three decades, with large regional variations. Most causes of early neonatal death were prematurity, birth asphyxia, respiratory distress, congenital malformations, cardiorespiratory failure and neonatal sepsis (35). This is an important basis for improving neonatal palliative care in Tanzania, where life-limiting and life-threatening diseases in newborns have the greatest burden. In addition, stay mentally and emotionally prepared to accept death without fear and having hope are related to good answers, and to be faith in the whole life, ultimately associated with good responses, which were also integrated to a general belief in life and death (11).Moreover, as a person approaches the end of life, culture and ethnicity increasingly drive care preferences and priorities, and understanding these preferences and priorities is important to health professionals' goals to respect decision-making and support the individual during this life stage (12). A study in Tanzania found that palliative care is provided through a paternalistic approach, influenced by language, education, culture, benevolence, and norms, allowing families to care for the sick at home during end of life support (13).

On top of that, the current study examined the concept of a good death in northern Tanzania by analyzing the perspectives of participants in focus group discussions. Seven primary themes were identified, including religious and spiritual well-being, family and interpersonal well-being, grief coping and emotional well-being and optimal time. The data suggested a positive attitude towards preparing for end-of-life care and involving various support systems lead to improve patient outcomes (11).

Therefore, it is important to evaluate nurses' attitudes towards neonatal palliative care as various factors impact its development (5, 10). Attitude refers to personal feelings, emotions, beliefs and knowledge and is affected by culture, religion and racial. Attitude directions is toward persons, events or objects and may be positive or negative (14). Nurses` attitude toward palliative care is a part of a multidisciplinary team that coordinates patients and their family and prepare the structure needs to feel informed and comfortable by gaining knowledge that aids in participating actively in palliative care discussion (15). Also, it is an approach to treatment decisions making includes communication with patient and family, early referrals, building relationships, and acknowledging death's impact (14).

In addition to patients’ advantages, nurses’ attitudes towards neonatal palliative care are essential to supporting nurses, who are constantly exposed to the emotional and moral

distress connected with this field of end-of-life nursing care (16). Studies showed that nurses had negative attitude toward neonatal palliative care before acquired the neonatal palliative care educational programs(17, 18). However, nurses in neonatal settings frequently make end-of-life decisions for terminally ill neonates and guiding treatment choices based on shift work, workplace, education level, age, work experience and attitudes (14, 17, 19).

In contrast, the nurses working in neonatal intensive care unit with a neonatal palliative care policy and who had received palliative care education demonstrated more positive attitudes toward neonatal palliative care than other nurses (20). Hence, health care system policy-making and educational programs are important strategies to promote high-quality care for high-risk neonates and their families and have direct impact to the nurse attitude that can influence their practice (10, 16).

Moreover, a study shows ethical climate impacts on how neonatal nurses care for dying newborns (21). Ethical climate refers to a common understanding of ethical standards and creates a basis for ethical and acceptable behavior within teams (19). Moreover, ethical climate, defined as the professional cultures, perceptions of employees about the ethical practices, procedures and policies of an organization, which can have ethical content and moral implications because they can influence ethical attitudes and behavior (22, 23). Therefore, the ethical climate is considered an important part of the nursing environment. On top of that, nurses reported stronger ethical beliefs and made fewer medical errors and had a better understanding of ethical issues, in the neonatal intensive care units (NICUs) than in other hospital departments (21, 24). This is because, care for critically ill newborn is no longer limited by the capabilities of medical technology, but by cultural limitations. Knowing that the limited predictability and uncertainty of the results can raise the question of ethical dilemmas (25). Ultimately, research on the ethical climate of healthcare is expanding quickly, with a focus on its impact on job satisfaction, workplace support, commitment, and staff well-being. A positive ethical climate is linked to better delivery of care, patient safety, reduced medical errors, reduce job burnout, and increased expertise in clinical and dealing with ethical matters among nurses (20, 25).

Despite of existences of studies related to nurses' attitude and ethical climate in high income countries. The relationship between ethical climate and nurses' attitude towards palliative care in NICUs is a critical gap in low to middle-income countries. A study conducted in Iran found a direct and significant relationship, indicating that a positive ethical climate is connected to a positive attitude among neonatal nurses (16). However, some studies shows that ethical relationships in hospitals were negatively related to the level of professionals

perception, which in turn increase the frequency and intensity of moral distress associated with ethical dilemma (25, 26).This study aims to address the research gap regarding relationship of nurses' attitude and ethical climate toward neonatal palliative care in Tanzania, which can be influence with factors unique such as knowledge, age, experience, expertise, religions and belief, culture, spirituality differences, availability of medical facilities, resources allocation, policy and organization structure, mission and vison. The Ministry of Health in Tanzania collaborates with the National Institute for Medical Research (NIMR) to prioritize health research based on community needs. One of the top most concern addressed on their website in 2024 is about reproductive, maternal, and child health, that supporting the importance of improving neonatal care in neonatal intensive care unit. In this study, we focus on the relationship between nurses' attitudes towards palliative care and ethical climate in neonatal intensive care units (NICUs) in Tanzania, and this is less focused, with few published studies in NICUs, despite its great importance in the development and improvement of neonatal palliative care, as shown by many of the studies as discussed. Therefore for these revelations reinforce the need to conduct this study in Tanzania.

1.3 Problem statement

Palliative care in low-and middle-income countries is understudied (27). However, due to the activities of the African Palliative Care Association (APCA), palliative care has been developed in recent years in many sub-Saharan countries including most hospitals in Tanzania. Yet very little is known about their functions and the sustainability of palliative care practice in many settings (28). A recent study of African countries shows that Uganda, South Africa and Kenya are the three countries with the highest level of hospital care development. Although, Tanzania ranks fifth among the best providers of hospital palliative care services in Africa, and many African countries have also made significant progress (28, 29). However, much progress has been made in adult palliative care in Africa, little attention has gone into ensuring newborns receive the appropriate and effective palliative treatment they require and support their families. Despite recent evidence showing that palliative care improves outcomes and reduces costs (30).

Sub-Saharan Africa bears the highest global neonatal mortality burden, accounting for 43% of neonatal deaths and exhibiting a neonatal mortality rate (NMR) of 27 deaths per 1,000 live births. Tanzania has 33 regional and tertiary hospitals with neonatal intensive care units, but there is no evidence of their effectiveness or sustainability in meeting neonatal care standards. A study measured the performance of these hospitals and found significant improvement

from 2017 to 2019, reflected in higher average external hospital performance assessment (EHPA) scores and a smaller standard deviation gap among hospitals. This suggests competition among regional referral hospital management teams has increased to enhance services, driven by external performance assessments (31). Most neonatal deaths in Tanzania happen among early newborns, and the situation is slowly improving over time. Many of these deaths can be prevented with better care for both newborns in their first week of life and for mothers. Although there has been significant progress in reducing child mortality, yet neonatal deaths have not seen similar reduce within Tanzania (32). The main causes of early neonatal deaths are birth asphyxia, respiratory distress, prematurity, and sepsis, while late neonatal deaths are mostly caused by infections like malaria and pneumonia (33). Palliative care (PC) is acknowledged as a crucial yet underutilized aspect of perinatal care, particularly for pregnancies at risk of stillbirth or early neonatal death, as well as for neonates facing severe prematurity, birth trauma, or congenital anomalies. Despite the significant neonatal mortality rates in this region, many of the strategies utilized in high-income countries (HICs) to care for dying newborns and support their families are not accessible in low- and middle-income countries (LMICs) (34). Many institutions and professional organizations in low- and middle-income countries (LMICs) often do not possess guidelines or recommendations to ensure standardized care. Furthermore, the existing guidelines may experience limited compliance due to constraints such as inadequate space, insufficient equipment and supplies, a shortage of trained professionals, and a high volume of patients(35). Therefore, it is essential to carry out a neonatal palliative care study in Tanzania, as this study will be the first research to provide insight about palliative care practices within NICUs.

Moreover, palliative care is a new practice with different levels of service available. Attitudes are key factors affecting palliative care in NICUs. In Ethiopia a study showed that nurses generally had positive attitude to support palliative care, and training plays an important role. Adding palliative care to nursing education and providing ongoing training can enhance nurses' attitudes toward PC (36). Nevertheless, there is a lack of evidence details regarding neonatal palliative care policies and guidelines that align with continuous training and enhance nursing education in Tanzania. Therefore, evaluating nurses' attitudes towards palliative care is essential, as their perspectives will depend on their experiences, beliefs, and the training gap that will or will not highlights the necessity for palliative care education in nursing schools and clinical area.

On the other hand, studies conducted in Kenya, it was found that mothers and children admitted to children's hospitals require improved emotional, physical, and psychosocial support. Furthermore, the study highlighted a deficiency in cultural consideration and spiritual care within hospital environments. Focusing on the experiences of mothers with newborns in the neonatal intensive care unit, the research pointed to the necessity of incorporating Clinical Pastoral Care (CPC) into the NICUs within the hospitals (37, 38). In Tanzania, maintaining a personal relationship with God is important for those facing end-of-life care. Nurses, work with family members to highlight the role of faith leaders and faith-based communities. These groups help support dying patients through prayer, visits, counseling, and addressing grief and emotional well-being (11, 39). Hence, taking into account sociocultural factors, spirituality, professionalism, and organizational structure may affect nurses' attitudes and support to enhancing palliative care (40, 41). Parents and families have specific preferences for palliative and bereavement care that should be taken into account. Approaches that work in High-Income Countries (HICs) may not be suitable for Low- and Middle-Income Countries (LMICs) due to different social and cultural factors. There is little research on parents' needs for bereavement care in sub-Saharan Africa, highlighting the need for more studies. For example, “memory making” is less common in LMICs, even though HIC studies show that photos and mementos can help parents cope with grief. It is important to create tailored, culturally sensitive approaches in LMICs for end-of-life experiences. Parents should be asked about their cultural or religious preferences for their infant, and efforts should be made to honor these wishes to ensure dignity and respect for family and infants(35, 42). Hence, investigating the environment that impacts the ethical dimension, by considering the variability of culture, religion, and organizational factors in many hospitals in Tanzania, will aid in exploring neonatal palliative care practices in NICUs, given that there has been little attention and limited published studies in this area in Tanzania. As a result, this study is going to assess relationship between nurse’s attitude toward palliative care and ethical climate in neonatal intensive care units in Tanzania.

1.4 Rationale of study

The study aims to examine the relationship between nurses' attitudes towards palliative care and the ethical climate in neonatal intensive care units in Tanzania. This research is crucial for enhancing policy-making and implementing effective interventions strategies that will improve the quality of care for neonatal patients with chronic and complex conditions, which impacts the emotional, mental and psychological well-being of families and nurses.

Moreover, palliative care for newborns is a key requirement in NICUs, as some health conditions continue to lead to high rates of illness and death among neonates. The Sustainable Development Goals aim to reduce the neonatal mortality rate to less than 12% per 1000 live births by 2030(43). In Tanzania, the rates of neonatal mortality and morbidity are still high due to serious diseases that lead to poor outcomes for newborns (35). Enhancing palliative care may improve the quality of life for critically ill neonates and their families. However, future research will look into how nurses' attitude and ethical climate factors affect this issue.

1.5 Theoretical and Practical definition of variables

Palliative care

Theoretical definition:

Palliative care is defined as [the] an approach to relieve physical and psychological suffering or to alleviate suffering and improve quality of life in patients with progressive disease or severe disability (1). World Health Organization (WHO) defines palliative care as the prevention and relief of suffering of adult and pediatric patients and their families facing the problems associated with life-threatening illness. These problems include physical, psychological, social and spiritual suffering of patients, and psychological, social and spiritual suffering of family members (2, 44).

Practical definition:

It was in line with the theoretical definition.

Attitude:

Theoretical definition:

Attitude refers to personal feelings, emotion, belief and knowledge and is affected by culture, religion and racial. Attitude directions is toward persons, events or objects and may be positive or negative (45).

Practical definition:

It was in line with theoretical definition.

Nurses' attitude toward palliative care

Theoretical definition:

Is a part of multidisciplinary team that coordinates patients and their family and prepare the structure needs to feel informed and comfortable by gaining knowledge that aids in participating actively in palliative care discussion (15).It is also defined as incorporating

information from multidisciplinary approach into treatment decisions, being honest with the patient and family, identifying benefit of early referrals, building relationships with the patient's family and the rest of the health care team, and recognizing death and its consequences (45).

Practical definition:

It was in line with theoretical definition and was assessed using, Neonatal Palliative Care Attitude Scale (NiPCAS). The scale developed by Kain et al., (2009), The NiPCAS has 26 items that assess attitudes on a 1-5 Likert scale. Scores range from a minimum of 26, indicating a lower score, to a maximum of 130, reflecting a higher score. It comprised of three domains, organization, resources, and clinician that includes 12items and 14 items remains on the scale assessed the nurses' experiences of palliative care and their beliefs about patients' death (46). It was considered as depended variable in the study.

Ethical climate

Theoretical definition:

Ethical climate refers to a shared understanding of ethical standards and creates a foundation for what constitutes ethical and acceptable behavior within teams (47). More than ethical climate, which is defined as employees' perceptions of organizational practices, procedures and policies related to ethics, which may have ethical content and moral implications, as they may influence ethical attitudes and behavior(48).

Practical definition:

It was in line with theoretical definition and was assessed using Hospital Ethical Climate Survey (HECS). The scale originally designed by Olson in 1998, The HECS has 26 items that assess ethical climate on a 1-5 Likert scale. Scores range from a minimum of 26, indicating a lower score, to a maximum of 130, reflecting a higher score. It comprised of five domains, nurses' perception towards colleagues, nurses' perception towards patients, nurses' perception towards managers, nurses' perception towards hospital and nurses' perception towards physicians (49). It was considered as independent variable in the study.

Neonatal intensive care unit

Theoretical definition:

It is essential place designed for health care providers including skilled nurses and midwives caring for sick newborn babies, according to standards condition, protocols and guidelines (50).

Practical definition:

It was lined with theoretical definition.

1.6 Research hypothesis

$H_{0:}$ There is no a relationship between nurses' attitudes toward palliative care and ethical climate in neonatal intensive care units (NICUs) in Tanzania.

H_1: There is a relationship between nurses' attitudes toward palliative care and ethical climate in neonatal intensive care units (NICUs) in Tanzania.

1.7 Research objective

1.7.1 General objective

To assessing the relationship between nurses' attitudes toward palliative care and ethical climate in neonatal intensive care units (NICUs) in Tanzania.2024-2025.

1.7.2 Specific objectives

- To determine the nurses' attitude toward organization in neonatal intensive care units.
- To determine the nurses' attitude toward clinicians in neonatal intensive care units.
- To determine the nurses' attitude toward resources in neonatal intensive care units.
- To determine nurses' experiences of palliative care and their beliefs about patients' death in neonatal intensive care units.
- To determine nurses' perception towards colleagues in neonatal intensive care units.
- To determine nurses' perception towards patients in neonatal intensive care units.
- To determine nurses' perception towards managers in neonatal intensive care units.
- To determine nurses' perception towards hospital in neonatal intensive care units.
- To determine nurses' perception towards physicians in neonatal intensive care units.
- To determine the relationship between nurses' attitudes toward palliative care and ethical climate in neonatal intensive care units.

1.8 Research questions

- What was the nurses' attitude toward organization in neonatal intensive care units?
- What was the nurses' attitude toward clinicians in neonatal intensive care units?
- What was the nurses' attitude toward resources in neonatal intensive care units?
- What were the nurses' experiences of palliative care and their beliefs about patients' death in neonatal intensive care units?

- What was the nurses' perception towards colleagues in neonatal intensive care units?
- What was the nurses' perception towards patients in neonatal intensive care units?
- What was the nurses' perception towards managers in neonatal intensive care units?
- What was the nurses' perception towards hospital in neonatal intensive care units?
- What was the nurses' perception towards physicians in neonatal intensive care units?
- Was there relationship between nurses' attitudes toward palliative care and ethical climate in neonatal intensive care units?

1.9 Justification for the study

The study aimed to examine the relationship between nurses' attitudes towards palliative care and the ethical climate of neonatal intensive care units in Tanzania. This research is crucial for enhancing policy-making, implementing effective strategies, and improving the quality of care for neonatal patients with chronic and complex conditions, which can also impact the emotional, mental and psychological well-being of families and nurses.

1.10 Significance of the study

The research aims to enhance the care provided to newborns facing life-limiting and life-threatening conditions, while also improving the quality of life for their professional caregivers. This will be achieved by examining the correlation between nurses' attitudes and the ethical climate within neonatal intensive care units in relation to palliative care. Subsequent studies will investigate the interrelationships among various influencing factors toward neonatal palliative care in NICUs.

1.11 Chapter summary

This chapter provides an overview of the context surrounding palliative care in high-income countries (HICs) and low- and middle-income countries (LMICs). However, the problem statement indicates a pressing need for further research in Tanzania, as various factors are identified that impede the advancement of neonatal palliative care while current lacking of evidence toward neonatal palliative care in many facilities within county. Based on the research hypothesis, this chapter also outlined the objectives and research questions that the author considered while examining the relationship between nurses' attitudes and the ethical climate regarding palliative care in neonatal intensive care units (NICUs). Consequently, the

significance of this study remains substantial in promoting the development of neonatal palliative care in Tanzania.

2.0 Chapter two

Literature review

Chapter two

Literature review

2.1 Chapter overview

This chapter explained the theoretical concepts of the study and literatures on nurses' attitudes toward palliative care and ethical climate in neonatal intensive care units globally.

2.2 Theoretical concepts

2.2.1 Palliative care

Definition: Palliative care is defined as the prevention and relief of suffering of adult and pediatric patients and their families facing the problems associated with life-threatening illness. These problems include the physical, psychological, social and spiritual suffering of patients, and psychological, social and spiritual suffering of family members (2, 3).

Historical basic: The concept of palliative care in the US gained momentum from the modern hospice care movement that expand from the United Kingdom (UK) in the 1960s. In 1967, Dame Cicely Saunders, the pioneer of the modern hospice movement, emphasized the importance of an individual's narrative in delivering quality care and facilitating a dignified death. This approach recognized the significance of honoring personal preferences in the pursuit of an optimal end-of-life experience through palliative care. A key concept introduced by Saunders was the notion of "total pain," which encapsulated the composite nature of suffering(51). It was generally regarded as important to enhance the roles of both the patient and their family in the caregiving process, while also fostering the dying individual's capacity to lead a life saturate with meaning. These principles are similarly reflected in the World Health Organization's definition of palliative care(44). A newly formulated definition of palliative care, established through a consensus among healthcare professionals from various economic backgrounds and asserts that palliative care should be provided according to need rather than prognosis, is relevant across all care environments and levels, and includes both general and specialized care. Thus, palliative care encompasses comprehensive and proactive support for individuals of all ages experiencing significant health-related distress due to serious illnesses, particularly those approaching the end of life. Its primary objective is to enhance the quality of life for patients, their families, and their caregivers (52).This definition also recognizes the requirements of individuals in the initial stages of progressive illnesses,

such as heart failure or chronic obstructive pulmonary disease, who may gain from palliative care and a compassionate approach that considers the patient's symptoms, family dynamics, and perspectives on life and death. Additionally, the concept of "palliative care" has been associated with circumstances where patients are approaching the end of their lives. More than twenty years ago, nurses began to promote the principles of palliative care within both nursing education and clinical practice environments (53). Today, comprehensive definitions of palliative care address the multidimensional aspects including interpersonal, physical, psychological, social, and spiritual of patients and their families. The primary objective of palliative care is to improve the quality of care and enhance the meaning of life and death (54). Therefore, clinicians providing care for patients requiring active treatment must adopt the principles of palliative care that acknowledge and address these dimensions within hospice teams (55).

2.2.1.1 Theories related to palliative care

Attachment Theory: Attachment Theory was initially developed by the British Psychoanalyst John Bowlby in 1992 (56). It describes the dynamics of relationships between individuals. According to this theory, attachment is defined as a fundamental, congenital need of human beings. Also, it is a concept that is concerned with human relationship behavior in situations of loss, separation, or helplessness and can help to understand the patient’s behavior, needs and challenges (57). Attachment theory, often used in psychology and psychotherapy, is not frequently studied in palliative care research. However, close relationships are crucial in palliative care, influencing patient behavior, the caregiver-patient relationship, and communication. Efforts are made to repair family connections, improve communication, and address symptoms of depression in patients with metastatic cancer who facing end of life care (56, 58).

Attachment theory is relevant to palliative care as patients are confronted with changes in their relationships while facing the end of life. Loved ones may behave differently, some offering support while others may struggle to cope. Patients may also experience emotional or conflicted reactions from those around them. Additionally, the clinical care environment changes as focus shifts from curing disease to caring for the dying, leading to a shift in the doctor's role. Understanding human behavior in situations of loss, separation, and helplessness is crucial to provide appropriate support and care for patients in palliative care. By considering attachment theory, healthcare providers can better understand and meet the

needs of patients and their families facing end-of-life challenges (59). This is the reason attachment theory is important and relevant in Palliative Care.

Sympathy, empathy, and compassion: A grounded theory: Compassionate care is recognized as essential in palliative care. While sympathy, empathy, and compassion are commonly used in healthcare, they have distinct meanings. Differentiating between these concepts can provide a better understanding and improve patient-centered care in healthcare policy and practice (60).

In healthcare, sympathy is seen as feeling sorry for someone's suffering, especially if it is perceived as injustice. Empathy, on the other hand, is about understanding and acknowledging someone else's feelings, leading to a response that is attuned to their emotions. There are two types of empathy which are cognitive and affective empathy, with the later involving a deeper emotional connection to the person's situation (61, 62).

Besides, compassion is defined as a way to develop the kindness, support, and encouragement to promote the courage we need to take the actions we need in order to promote the flourishing and well-being of ourselves and others (60). Moreover, according to Way and Tracy, compassion involves the recognizing, relating to and relating to suffering (63).

Furthermore, research has indicated that compassion and empathetic care are ways of improving patient-reported outcomes and patient satisfaction. However, compassion is beneficial for patients and healthcare providers, reconceive compassion fatigue as empathetic distress (61). Additionally the components of the compassion model provide insight into how patients understand and experience compassion, providing the necessary empirical foundation to develop future research measures, training, and clinical care based on this vital feature of quality care (64). In generally, compassion, sympathy, and empathy are interconnected with palliative care. Sympathy is seen as a coping mechanism for those unable to address suffering, while empathy and compassion are valued by patients for their ability to acknowledge, understand, and emotionally resonate with those in pain in discomfort. Moreover, compassion includes additional elements like taking actions and providing unconditional love that aiding in the relief of suffering and adaptation during difficult situations (60).

Theory of hope: Hope is not traditionally however a key concept in Jewish theology, but it is central in Christianity and philosophy. It is the expectation of good things to come, and a passion for achieving difficult but possible goals(65). Psychology views hope as future-oriented, but it might be more important to consider it as free from the past rather than

focused on the future. The concept of hope can be broadened to include values like personal freedom and valuation, leading to a more inclusive understanding (66). In contemporary philosophy and psychology, hope is seen as linked to agency, trust, and past experiences, guiding present and future actions. Ultimately, hope is rational and plays a significant role in coping and goal-setting strategies(65). Moreover, Lonner (1980) described hope as a universal human feature, essential for mental health, even in strange and unhappy literary characters (67).Today, hope interconnected with truth worth, while truth is valued more than avoiding discomfort. Research shows patients prefer honesty and fare better psychologically when informed. Patients and families also demand caregivers to provide hope throughout their illness (66).

In addition, research on hope at the bed side death, seen as a way to study hope in general, based on premodern moral traditions the fear of death is deeply ingrained in human nature, making imminent death a direct threat to hope. In the care for terminal illness serves as a model for studying hope, especially as most deaths occur in hospitals. Hence palliative and end-of-life care settings have become sites of interest for exploring how people live with and mobilize hope, and indeed, what they hope for. Therefore effective communication, palliation, and maintaining hope in the face of death are crucial in clinical ethics. Understanding hope in the face of death can help us navigate hope in other life circumstances as well (65).

Psychosocial Theory: The study proposes integrating a psychosocial framework into palliative care, emphasizing the importance of including psychological services, especially for early palliative care. The main goal is to establish a comprehensive framework for palliative care that incorporates psychosocial theory and evidence. This integrative model aims to benefit both theoretical understanding and practical application in clinical settings(68).

Integrating psychosocial theories into palliative care is crucial for enhancing the quality of life for patients and caring. These theories include agency, optimal matching, and hope, which empower patients and caring, match supportive care with their needs, and focus on hoped-for outcomes. By incorporating these theories into standard care, patients, caring and satisfaction of family, and healthcare providers can improve physical, emotional, social, and spiritual well-being, as well as care planning(69). The Explanation of model components followed by narrative and tabular presentation to illustrate functionality.

Figure1: Integration of psychosocial theory. (Agency, Uncertainty, Optimal Matching, Hope) into the standard palliative care dimensions (physical, psychological, social and spiritual well-being) and phases (early, mid- and advanced phases.): Source (Merluzzi et al., 2024).

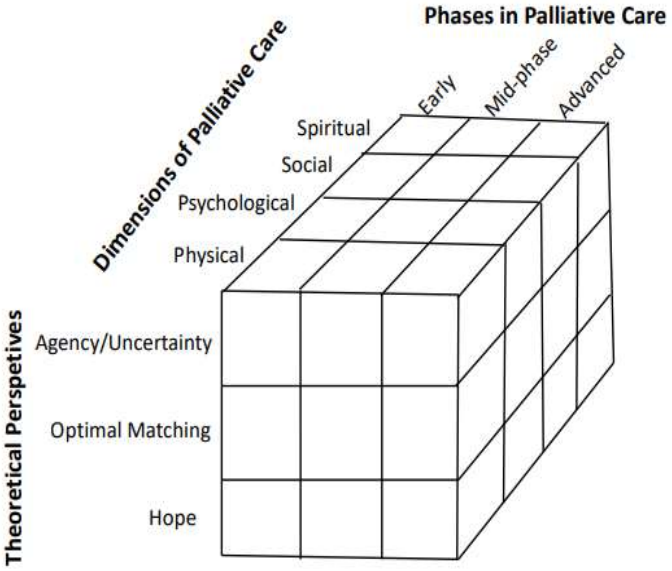


Table 1: Important aspects of incorporating psychosocial theory into palliative care services.

Component	Initial Phase and Goals	Mid-Level Phase and Goals	Advanced Phase and Goals
Agency—Uncertainty	Emphasizing the significance of patient and caring agency and the role of providers in supporting it is crucial for optimizing short-term quality of life outcomes in uncertain disease situations.	The content discusses the importance of accepting the paradoxical nature of personal agency in healthcare, supporting short-term quality of life goals, addressing "agency" fatigue, and promoting tolerance of uncertainty for long-term outcomes.	Support is needed to address agency fatigue and concerns about effort and outcomes. Strategies such as letting go of outcomes, spirituality, religion, or mindfulness can help improve emotional quality of life and reduce distress.
Optimal Matching: Patient–Provider–Care	Properly assess patient and caring needs to provide appropriate support. Revisit their agency to match support effectively, aiming to improve short-term quality of life.	The emphasis is on reassessing symptoms, modifying care, and enhancing patient and caring agency to improve the match of support and optimize quality of life outcomes.	Optimal care matching for patients and caring may lead to increased weariness, worry, and despair. Addressing emotional well-being is essential.
Hope	Patients and caregivers can improve short-term quality of life through agency and self-efficacy.	Support for tenacity in the face of challenges, maintaining hope and resilience in the course of treatment despite uncertainties.	Engaging in religious coping or mindfulness practices can help achieve emotional quality of life by accepting uncertainty and letting go of long-term outcomes, finding hope in transcendence or acceptance.

Therefore, the integration of psychosocial theory into early palliative care involves a paradox between control and uncertainty. Patients should be seen as agents of their care, not just recipients, in order to manage the uncertainty of their situation. This approach can improve disease management and enhance psychological, social, and spiritual quality of life (68).

Moreover, in palliative care, patient agency is influenced by their social network and the relational components involved. Autonomy and control in this context can be affected by physical limitations, medical care, and traditional gender norms. The coordination of care to match needs and provide support is crucial in an optimized palliative care system. This dynamic process involves patients, careers, and the palliative care team within a social network (70).

Finally, hope plays a crucial role in palliative care, as it provides a platform for perceiving the future despite uncertainty. A new integrative theory of hope based on control and uncertainty dimensions defines qualities of hope that can enhance palliative care includes letting go, adaptive, disengagement, trust, personal effort endurance, resilience, exhaustion, self-efficacy and confidence. Integrating psychosocial theory into palliative care incorporates philosophical perspectives, psychological control theory, and social dynamics of caregiving. This approach adds critical components to the standard model of palliative care, improving patient support and outcomes(71).

The 6S-model for person-centered palliative care: A theoretical framework: Person-centered care is a growing practice in healthcare, with numerous studies exploring its benefits and implementation. Despite differing descriptions, the common theme is the collaboration between patients and healthcare professionals to develop and deliver care together, known as co-created care(72). This perspective highlights the dual nature of individuals as both patients and people during interactions with healthcare providers (73). The model emphasizes seeing the patient as a whole person, with thoughts, feelings, and desires, regardless of their limited time ahead. Person-centered care involves healthcare professionals engaging in genuine dialogue with patients to understand their experiences and preferences. This approach values the contributions of both patients and healthcare professionals in co-creating care that is informed by both scientific knowledge and personal experiences(74).

During the 1960–1980s, psychiatrist Avery D Weisman highlighted the importance of individual perspectives on death, promoting person-centered care. He criticized the body and soul division, advocating for a holistic view of humans to improve end-of-life experiences. Weisman described a good death as appropriate, acceptable, and meaningful, emphasizing the significance of living fully in the final phase of life(75). The terms prioritize individual needs

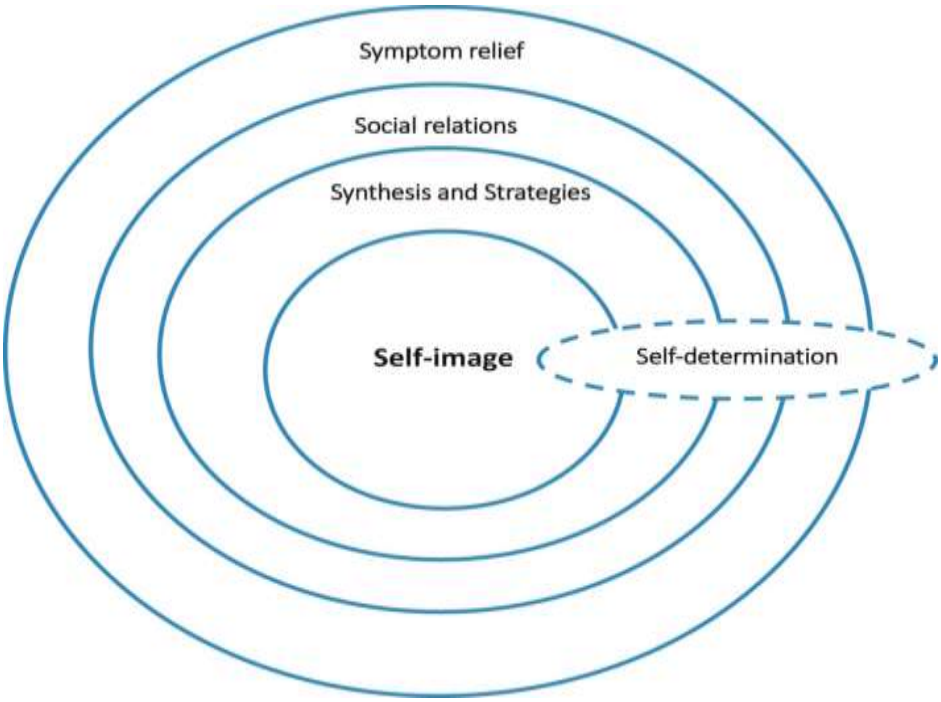
and preferences in healthcare, promoting open communication between patients and professionals. This approach aims to address distress and confirm values, ultimately planning for a life and death that align with personal values, as outlined in Sweden's 6S-model(73).

The 6S-model for person-centered palliative care integrates the palliative care definition by WHO 2002, philosophy from the early hospice movement, and dialogue described the belief in how a person dies reflects how they lived. This model serves as a guide for initiating conversations about end-of-life care, as well as planning, providing, documenting, and evaluating care. It emphasizes acknowledging a person's suffering and involving them in creating the appropriate care plan(75, 76).However, This model includes six concepts representing different aspects of a person's needs and views on self-image, symptom relief, social relations, synthesis, strategies, and self-determination in the context of total pain(76).

Self-image is vital for a person's identity, especially when facing illness and death. Maintaining a positive view of oneself is crucial for living the best life possible through optimal symptom relief. In the model, Symptom relief primarily addresses physical suffering and physical care. Symptoms serve as a primary incentive for individuals in poor health to seek medical attention, and it is quite common for them to discuss their symptom experiences with healthcare providers.

Additionally, Social relationships reflect the person's social needs, such as the need for fellowship with others. The synthesis and selection of strategies are influenced by spiritual and existential needs. Sharing one's life story and pondering the meaning of life and beyond death are crucial. Strategies may also involve deciding how to approach death, if feasible. Ultimately, Self-determination is essential for individuals to have control over their own lives according to their beliefs and values. Healthcare professionals must respect an individual's choice to share or not share their experiences, allowing for a deeper level of dialogue(73). The relationships between the concepts shown in the following (figure2).

Figure2: The relationships between the concepts in the 6S-model: Source (Osterlind & Henoch, 2021)



The 6S-model aims to enhance an individual's quality of life during their final period through person-centered palliative care. The model's core is Self-image, reflecting the person's identity. By focusing on self-image, the model highlights the dynamic relationship with other Ss, ultimately ensuring a holistic approach to care and promoting a good or appropriate death by considering the individual's whole well-being in both palliative and curative interventions(73). In the end, the model of palliative care in Sweden has been developed over almost 30 years and has been tested with patients as co-researchers. A dialogue tool has also been created by nurse researchers and clinical nurses to promote the incorporation of 6S-concepts in clinical practice. This approach aims to promote co-creation of care and help individuals live as well as possible at the end of life. Dialogue is seen as essential during times of vulnerability and transition, allowing for person-centered care tailored to individual values and beliefs(77).

2.2.1.2 Conceptual Frameworks used in Palliative Care

The use of theoretical frameworks in palliative care research helps guide study design and conduct investigations. A comprehensive review of conceptual frameworks in the field aids researchers in structuring their studies effectively depend on research questions and problems (78). The followings are among of conceptual frameworks used in palliative care research.

Patient oriented frameworks: The frameworks for palliative care patients include components such as normality, nature, and dharma to improve quality of life and ensure a good death. Thaimwong and Pungchompoo introduced a new framework, embedding palliative care into a healthy aging, focusing on patient-oriented aspects like feeling normal, returning to normal living, and practicing religion. Healthcare settings can use this framework to design programs that support patients' sense of normality such as uniformity of physical and psychological functioning across individuals. , lifestyle patterns include everyday living activities, and spiritual care which involve engaging in prayer and worship (79).

Patient-Caregiver relationship-oriented framework: Two frameworks focus on patient-caregiver relationships: Ayers' framework highlights a relationship, shared goal, and reciprocal encouragement, leading to hopefulness in cancer care. penman's relationship model of spiritual engagement emphasizes spiritual engagement to strengthen the bond by sharing thoughts, beliefs, fears, and vulnerabilities between patients and caregivers (80, 81).

Patient-Nurse oriented framework: Patient-centered nursing frameworks emphasize teamwork and building trusting relationships. The nursing model that describes nurses as supporters, partners, and learners for patients in end-of-life care can be beneficial during the caregiving process (82).

Patient-System oriented framework: Gonella and colleagues developed a framework for providing good end-of-life care in nursing home contexts, considering patient-related and system-related factors. Caregiver-oriented frameworks focus on caregiver well-being and the caregiving trajectory, with factors like stressors and mediators identified through qualitative research. Moreover, the study proposed a new framework called Factors Influencing Quality of Life based on their findings, includes the career's life situation, impact of caring on personal freedom and health, expectations, meaning derived from the experience, future expectations, and roles outside the caregiver-patient/family dynamic, including support and role conflict (83).

System oriented frameworks: The various frameworks in palliative care focus on system orientation in areas such as implementation, delivery, definitions, concepts, models, utilization, and evaluations of services. One new framework by Zafar and colleagues aims to support the implementation of guideline-based palliative care services in oncology settings, ultimately leading to better patient outcomes, such as improved quality of life for cancer patients (78).

2.2.1.3 Palliative care related variables

Hospice Care: Hospice offers specialized care for patients with life-limiting illnesses, including expert medical treatments, pain management, and emotional support to patients and their loved ones throughout the end-of-life journey (84). There is a large body of literature documenting the significant impact of pain management, symptom management and psychological care on the quality of life of cancer patients throughout the course of the disease. This was done in the United States through the hospice program that began in the late 1970s. The hospice program was developed at the same time as the State Cancer Pain Initiative, which targeted the general patient population. Public demand for appropriate pain management, professional training in pain management, including the concepts of pain assessment and treatment, and the development of models for pain management. The legal and political aspects focus on pain management. However, hospice care is typically coordinated into interdisciplinary, continuous support, home base care, noninvasive management, and family centered care (85).

Palliative care, including hospice services, is designed to improve the quality of life for individuals with advanced illnesses or those nearing death, by managing symptoms like pain, anxiety, and nausea. It emphasizes addressing psychological, spiritual, and social factors alongside physical symptoms, taking into account the patient's and family's preferences. A multidisciplinary healthcare team collaborates to shape and regularly review the care plan based on the patient's goals. The hospice team provides emotional support, nutritional guidance, and grief counseling. Studies show that hospice care enhances quality of life and may extend life expectancy for terminally ill patients, highlighting the need for comprehensive palliative care skills among providers and broader insurance coverage(86).

End of life care (EOLC): An approach to a terminally ill patient that shifts the focus of care to symptom control, comfort, dignity, quality of life, and quality of dying rather than treatments aimed at cure or prolongation of life (87). Moreover, end of life care focuses on providing personalized care to individuals approaching the end of their lives, encompassing physical, psychological, social, spiritual, and existential aspects. It aims to allow patients to die in their preferred place with appropriate care, hence ensuring universal access to palliative care for a peaceful and dignified death (88). However, in end-of-life care, deciding between life-prolonging treatments and comfort measures can be challenging for physicians, patients, families, and health care proxies, particularly in terms of interventions like Cardiopulmonary resuscitation and mechanical support (86). In pediatrics EOLC many terminally ill patients

lack decision-making capacity due to age or health, necessitating decisions based on their best interests, which weigh treatment benefits and risks. Generally, parents or legal guardians act as decision-makers for children during EOLC. While physicians usually collaborate with these guardians on care decisions, conflicts may arise. In such cases, physicians can seek guidance from ethics committees or legal avenues. Although, effective communication among the medical team and adequate discussion time for families can often resolve these complex situations (88).

Terminal illness: According to the International Association of Hospice and Palliative Care (IAHPC), terminal illness is a progressive condition with no cure that will likely lead to death in the foreseeable future. This definition includes both malignant and nonmalignant conditions as well as aging. The terms eventually fatal and terminal condition are interchangeable. It is recommended to use language that acknowledges living with an eventually fatal or terminal condition when referring to patients(89).In addition, it is an irreversible condition that in the near future will result in death or a state of permanent unconsciousness from which patient is unlikely to recover. In most states, a terminal illness is defined as one in which the patient will die "shortly" whether or not the medical treatment is given (90). Various authorities have quoted a specific duration of 6 or 12 months. However, there is no objective evidence to support timeframes.

Spiritual Care: Is a process that involves identifying and understanding a patient's spiritual needs, developing a personalized treatment plan with healthcare and spiritual professionals, providing spiritual care, and evaluating its effectiveness (91). This care is based on patients' values and beliefs and requires skill and trust relationship between professional and patient (91, 92).

Interestingly, the spiritual care has increased since the 1990s, with a focus on addressing the spiritual needs of palliative patients. Surveys reveal a significant portion of patients seek religious or spiritual support, with studies indicating that many find spirituality to be a valuable tool in coping with chronic illness(93, 94). Furthermore, patients' spiritual beliefs can play a crucial role in their medical treatment decisions and compliance with care. This can improve their quality of life, especially in terminal stages. These benefits extend beyond regions with strong religious traditions to secular societies. Spiritual Care, which encompasses both religious and non-religious aspects of personality, can offer comfort and reduce the need for medical services by addressing spiritual distress. Ultimately, it can lead to cost savings in palliative care (95, 96).

Cultural aspects in palliative care: Attention to cultural norms is crucial in defining palliative care, as beliefs and values around life and death can vary greatly across different cultures. Health care providers must be aware of these cultural influences to provide effective and holistic care. Canadian studies have used terms like 'cultural competency,' 'cultural sensitivity,' and 'cultural accessibility' to examine the importance of cultural factors in palliative care research. These concepts highlight the significance of culture in providing appropriate care(97, 98).

Cultural competency, is crucial in providing effective palliative care to diverse populations. This involves actively developing strategies to interact sensitively with different cultures and continuously evolving to meet their needs. It fosters cultural understanding and encourages healthcare providers to reflect on biases and norms. Advocacy for cultural competency promotes more accessible services and upholds the human rights of diverse cultural groups, ultimately improving the quality of care for all patients(99).

Cultural sensitivity, Canadian researchers emphasize the importance of cultural sensitivity in providing effective palliative care. They suggest that healthcare providers should create a culturally sensitive environment that respects the beliefs and values of patients and their families. Unlike cultural competency, which is seen as a learned skill, cultural sensitivity involves an attitude of refined awareness toward individual experiences of culture. By understanding the patient's culture through personalized interactions, healthcare providers can offer more effective and culturally sensitive care in palliative settings(99).

Cultural accessibility, refers to a population's willingness to access services that align with their cultural norms. A study in rural British Columbia found that health care providers perceived white, middle-class patients as more likely to access palliative care services, while Indigenous Peoples were seen as more likely to rely on their own care. The study highlighted the need for a better understanding of Indigenous Peoples' needs and desires for palliative care to address the lack of attention to cultural needs(99).

In addition, Family and community involvement in caregiving is a significant aspect of palliative care provision, especially among cultural minorities. Studies have shown that family members often desire to be actively involved in caring for their sick loved ones, with activities such as cooking, cleaning, and providing emotional support. In some cultures, like Atlantic, African and Canadian communities, home caregiving is the most common form of end-of-life care, seen as a personal sacrifice and an ultimate act of love. Patients often prefer to be surrounded by family and friends during their final days, as it provides comfort and a sense of cultural meaning. In rural communities, the values of community and mutuality are

highly valued, with neighbors playing a crucial role in providing emotional support to palliative patients. Overall, including family and community in palliative care highlight the importance to meet cultural needs and provide holistic support(98) (99) (97).

On top of that, Language and communication play a crucial role in providing culturally relevant care, especially in Indigenous populations. The choice of language and phrasing, along with the involvement of Inuit translators, are essential in conveying sensitive information about death. Healthcare providers must be culturally competent and sensitive to cater to diverse populations, understanding cultural norms to create accessible palliative programs for all (98).

Traditional aspect in palliative care: The term "tradition" refers to customs and beliefs passed down through generations. While this is a common understanding, social sciences seek to refine it, as it has both empirical and theoretical shortcomings. Contributions from scholars like Edward Shils in 1971 and 1981, have added depth but also left unclear whether tradition is a set of inherited traits or a symbolic idea. However traditional viewed as a symbolic construct based on different ethnographic contexts (100). The significance of acknowledging the role of traditional practices in palliative care must not be overlooked within healthcare systems. A study examined the experiences of nurses and home-based care providers delivering palliative care to patients in their homes in a rural region of South Africa. A limited number of participants indicated that traditional healers could play a crucial role in the psychological well-being of individuals confronting death. While this finding is not prevalent, it presents an opportunity to explore the suggestion, particularly given the substantial number of individuals facing end-of-life issues in rural KwaZulu-Natal, South Africa, and the necessity for adequate support (101). Recognizing the principles of palliative care and the importance of providing support in familiar environments, there exists an opportunity to integrate traditional healers into palliative care teams. Many African patients may find comfort and familiarity in receiving care from these practitioners. In the African context, traditional healers are esteemed for their role in maintaining and celebrating a unique ‘African’ identity. The strength of the traditional healing system lies in its alignment with the worldviews and belief systems of the individuals it serves (102). Traditional healers can offer privacy within the patients' homes, free from the time constraints often associated with western medical consultations. More significantly, they provide culturally sensitive and psychological support. Additionally, traditional healers are often noted for their compassionate approach and genuine concern for the patient's wellbeing (103).

Moreover, in 1978, the World Health Organization recognized the importance of integrating traditional healers into healthcare services (104). In Africa, it is estimated that as many as 80% of individuals initially seek the assistance of traditional healers, and in certain instances, these practitioners play a crucial role in securing community acceptance and enhancing the utilization of health services. The participation of traditional healers is not exclusive to South Africa, research conducted in Zambia and Tanzania indicates that they can effectively deliver various components of palliative care, including counseling and support. The literature highlights the significance of traditional healers, particularly in their role in providing care for terminally ill patients and assisting families in coming to terms with the inevitability of death (101). Besides, the participation of traditional healers in palliative care presents certain challenges. Research indicates that patients who consult traditional healers may postpone seeking assistance from conventional healthcare providers. This delay can lead to situations where patients only approach a doctor or nurse when their condition has advanced beyond the possibility of effective treatment or when they are already in the terminal phase, missing the chance for adequate palliative care (103, 105). Additionally, the practices of traditional healers often encompass a considerable 'supernatural' aspect, which includes spiritual rituals through which ancestral knowledge is believed to guide the assessment and treatment of patients. Consequently, traditional healers and healthcare professionals may hold differing religious beliefs and conflicting perspectives on the origins and management of illness, which can lead to discord. Some medical practitioners may be reluctant to engage in collaborative care with traditional healers due to the association of their practices with witchcraft (105). In summary, local spiritual and cultural practices related to dying, death, and bereavement, along with Indigenous knowledge, are important in healthcare services. There is a good chance for traditional healers to work with palliative care providers to meet patients' spiritual and cultural needs. Including a traditional healer in a palliative care team can be beneficial, as they understand traditional medicine and patients' psychological needs, which can support nurses and home-based care volunteers. It is possible to integrate traditional healers into palliative care training and practice, but there may be conflicts and complications. Effective partnerships between traditional healers and health professionals will be important. Collecting data on traditional healers' impact on palliative care may be challenging due to the subjective nature of their work. It was recommended that more research is needed on the possible roles of traditional healers in palliative care through geographical diversities (101).

Levels of palliative care: Palliative care is increasingly recognized worldwide and is supported by significant policy commitments at high levels. However, the availability of services, accompanying policies, educational initiatives, and funding do not adequately match the swiftly rising demand (106). In 2014, the World Health Assembly adopted a declaration urging all governments to incorporate the delivery of palliative care into their health strategies (107). The 2017 Lancet Commission Report on Palliative Care and Pain Relief indicated that nearly 50% of individuals who pass away annually experience "serious health-related suffering" that could be alleviated through palliative care, with 80% of these cases occurring in low- and middle-income nations. These significant policy initiatives, situated within the broader context of global health, aim to enhance the global landscape of palliative care and facilitate its incorporation into health systems. There is an increasing body of evidence highlighting the substantial demand for palliative care that exists worldwide. A survey indicated that 68% of nations provided some type of funding for palliative care, with around one-third of these countries stating that palliative care services were typically accessible in primary health care settings (35%) as well as in community or home-based care (37%) (108). In the current study, each country was assigned to one of six categories representing levels of palliative care development in 2017 (refer to Table 2) in order to monitor changes in categories since 2006 (106).

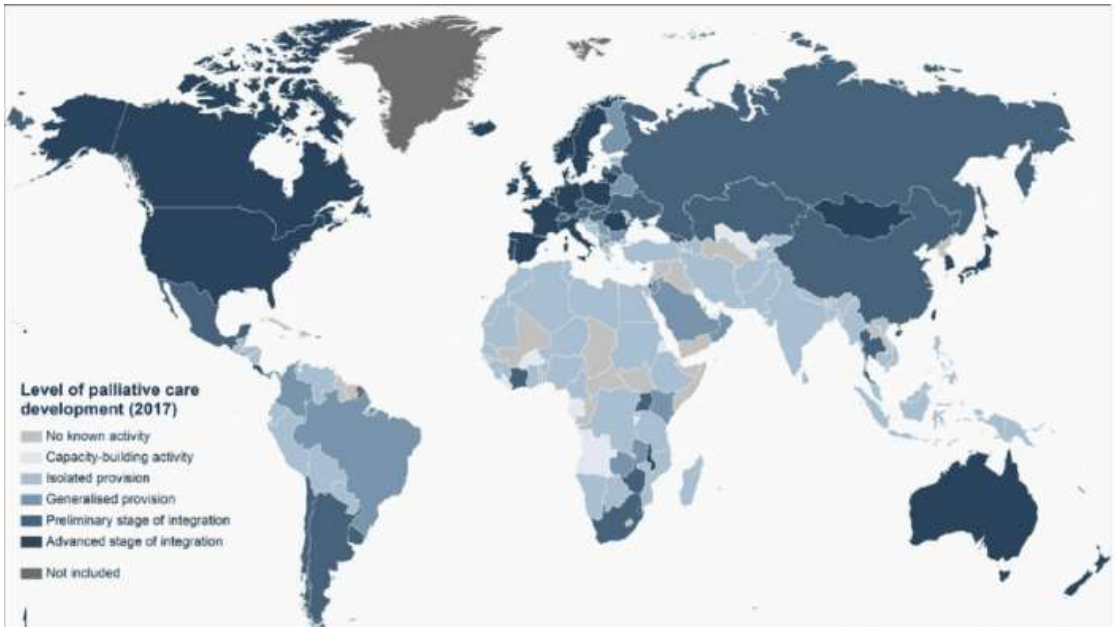
Table 2: Six Levels of Palliative Care Development in 2017. Source (David et al, 2019).

Category 1: No known palliative care activity.	A country in this category is one where current research reveals no evidence of any palliative care activity.
Category 2: Capacity-building palliative care activity.	A country in this category shows evidence of wide-ranging initiatives designed to create the organizational, workforce, and policy capacity for the development of palliative care services, although no service has been established yet. Developmental activities include attendance at, or organization of, key conferences, personnel undertaking external training in palliative care, lobbying of policy makers and Ministries of Health and emerging plans for service development.
Category 3a: Isolated palliative care provision	A country in this category is characterized by the development of palliative care activism that is still patchy in scope and not well supported; sources of funding that are often heavily donor dependent; limited availability of morphine; and a small number of palliative care services that are limited in relation to the size of the population.
Category 3b: Generalized palliative care provision	A country in this category is characterized by the development of palliative care activism in several locations with the growth of local support in those areas; multiple sources of funding; the availability of morphine; several hospice-palliative care services from a range of providers; and the provision of some training and education initiatives by the hospice and palliative care organizations.
Category 4a: Palliative care services at a	A country in this category is characterized by

preliminary stage of integration to mainstream health care services	the development of a critical mass of palliative care activism in a number of locations; a variety of palliative care providers and types of services; awareness of palliative care on the part of health professionals and local communities; a palliative care strategy that has been implemented and is regularly evaluated; the availability of morphine and some other strong pain-relieving drugs; some impact of palliative care on policy; the provision of a substantial number of training and education initiatives by a range of organizations; and the existence of a national palliative care association.
Category 4b: Palliative care services at an advanced stage of integration to mainstream health care services	A country in this category is characterized by the development of a critical mass of palliative care activism in a wide range of locations; comprehensive provision of all types of palliative care by multiple service providers; broad awareness of palliative care on the part of health professionals, local communities, and society in general; a palliative care strategy that has been implemented and is regularly updated; unrestricted availability of morphine and most strong pain-relieving drugs; substantial impact of palliative care on policy; the existence of palliative care guidelines; the existence of recognized education centers and academic links with universities with evidence of integration of palliative care into relevant curricula; and the existence of a national palliative care association that has achieved significant impact.

In addition, the researcher found ten key indicators for improving palliative care, based on recent studies, and linked them to specific items in a questionnaire. Each indicator was given a score from zero to five, corresponding to levels of palliative care development. For countries lacking complete data, scores were filled in using evaluations from the research team. These scores were used in a calculation method that looked at both the mode and median of the indicators to decide the overall level for each country. If the mode and median differed, adjustments were made based on four important indicators related to palliative care. To ensure accuracy, factor and discriminant analysis were performed, as well as Spearman correlation calculations with factors like income and health coverage. For historical comparisons, certain categories from previous studies were merged, while adjusting for changes in recognized states since the first global map of palliative care (106). In summary, the levels of palliative care development across 198 nations reveal significant disparities. Only 30 countries, accounting for 15% of the global total, have achieved the highest standards of palliative care development, representing 14% of the world's population. Additionally, 21 countries, or 11%, exhibit high levels of palliative care development, although not uniformly across all indicators, encompassing 28% of the global population. Nearly one-quarter of the countries, totaling 47, or 24% of the overall count, have no documented palliative care activities, which corresponds to 3.1% of the global population. In the intermediate category, 13 countries, representing 7%, are in the process of enhancing their capacity prior to the establishment of comprehensive palliative care services. Furthermore, 87 countries, making up 44% of the total, demonstrate limited palliative care development, with services being largely localized and insufficiently integrated into the broader health and social care systems, affecting 53% of the global population referred to figure 3 (106).

Figure 3: Global levels of palliative care development. Source (David et al, 2019).



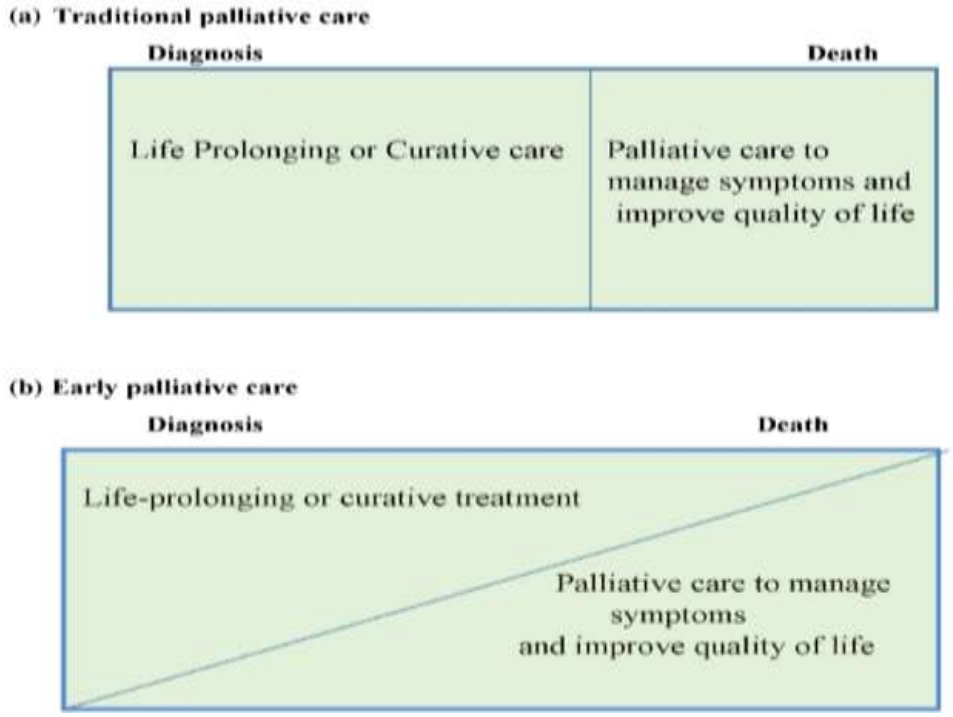
Ultimately, palliative care initiatives are being promoted by global health organizations, policymakers, and activists, but achieving universal palliative care coverage remains challenging. This study is unique in examining global palliative care development and finds a split in the population. In which some lied in countries with strong palliative care systems, while others do not. Data collection improvements affect comparisons over time, but insights into global palliative care development can still be gained. High development levels shouldn't lead to complacency, and low levels shouldn't cause resignation. There is a strong desire within the global palliative care community to improve conditions for all countries, yet progress in poorer countries has been slow. This raises questions about the effectiveness of current global health strategies(106). On that account, research in Tanzania was important since many African countries lack palliative care initiatives. Findings from this study will help strengthen neonatal palliative care development, especially in LMICs.

Models of palliative care: PC is associated with improved quality of life, better end-of-life care, lower depression rates, a greater understanding of the illness, and heightened patient satisfaction (109).The successful integration of palliative care is contingent upon the readiness of the healthcare system, the availability of resources, the specific needs of patients, and the extent of care already administered by healthcare professionals. These factors must be taken into account to ensure that the proposed model enhances the quality of care services for

patients diagnosed with cancer and their families. Research indicates that implementing an early palliative care model can lead to substantial improvements in the quality of life for patients with advanced cancer who are undergoing active treatment (110). Additionally, research has highlighted that palliative care (PC) facilities are designed to alleviate distress and lessen the burden by equipping individuals with skills in problem-solving, self-care, decision-making, and symptom management. Therefore, implementing a PC model within hospitals will facilitate early interventions aimed at mitigating the impact of the disease. PC services recognize the family as an integral part of care, offering counseling, education, and support to family caregivers who face social, financial, practical, and emotional challenges related to the illness (110, 111). Consequently, implementing a PC model in health care facilities will monitor and provide improved results for not only the patients and families but also the nurses in their routine care(112).

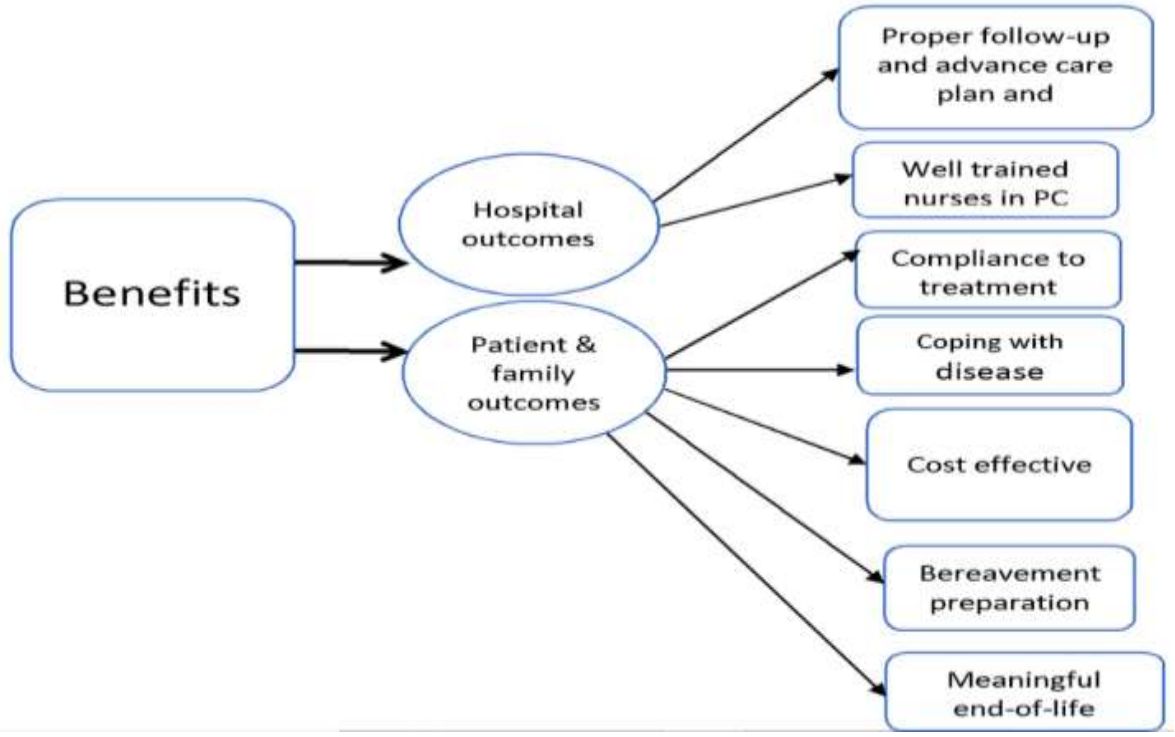
Until recently, palliative care was regarded solely as an option when the patient had arrived at the terminal phase of the illness and was rarely provided to patients and their families during the initial stage of the disease. As illustrated in Figure 4, in the traditional model of care paradigm, palliative care is implemented only when life-extending or therapeutic interventions are no longer prescribed (113). However, The World Health Organization states that palliative care services should ideally commence at the point of diagnosis for life-threatening illnesses. These services must evolve to meet the growing needs of cancer patients and their families as the illness advances to its terminal stage. Furthermore, this approach encompasses support for families during the bereavement period, highlighting the necessity of integrating palliative interventions at all levels of care within the existing healthcare system (114). In contrast, Parikh et al. (2012) assert that the early integration of palliative care (PC) into the treatment regimen of cancer patients, starting from the point of diagnosis, leads to improved outcomes. A multitude of clinical studies has demonstrated the advantages of prompt PC intervention for patients with advancing cancer. In the combined or integrated model, both palliative care and life-prolonging treatments are administered concurrently throughout the course of the illness (113), as illustrated in the accompanying figure 4.

Figure 4: (A) Traditional model of palliative care and (B) Early palliative care model (adapted from Parikh et al., 2012).



Moreover, the early incorporation of a palliative care model has been associated with multiple advantages, as indicated in a study carried out in Nigeria. If palliative care is established, it will be advantageous for both the hospital, patients and families. Palliative care activities will allow for appropriate follow-up of patients and enable the team to devise sufficient care and education for all patients diagnosed with cancer at the initial phase of the illness. The situation in which patients receive a diagnosis and are given an appointment for a follow-up visit but later become unreachable will be addressed, as these patients will receive adequate education regarding the cancer trajectory. Further, nurses can talk to patients and their families in a way that they understand, making patients feel confident about their treatment. This approach allows patients and families to learn more about their illness. Also if this model is used, nurses can get special training for palliative care. Involving palliative care helps patients and families make informed choices and plan for future care. This is crucial for promoting mental well-being and ensuring care focuses on the patient. Refer to the benefits of early integrated palliative care in the figure 5 (112).

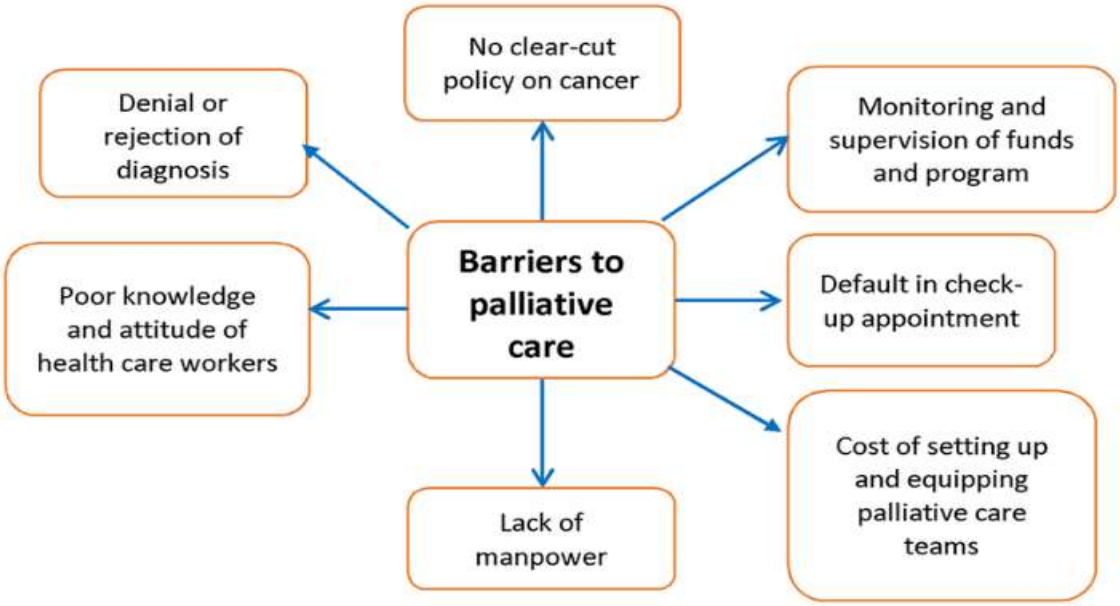
Figure 5: Benefits of palliative care. Source (Ndiok et al, 2021).



On the other hand, the study also identified barriers in implementing the palliative integrated model, which included financial issues related to forming a PC team. Without sufficient funding, we will be unable to influence these processes, making success challenging. Transportation poses additional problems as well. Establishing a palliative team necessitates reliable transportation to visit patients for effective follow-up on processes. Both settings affirmed that there is an absence of policies concerning cancer PC within their organization. This would create an obstacle in employing a PC model. The stakeholders in both environments confirm that there were intentions to establish committees to oversee the creation of policies regarding cancer more broadly. If this occurs, it significantly aids in guiding PC activities. There is no follow-up program; instead, patients receive appointments for check-up visits, with the expectation that they will return, and sometimes patients do not return at all. Furthermore, denial or rejection of a cancer diagnosis by patients or their families, stemming from ignorance, religious beliefs, or cultural factors, has demonstrated that many patients believe cancer is not an illness that should be treated at a hospital. As a result, the diagnosis of the disease is often met with denial and outright refusal. This complicates matters in both hospitals, making it challenging to have many patients returning for follow-up appointments after a diagnosis. Establishing a PC model would facilitate proper follow-up and increase awareness. There are challenges related to the shortage of healthcare

professionals, particularly nurses, which has placed significant pressure on the few available to operate effectively. It has been noted that only a small number of nurses manage shift duties, and management finds it nearly impossible to send nurses for palliative care training. Additionally, insufficient knowledge or unsuitable attitudes among nurses toward palliative care have been reported, with some individuals expressing dissatisfaction with the attitudes of certain nurses regarding patient care. All these factors create obstacles to the development and implementation of the PC model in hospitals within the region. If those responsible for patient care exhibit poor attitudes, the patients will be reluctant to use the services provided. Hence refer to in palliative care barrier of model implementation in figure 6 (112).

Figure 6: Barrier of palliative care. Source (Ndiok et al, 2021).



In summary, providing quality care for patients and their families necessitates the incorporation of well-defined principles of the palliative care model into everyday practice, as recommended by the World Health Organization. Furthermore, the obstacles faced in the implementation of palliative care services within hospitals can be addressed through the establishment of effective models and policies, appropriate allocation of resources, and diligent monitoring of palliative care activities. The research also concluded that the adoption of an integrated palliative care model would facilitate the creation of guidelines for the effective implementation of palliative care within the relevant institutions (112). Therefore, the present research disclosed the ethical environment in neonatal intensive care nursing that

is significantly affected by various cultures, religions, and beliefs in Tanzania and investigates the perceptions of nurses toward neonatal palliative care, where subsequent studies will manipulate the findings to investigate the effectiveness of palliative care models in neonatal intensive care units.

2.2.2 Nurses' attitude

Definition: Attitude refers to personal feelings, emotion, belief and knowledge and is affected by culture, religion and racial. Attitude directions is toward persons, events or objects and may be positive or negative (45). Nurses play a crucial role in palliative care by coordinating patients and families, providing information, and making treatment decisions. They must be honest, build relationships, and recognize the benefits of early referrals. This holistic approach helps patients feel informed, comfortable, and actively involved in their care (44, 45).

Historical basic: The psychologist Herbert Spencer is credited with first using the term "attitude" in 1862 (115). In the early 20th century, Gordon Allport in 1934, emphasized the significance of attitude as a key concept in psychology, but lack of clarity hindered understanding its connections to other constructs (116). Attitudes in implementation research refer to one's predisposition towards using evidence-based practices (EBP). These attitudes are influenced by beliefs about the outcomes of using evidence-based practices (EBP), whether they are seen as advantageous or disadvantageous. Practitioners' attitudes stem from their perceptions of the benefits or drawbacks of implementing evidence-based practices (EBP) (117).

2.2.2.1 Theories related to attitude.

Theory of Planned Behavior: This theory was developed by Ajzen in 1991(118).The Theory of Planned Behavior is frequently mentioned, emphasizing the importance of attitudes in shaping behavioral intentions through subjective norms and perceived behavior control. However, some descriptions of this model do not align with its original framework(119). Several articles discuss studies that investigate attitudes and related constructs, with some referencing validated behavior prediction models that outline how attitudes are connected to other variables. Attitudes are crucial in implementation science, but current studies lack consistent definitions and measurement methods. By applying psychology's standardized

definitions and validated measurement approaches, implementation research can capitalize on scientific opportunities(120).

Theory of Cognitive Dissonance: Leon Festinger's Theory of cognitive dissonance, published in 1957, has had a significant impact on social psychology. It has led to numerous studies exploring the determinants of attitudes, beliefs, values, decision-making, and interpersonal conflicts, providing insights into various psychological processes. (121). Cognitive dissonance theory suggests that conflict arises when behavior contradicts thoughts or beliefs, leading to attitude changes for consistency. Research shows that engaging in conflicting behaviors can trigger attitude changes. This mechanism is used in cognitive-behavioral interventions (CBIs) for tackling negative thoughts as seen in depression. Cognitive-behavioral interventions (CBIs) encourage individuals to challenge societal beauty ideals and causing dissonance due to previous alignment with these norms (122). Moreover, Festinger's theory of cognitive dissonance revolves around individuals' motivation to maintain consistency in their beliefs and attitudes. When there is a conflict between cognitions, it can lead to anxiety and motivation to change attitudes. Various models have been proposed to explain different situations and factors that contribute to cognitive dissonance. Understanding these key components can help in resolving inconsistencies in beliefs and behaviors. (123).

Social identity theory: This theory proposed in the 1970s, is a major theory in social psychology consistently referenced in textbooks, used in empirical research, and informs group process and intergroup relations analysis. Social identity theory explains how people derive part of their identity from the groups they belong to, such as being a healthcare provider. The strength and content of social identities vary, influencing emotions and behavior. This theory is applied in areas like health and organizations, with interventions designed to improve intergroup relations. The theory also addresses coping with negative social identities(124).

On top of that, research on the social context of attitudes is gaining momentum as scholars recognize the importance of studying how attitudes are shaped and influenced by social interactions, group dynamics, and cultural norms. This broader perspective on attitudes offers valuable insights into how individuals form and maintain their beliefs and values within a larger societal context (125).

2.2.3 Ethical climate

Definition: Ethical climate is a shared understanding of ethical standards that shapes behavior within teams. It goes beyond perceived organizational practices to influence ethical attitudes and behavior among employees. (48, 126). However, ethics, a branch of philosophy, addresses right and wrong, while philosophy examine into various thought processes. Ethics can be integrated into philosophy origins, but not vice versa. Also it relates to science, religion, art, and cultural perspectives, analyzing moral beliefs. Ultimately, ethics studies values and customs within society (127).

2.2.3.1 Theories related to ethical climate.

The theoretical ethical-climate model: Victor and Cullen developed the ethical-climate model in the late 1980s, with a strong theoretical foundation and empirical support. This model combines cognitive moral development, ethical theory, and locus of analysis to measure ethical orientation. The framework has demonstrated reliability and validity across various studies in different organizational contexts (128).

The three classes of ethical theory compose the dimensions of egoistic, utilitarian, and deontological. In egoistic climates, self-interest is prioritized, while in utilitarian climates, the focus is on the wellbeing of others. Deontological climates emphasize rules and regulations when making decisions, based on duty and laws(129). Additionally, the locus of analysis in decision-making refers to the main influencer of ethical behavior. This dimension includes organizational analysis at the cosmopolitan, local, and individual levels. Locals prioritize organizational loyalty and reference groups within their immediate community, while cosmopolitans have a lower organizational loyalty but high commitment to specialized skills and knowledge. The ethical decision-making process is influenced by these different levels of analysis and ethical theories(128).

The empirical ethical-climate model: Victor and Cullen in 1987 and 1988 respectively, created a framework to measure corporate ethical climates. The original questionnaire had 26 items describing nine potential ethical climates. Their 1987 study tested this model on 151 respondents and found support for unique ethical climates. The 1988 study, involving 872 respondents from various organizations, identified five distinct types of ethical climates, which are instrumental, caring, independence, law and code, and rules. They used theories to explain differences in ethical climates and confirmed the questionnaire's ability to measure perception separate from evaluation(128, 130). Although, Victor and Cullen found that an

instrumental climate in ethical decision-making did not differentiate between individual and local influences. This led to a self-interest-based culture where employees were encouraged to prioritize profit, even if it meant exploiting others(128).

2.3 Literature review

As concerns with any academic work of this kind, it was necessary to look through the relevant literature to become familiar with the similarities, differences and even contradictions of the subject being studied. It is also important to find out how much work has been done on palliative care in neonatal intensive care units (NICUs). An extensive search of databases such as Google Scholar, Web of Science, Scopus and PubMed was conducted to find published articles on the neonatal palliative care, nurse's attitude toward neonatal palliative care and ethical climate of neonatal intensive care units. The published articles were considered from 2019 to 2024. The search terms used included [“palliative care in neonatal intensive care unit”, “palliative care in Tanzania, neonatal palliative care in Tanzania”, “ethical climate in neonatal intensive care unit”, “ethical climate and neonatal palliative care”, “nurses attitude toward palliative care”, “knowledge and attitude toward neonatal palliative care 2023”, “nurses attitude toward neonatal palliative care”, “palliative care in sub-Sahara Africa”, “neonatal palliative care in sub-Sahara Africa”, “relationship between ethical climate and nurses attitude toward palliative care”, “intitle: palliative care AND neonates AND neonatal intensive care”, “intitle: ethical climate AND relationship AND nurses attitude AND 2019-2024”. “intitle: ethical climate AND nurses attitude AND palliative care”]. Much research has been done on palliative care, but not much work has been found on palliative care in neonatal intensive care units (NICUs), and only a few studies have addressed the ethical climate of neonatal intensive care and nurses' attitudes toward palliative care in Low-middle income country. We are going to explain 14 of the most relevant articles explained about neonatal palliative, nurses' attitude toward palliative care, ethical climate in neonatal intensive care units and studies that showed relationship between nurses' attitude and ethical climates toward neonatal palliative care.

2.3.1 Neonatal palliative care.

According to researchers were assessing challenging and factors affecting neonatal palliative care among high income country such as Mainland China. They piloted the Chinese version of the Neonatal Palliative Care Attitude Scale using a cross-sectional survey method, which included 550 nurses working in neonatal intensive care units (NICUs) across 40 hospitals in

five provinces of China, recruited through a convenience sampling method. The size of the NICUs varied, with bed cot range from a few to approximately 50 cots. Most NICUs had not yet implemented neonatal palliative care but did have fetal-maternal units, which likely increased the number of neonates' diagnosed antenatal with congenital malformations. The results of the study positively acknowledged the role of the organizational setting in which neonatal nurses operate, identifying factors that both hinder and support the practice of palliative care. Many clinicians believed that the equipment and environment in healthcare institutions were beneficial for the implementation of neonatal palliative care, even though resources were deemed inadequate for its execution. Additionally, findings showed that neonatal nurses lacked sufficient work experience in delivering palliative care to families of the infants. Despite this, they expressed a strong belief in the value of palliative care and a willingness to implement it in NICUs. In addition, it was noted that nurses between the ages of 20 and 29, who had 1 to 5 years of experience, along with those in the 40 to 49 age group and those with more than 10 years of experience, exhibited higher scores and more positive attitudes towards palliative care. Conversely, nurses aged 30 to 39, with 6 to 10 years of experience, showed lower attitude scores, which may suggest a negative view of neonatal palliative care. Among the facilitators identified in this study, nurses recognized the significance of neonatal palliative care, the need for pain relief, palliative care education, family introduction to neonatal palliative care, parental involvement in decision-making, the avoidance of negative emotions regarding neonatal death, professional psychological support for nurses, and opportunities to express their opinions, values, or beliefs. The barriers identified included the limited requirements for neonatal palliative care, insufficient nursing staff or time, and low acceptance of neonatal palliative care among nurses and within society (131). The investigator of the present study had chosen these articles due to their use of cross-sectional design, implementation of NIPCAS to assess nurses' attitudes toward neonatal palliative care, and their focus on NICUs. Consequently, the current research utilized this prior study to enhance understanding of the importance of Neonatal palliative care, especially in Tanzania.

A study in the United State of America (USA) examined the perceptions of neonatal palliative care among medical and nursing staff in a level IV neonatal intensive care unit. A prospective cross-sectional study design was employed to gather information through the Neonatal Palliative Care Attitude Scale (NiPCAS) survey from both medical providers and nurses in a 64-bed level IV neonatal intensive care unit in the United States. A total of 209

participants were invited to fill in the questionnaire, which was distributed electronically. The findings indicated that 67% of respondents were medical staff, while 64% were nurses. Almost half of the participants had over 10 years of experience in their current positions. The majority of those surveyed reported having experience with neonatal palliative care. Within our survey population, medical staff claimed to have more experience caring for dying neonates compared to nursing staff (p value 0.03). Nearly all respondents (total mean score 4.90 ± 0.49) agreed on the necessity of including palliative care in neonatal nursing and medical training; however, less than half of the respondents had received training on this topic (total mean score 2.85 ± 1.40). Furthermore, both medical personnel and nurses concurred that the organization subscale assessed the influence of the institutional environment on factors that hinder or promote the provision of palliative care. Individual inquiries within this subscale highlighted the importance of involving parents in decision-making, the support of palliative care by staff members, and the ability of team members to voice their opinions. Nurses scored higher than medical staff in resource allocation, while key concerns included staffing levels, the unit's physical environment, policies and guidelines, availability of counseling services, and the time allocated for family interactions. Conversely, the clinician subscale addressed morality-related challenges, such as parental expectations and technological pressures. Most respondents concurred that parents often asked staff to continue life-extending treatments beyond what they believe is ethically sound, and that staff sometimes utilize life-sustaining technology in ways that make them uncomfortable. Six facilitators for neonatal palliative care were identified, including support from the healthcare team and an acknowledgment of the significance of pain management. Three barriers were also noted, such as an unsuitable physical environment and societal attitudes toward infant mortality. Consequently, both differences and similarities in the attitudes of medical and nursing staff were observed in these aspects. It was subsequently reported that nurses possess adequate time to be with families during neonatal deaths, which includes offering support and counseling during end-of-life care. However, both groups acknowledge that improving palliative care is essential in NICUs (10). The study was important for the current research in several ways. It used a similar design, took place in NICUs, and used NIPCAS to determine the attitude. However, involved both nurses and physicians. It found that nurses had a poor attitude toward resources and faced barriers like an inadequate environment for palliative care. The author of the current study encouraged further examination of the ethical environment and attitudes of nurses toward neonatal palliative care in Tanzania.

2.3.2 Nurses attitudes toward neonatal palliative care

In Italy, nurses attitude toward neonatal palliative care was examine through a cross-sectional study was carried out in Level III neonatal intensive care units across 14 hospitals located in the northern, central, and southern regions, with a total of 347 neonatal nurses completing a questionnaire based on a revised version of the Neonatal Palliative Care Attitudes Scale (NIPCAS) to evaluate the nurses' attitudes and all nurse researchers were responsible for participants' recruitment in each ward. The findings indicated that participation rates among nurses were 30.5%, 34%, and 35.5% from northern, central, and southern Italy, respectively. A significant portion of the respondents was female (87.6%), with an average age of 40.38 years. The majority of the participants expressed strong agreement that the objective of palliative care is to ease suffering and ensure a pain-free death, and they valued maintaining quality of life for as long as possible while acknowledging the certainty of death. However, fewer respondents indicated that the use of palliative care for newborns was inappropriate. Furthermore, nurses identified organizational and resource-related factors as barriers that impede the provision of palliative care in NICUs, while clinician-related factors were viewed positively; however, nurses' attitudes were recognized as both barriers and facilitators that influence the advancement of neonatal palliative care practices in NICUs (5). The current study utilized this article to choose the study design which was cross-sectional study, NICUs setting, and employed NIPCAS to evaluate nurses' attitudes towards neonatal palliative care in Tanzania.

In Iran, addressing the needs of terminally ill neonates is a significant concern. A study was carried out to assess the nurses' attitudes toward caring for terminally ill neonates and their families, involving of 138 nurses from neonatal intensive care units (NICUs) linked to Tehran University of Medical Sciences. The descriptive cross-sectional research took place during the first half of 2019. The investigation was conducted at the Children's Medical Center, Bahrami, and Arash Hospitals associated with TUMS. Convenience sampling was utilized to gather the participants. Information was obtained through a demographic questionnaire to evaluate variables such as age, marital status, work experience, educational background, work shifts, economic status, and history of participation in palliative care, alongside the Frommelt attitudes toward caring for terminally ill individuals and their family's scale. Data were analyzed using descriptive statistics (frequency, percentage, mean, and standard deviation) and inferential statistics (independent t-test, and ANOVA) via SPSS 16, with a p-value of less than 0.05 considered significant. The findings indicated that nurses held the most favorable attitudes regarding statements such as "nursing care should incorporate the

family of the terminally ill patient" (4.2 ± 0.6), "the care provider can prepare the patient or their family for death" (4.1 ± 0.7), and "the family should participate in the physical care of the terminally ill patient" (3.9 ± 1.02). Conversely, the least favorable attitude was associated with the statement "the time dedicated to caring for terminally ill patients makes me feel frustrated" (1.06 ± 1), while the overall score for nurses' attitudes was documented as 97.07 ± 8.93. Consequently, it was concluded that the nurses' attitudes towards the subject under review were at a moderate level. It appears that a nurse's age positively influences their attitudes regarding the discussed topic. Participation in palliative care training programs can enhance nurses' positive attitudes by increasing their understanding of the subject. It is recommended that nurses in NICUs undergo training in end-of-life and palliative care, as this could improve their perspectives on providing care for terminally ill neonates and their families. Additionally, developing a pediatric palliative care curriculum for nurses is advisable, as it would enhance their knowledge, attitudes, and skills in this area. Moreover, as highlighted in the introduction, nurses in NICUs often face moral distress when making ethical choices about end-of-life care for terminally ill neonates. Therefore, implementing training programs focused on ethical decision-making in NICUs is essential to mitigate their moral distress (132). This article holds considerable importance for the current study, as terminal illness is one of the factors linked to palliative care. The research was carried out in Neonatal Intensive Care Units (NICUs) and highlighted the necessity of training in ethical decision-making. While the present study investigated the association between nurses' attitudes and the ethical environment within the context of palliative care in NICUs. For future assessment of continuous training aimed at enhancing attitudes and ethical clinical practices.

Additionally, a study conducted in New York focused on neonatal nurses' perceptions of barriers and facilitators to palliative care in their NICU settings. A cross-sectional approach was employed to gather data through an online survey that was sent to neonatal nurses via the Association of Women's Health, Obstetric and Neonatal Nurses (AWHONN) and the National Association of Neonatal Nurses (NANN). 99 out of 1,800 AWHONN members identifying as NICU nurses, completed the survey, yielding a response rate of 5.5%, while 101 out of 4,000 NANN members who engage with the MYNANN forums also participated in the survey. The total number of respondents to be equivalent to 200, and the Neonatal Palliative Care Attitude Scale (NiPCAS) was utilized as a tool for data collection among participants. Findings indicated that nurses in neonatal intensive care units with established

palliative care policies and who had received training in palliative care exhibited more positive attitudes toward neonatal palliative care. Implementing policies and educational initiatives is crucial for enhancing the quality of care for vulnerable infants and their families (24). This research was relevant to the current study both were cross sectional design, and used NIPCAS to assess attitude of nurses toward palliative, therefore it provided guide on analysis of the scale.

The research conducted in Korea evaluated the perspectives of nurses and physicians regarding palliative care in neonatal intensive care units. A total of 112 nurses and 52 physicians took part in the research. The study utilized a descriptive cross-sectional design, analyzing data derived from the NICUs of seven general hospitals situated in B City and G Province. The criteria for participation included nurses who delivered direct care to high-risk neonates and had been employed in the NICU for at least a year, as well as physicians, pediatric residents, or specialists currently working in the NICU. Data was gathered using demographic information and the Neonatal Palliative Care Attitude Scale questionnaire (NPCAS). This tool consists of 12 items spread across three categories: organization (five items), resources (five items), and clinician (two items) that were utilized in this research. Data collection took place from September 19, 2019, to October 21, 2019. After receiving approval from the IRB at D University and the necessary permissions from the nursing department and medical office, a recruitment announcement was made in the NICU and pediatrics division at various hospitals. Interested participants were approached by the researcher, who provided questionnaires and explanations. Informed consent forms were collected, and one week later, the researcher returned to collect the sealed questionnaires. The results indicated that within the organization category, “parents are involved in decision-making” received the highest ratings from both nurses (4. 17 ±0. 77) and physicians (4. 12 ±0. 73). Another item that the majority of both nurses and physicians responded with “agree” was “health care team agrees with and supports palliative care” (59. 8%, 3. 62±0. 88 and 55. 8%, 3. 50±0. 83, respectively). However, fewer than 50% of the nurses concurred, whereas over 50% of the physicians agreed that parents are informed of the palliative care options available. A smaller percentage of both nurses and physicians agreed with the statement “team can express opinions, values, and beliefs” (32. 1%, 2. 86±0. 97 and 44. 2%, 3. 21±0. 96, respectively). All items were recognized as facilitators for the physicians, while “team can express opinions, values, and beliefs” was identified as a barrier for the nurses. In the resources category, 50% or more of the nurses did not select “agree” for any item, and no

item received a score of 3. 0 (medium) or above from the nurses. Conversely, the physicians rated items concerning physical environment, staffing, and time at 3. 0 or higher. Although all items in the resources category were barriers for the nurses, only those about guidelines and counseling were deemed barriers for the physicians. The overall score for the clinician category was 3. 44±0. 89 for nurses and 3. 25±0. 78 for physicians; this did not display a statistically significant distinction. Every item in the clinician category was recognized as a hindrance to palliative care for both nurses and physicians. Therefore, nurses and physicians expressed a sufficient attitude toward supporting neonatal palliative care. Nonetheless, there emerged a necessity to create hospital or national guidelines and educational initiatives regarding neonatal palliative care, along with the equal need to foster social awareness of the importance of neonatal palliative care (133). This research was relevant to the current study both were cross sectional design, and used NIPCAS to assess attitude of nurses toward palliative, therefore it provided guide on analysis of the scale. However, the previous study included perception of both nurses and physicians.

In Jordan, a review was conducted to assess neonatal nurses' knowledge and attitudes towards neonatal palliative care (NPC). The researcher utilized various online databases, including Google Scholar, PubMed, Medline, CINAHL, Proquest, Wiley, and Research Gate, to search for relevant keywords such as NPC, Nurses, Knowledge, Attitude, and Educational Intervention. Additionally, a thorough manual review of reference lists from related studies was performed. The study focused on full-text articles published in English between 2010 and 2022, as these represent the most recent research in the field. The search encompassed various study designs, including comparative, cross-sectional descriptive, observational, survey, and interventional studies. Ultimately, 66 papers met the eligibility criteria, and 40 full-text articles were analyzed and reported. Articles that did not address NPC or involved professions outside of nursing were excluded. The literature indicated that nurses in the Neonatal Intensive Care Unit (NICU) exhibited knowledge deficits regarding NPC, highlighting the need for enhanced training and education among nurses and healthcare providers. All studies indicated that nurses held negative attitudes towards NPC prior to the implementation of educational programs focused on NPC. Chatziioannidis et al identified a statistically significant correlation between shift work and nurses' attitudes towards NPC in the NICU. Similarly, Chin et al. found that nurses in units with established NPC policies and who had received palliative care education exhibited more favorable attitudes towards NPC compared to their peers. Two studies conducted in Iran reported a positive attitude among nurses towards NPC, with a statistically significant relationship noted between shift work and

attitudes. It is essential to further cultivate these positive attitudes through both clinical and theoretical training. Additionally, Mohammadi et al, noted that a majority of healthcare professionals demonstrated a positive outlook towards NPC. In conclusion, it is essential to recognize that nurses who exhibit a positive attitude towards delivering palliative care should have reinforced their favorable attitudes through both clinical and theoretical training. Additionally, it is crucial to focus on addressing other factors that may contribute to a negative perception of neonatal palliative care (NPC) and the execution of palliative care services (18). In this review, offered insights regarding the lack of evidence that assesses nurses' attitudes toward neonatal palliative care in NICUs across Africa. Therefore, the current study represented the initial research to assess neonatal palliative care practices in Tanzania.

Additionally, a study conducted in Jordan investigated “End-of-life Decisions at Neonatal Intensive Care Units: Jordanian Nurses' Attitudes and Viewpoints of Who, When, and How and the factors that predictably influence decision-making in end-of-life care”. A cross-sectional descriptive correlation design was utilized. The findings shared in this paper are a segment of a broader study that examined aspects of end-of-life care among neonatal nurses and physicians; however, only the outcomes concerning the nurses' attitudes are reported. Data were gathered from high turnover and large NICUs situated in 24 major hospitals throughout Jordan. The hospitals encompassed the public, private, and educational health sectors. Among the 310 neonatal nurses invited to participate in the study, 289 consented and were provided with questionnaires, yielding a response rate of 93%. Ten questionnaires were excluded from the analysis due to incomplete data, thus lowering the final sample response rate to 279/310 = 90%, which includes neonatal nurses operating in 24 neonatal intensive care units across Jordan. Several strategies implemented in this study are thought to have enhanced the response rate from the neonatal nurses. The research questionnaire was designed by the author to be straightforward and understandable, and data were obtained using internationally-accepted questionnaires. Descriptive and inferential statistics were utilized in the data analysis. The results indicated that the moral and professional duty of caring for and alleviating the suffering of dying neonates is crucial to clinical nursing practice in the NICUs. The opinions and perspectives of neonatal nurses regarding end-of-life decision-making are valuable to investigate and could potentially reflect the authentic practices of end-of-life care in the NICUs. This study has evaluated the attitudes and opinions of neonatal nurses on end-of-life decision-making in Jordan, which was generally supportive of life at the end of life care. Therefore, providing quality end-of-life care for neonates and

bereavement care for parents should be standard practice in every NICU around globally (134). The researcher chose these articles because offered guidance for assessing more nurses' attitudes toward palliative care using adopted tools. Present study had selected NIPCAS, and its validity and reliability were tested prior to data collection procedure.

In contrast, evaluating nurses' attitudes toward palliative care remains challenging, as found in the current study conducted in Iran that examined the cross-cultural adaptation and psychometric properties testing of the Persian version of the neonatal palliative care attitude scale. Utilizing a methodological and cross-sectional design, this study was carried out among an Iranian population from April to August 2022. The study included Iranian NICU nurses from various cities in Iran who possessed at least six months of NICU experience and were willing about participating. They were part of a WhatsApp group for NICU nurses were included in study. Due to COVID-19 outbreaks and constraints in accessing NICUs, data was gathered online through a convenience sampling method. An electronic questionnaire was designed using Porsline and disseminated via WhatsApp. Participants were provided information about the study through written communication and a video. A sample size of 230 nurses was comprised for the study. Two instruments were utilized in this research, a demographic questionnaire and the NiPCAS. The Persian version of the NiPCAS was formulated under the guidance of the WHO (WHO, 2015). Written consent was secured from the scale's creator, Doctor Victoria Kian. Two translators independently rendered the NiPCAS into Persian, and an expert panel evaluated the translations. The final Persian version of the scale was established. Face validity was evaluated both qualitatively and quantitatively. Feedback on the scale's suitability, clarity, and item sequence was gathered from ten NICU nurses who had at least six months of experience. The reliability was evaluated based on internal consistency and stability. Internal consistency was assessed using Cronbach's alpha (α). Consequently, the test-retest method was conducted on ten NICU nurses at a 2-week interval, yielding Coefficients $\alpha > 0.7$. The results indicated that the factor of "organization" had a Cronbach's α coefficient of 0. 71, reflecting acceptable reliability. The factor of "resources" achieved a superior coefficient of 0. 841, signifying good reliability. Conversely, the factor of "Personal experiences and beliefs" displayed a lower coefficient of 0. 566, indicating diminished reliability. To conclude, the findings imply that the 26-item NiPCAS-P might not entirely represent the attitudes of Iranian NICU nurses towards NPC. Nonetheless, a 15-item Persian version with a 3-factor structure is valid for examining the attitudes of Iranian NICU nurses regarding the barriers and facilitators of implementing NPC in countries with comparable neonatal settings or cultural and religious

contexts. The low α Cronbach coefficient value for the “personal experiences and beliefs” factor suggests that it may not be as reliable as the other two factors. This may indicate a lack of preparedness for providing NPC in Iranian neonatal environments and nurses’ experiences with non-standardized as well as nurses’ uniqueness of beliefs and values surrounding NPC. The findings indicated that the NiPCAS may not entirely reflect the experiences and beliefs of Iranian nurses in delivering NPC. This may stem from Iran's cultural and religious context. It is recommended to create a questionnaire tailored to the Iranian setting to evaluate nurses’ experiences and beliefs regarding NPC, involving experts in instrument development, neonatal nursing, palliative medicine, and neonatology. These findings further emphasize the necessity for additional research to adapt the NiPCAS for varying cultures and evaluate its psychometric properties, including conducting Confirmatory Factor Analysis (CFA). Research must develop supplementary tools to investigate the accomplished factors influencing the implementation of neonatal palliative care factors in NICUs (135). This investigation significantly compelled the author of the current study to carry out research in Tanzania because of the social culture, religion, and geographical variations that likely affect nurses' perspectives on neonatal palliative care.

In addition, an Indian researcher conducted a study titled "Clinical Nurses’ Knowledge and Attitude on Palliative Care: A Cross-Sectional Study." The study involved a sample of 122 nurses, which included registered nurses such as Auxiliary Nurse Midwives, Proficiency Certificate Level holders, and Bachelor graduates. These nurses were employed in both critical areas—such as the intensive care unit, pediatric intensive care unit, neonatal intensive care unit, emergency department, and post-operative ward—and non-critical areas, including the general medical ward, surgical ward, gynecological ward, pediatric ward, and orthopedic ward at Lumbini Medical College and Teaching Hospital (LMCTH). All participants provided voluntary consent to take part in the study. A simple random sampling method was utilized to select the sample, and data collection took place in March 2021. The self-administered questionnaire comprised three sections: Part I focused on sociodemographic variables, Part II assessed knowledge through the "Palliative Care Quiz for Nursing (PCQN)," and Part III evaluated attitudes using the "Frommelt Attitude toward the Care of the Dying Scale (FATCOD)." The results indicated that a significant majority (65.5%) of the participants were under 25 years of age, with a mean age of 25±5.42 years (ranging from 18 to 45 years). The average job experience among participants was 3.43±3 years, with a range of 0.3 to 15 years. A substantial portion (88.5%) had experience in caring for dying patients, while 38.5% had cared for dying relatives. Approximately one-third (33.6%) were employed

in critical care settings. Notably, none of the participants had received any training or in-service education related to palliative care. Furthermore, two-thirds (64.8%) believed that palliative care was appropriate only in cases of evident decline or deterioration. Less than half (40.2%) agreed that providing palliative care necessitates emotional detachment, while a majority (86.1%) stated that the severity of the disease dictates the approach to pain management. Similarly, 87.7% of respondents believed that prolonged use of morphine for pain management leads to significant issues related to drug addiction. A substantial majority (90.2%) indicated that adjuvant therapies play a vital role in effective pain management. Additionally, 76.2% of participants emphasized the importance of family members remaining at the bedside until death occurs. In terms of attitudes assessed through the FATCOD domains, 76.2% of participants expressed that providing care to a dying individual was a valuable experience. Almost two-thirds (68.9%) admitted feeling uneasy discussing impending death with the patient. A significant majority (92.6%) recognized the necessity of ongoing support for the patient's family throughout the grieving process. More than half (60.7%) strongly disagreed with the notion that they would prefer not to care for a dying person. Two-thirds (69.6%) of participants expressed that the time commitment required for caring for a dying individual did not frustrate them. One-third (32.8%) acknowledged the challenge of forming a close bond with the dying person. A majority (80.3%) affirmed that there were instances when the dying individual welcomed death. Two-thirds (66.4%) believed it was preferable to shift the conversation to a more cheerful topic when a patient inquired about their mortality. Furthermore, 86% of participants recognized the need for families to receive emotional support in coping with the behavioral changes of the dying individual. When asked whether the dying person should have a say in their physical care, 55.7% agreed. Most participants (90%) supported the idea that families should strive to maintain a normal environment for their dying loved ones. A significant majority (82.6%) concurred that caregivers should offer flexible visiting hours for dying individuals. Additionally, 68.1% of participants reported feeling uncomfortable entering the room of a dying person. Therefore, nurses' understanding of palliative care was discovered to be inadequate, yet they displayed a fair attitude when interacting with patients in need of palliative care. The knowledge related to the psychological component of care appears to be significantly lacking. Regarding attitude, nurses expressed considerable hesitation to address or converse about adverse outcomes with the patients directly. Training and consistent in-service education for nurses have the potential to improve their level of knowledge. Offering positive reinforcement, recognition, and rewards for commendable behavior may assist

nurses in fostering a positive attitude toward palliative care (136). Based on the findings, there was a necessity to develop deeper into nurses' attitudes towards palliative care. Hence, the current study selected to adopt NIPCAS to examine further factors like the organization, resource allocation, and clinicians that were absent in FATCOD, which indicated a fair attitude due to insufficient palliative care knowledge.

2.3.3 Ethical climate in neonatal intensive care units

A supportive ethical climate within hospitals is thought to significantly influence palliative care practices. Numerous studies have highlighted strategies to improve the ethical climate and the implementation of ethical principles in clinical environments. A study from the United Kingdom examined "Real-world ethics in palliative care: A systematic review of the ethical challenges reported by specialist palliative care practitioners in their clinical practice." A systematic review was conducted to identify and summarize empirical data on the ethical challenges that specialist palliative care practitioners report encountering, utilizing narrative synthesis based on the iterative framework from Popay et al., which was adapted for a review that does not concentrate on an intervention. The integration of themes and content was directed by Thomas and Harden's 'thematic synthesis' approach. Seven databases (MEDLINE, Philosopher's Index, EMBASE, PsycINFO, LILACS, Web of Science, and CINAHL) were searched from their inception to December 2019 without any language restrictions. Eligible papers needed to report original research utilizing inductive methods to describe ethical challenges reported by practitioners concerning palliative care practices in hospital environments. A total of 8074 records were reviewed. Thirteen studies from nine countries included Brazil, Canada, Germany, Mexico, the Netherlands, Portugal, Sweden, Taiwan and the USA were included. The challenges were categorized into six themes: application of ethical principles, delivering clinical care, working with families, engaging with institutional structures and values, navigating societal values and expectations, and the philosophy of palliative care. Challenges pertained to specific scenarios or contexts rather than general ethical principle application, and occurred at all levels, including bedside, institution, society, and policy. The findings revealed that ethics was perceived as a significant aspect of participants' roles, contributing to difficulty and complexity. Based on identified themes, the Application of ethical principles indicated that 8 out of 13 study participants experienced various related challenges regarding how to best assist patients in making autonomous choices and safeguarding patients from coercive pressures, including those from family members. This included how to react when patients made choices that the

practitioner believed would elevate harm or risk to the patient or others or that contradicted the professional's judgment of what was in their best interests, thus leading to questions of beneficence, or conflicted with the personal values of the caregiving staff. Furthermore, challenges involving truth-telling were documented in 10 out of 13 studies. Additionally, challenges related to a patient's diagnosis or prognosis were noted, particularly when this was deemed unfavorable or become apparent when either practitioners or families had to decide whether it was suitable to inform a patient or to conceal this information. Many study participants recognized the tension with patient autonomy regarding withheld information. Other dilemmas included issues of probity or veracity, detailing the administration of covert medication or the provision of misleading information on medication orders to influence which consider whether the patient, hospice, or insurance company paid for them. On Delivering clinical care challenges identified were focused on dilemmas surrounding the provision of patient care, including clinical decision-making, communicating with patients and families, confidentiality, goals of care, and mental capacity. Where by participants' belief in the importance of maintaining patient confidentiality, particularly in respect to loved one. However, participants viewed that decision-making as to whether a patient should receive active life-prolonging therapy or more traditional palliative treatment as a 'central ethical problem. Detailed challenges related to nurses identified was who the correct person to be involved in decision-making was and how to handle family conflict. Communication challenges were reported in 6/13 studies and included, inadequate quality of patient information (as perceived by practitioners), poor availability of staff to facilitate communication, poor inter-professional communication, differences in the cultural frames of reference within conversations, and managing conflicting information from and between multiple teams. Based on Working with families, participants reported challenges related to the care and support of the family. This included when adult patients do not want their illness discussed with their children. Another challenge related to negotiating conflict between a family's and patient's wishes or support needs when it is not possible to satisfy both. Participants described how the patient must come first. Further reported that Lack of equity of access to palliative care services created ethical challenges for participants in one study. A broader ethical challenge in this sub-theme relates to the position specialist palliative care should take in relation to euthanasia or physician assisted suicide. Participants in Germany felt that opposition to these practices is important to maintain patient dignity, perceived as a key focus of palliative care. In Netherlands participants described a challenge occurring when patients make a request for euthanasia in the hospice as it is available in other care settings

but not there. No study contained data supporting euthanasia within palliative care. The researcher of current study selected this study as it was revealed that no data found from in low and middle-income settings where the majority of the world's population live and die. Hence it was important to examine ethical climate in NICUs that might influence nurses' attitude toward palliative care and explored more ethically-informed clinical care in Tanzania (137).

In Sweden, researchers conducted a study titled "Ethical Climate and Moral Distress in Pediatric Oncology Nursing." This investigation aimed to examine the experiences of nurses regarding the ethical climate and moral distress within Finnish pediatric oncology care. The descriptive, cross-sectional study was executed under the endorsement of the Nordic Society for Pediatric Hematology and Oncology (NOPHO) and the Nordic Society of Pediatric Oncology Nurses (NOBOS). The research took place at five pediatric oncology centers affiliated with University Hospitals in Finland. A total of 210 participants, including 169 registered nurses, 32 physicians, and 9 nursing assistants, were invited to complete a pen-and-paper questionnaire. Data collection occurred between May 2019 and January 2020, with the questionnaire encompassing inquiries about the demographic characteristics of the respondents. The survey instruments included a Finnish translation of The Swedish Hospital Ethical Climate Survey–Shortened (Swedish HECS-S). The original Moral Distress Scale (MDS), developed by Corley et al., was utilized to assess moral distress among intensive care nurses. Permission for translation was obtained via email from the original owner. It is noteworthy that the Swedish HECS-S focuses on the dynamics of relationships among co-workers rather than those with peers. All items on the scale are rated on a 5-point scale, with endpoints ranging from 1 (hardly ever) to 5 (almost always), where higher scores indicate more favorable perceptions. Although the Swedish HECS-S originally comprised 21 items, it was condensed to 18 items for this analysis due to the irrelevance of three questions directed at nursing assistants, as two of the participating centers employed only registered nurses. The Swedish Moral Distress Scale–Revised (Swedish MDS-R) was also translated into Finnish. The original MDS has been adapted and shortened for various professions and settings, gaining significant popularity across different healthcare environments. The instrument has gained significant popularity across various healthcare environments and cultural contexts. Responses are evaluated on a 5-point scale with defined endpoints: intensity scores range from 0 (not at all) to 4 (very negatively), while frequency scores range from 0 (never) to 4 (very often). Higher scores indicate increased levels of moral distress. Data analysis was

conducted using IBM SPSS Statistics 25, resulting in a final inclusion of 93 nurses as respondents for this study. Consequently, the total number of valid responses was 92 for the HECS-S and 87 for the MDS-R. The majority of the nurses were female (n = 88; 95%). A significant portion of the nurses had over 5 years of experience in pediatrics (n = 73; 79%), and more than half had engaged in continuing education (n = 56; 60%). Overall, nurses expressed positive perceptions regarding the ethical climate. The mean response for all 18 items, on a scale of 1 to 5, was 4.0 (SD, 0.4), with none of the items scoring below the midpoint of 3. The highest-rated items pertained to relationships among co-workers and interactions with patients and parents. The perception of working alongside competent colleagues received the highest mean score (4.8; SD, 0.4). Conversely, items related to hospital policies and conflicts received the lowest scores, exhibiting greater variability among individual nurses. Generally, items evaluating relationships with managers were rated lower than those assessing relationships with co-workers. Regarding moral distress, the findings indicated that the disturbances described in the MDS-R were rated higher than their frequencies. Nurses considered nearly all scenarios to be very disturbing, with a mean intensity score of 3.1 (SD, 0.5) on a scale of 0–4. All 26 items had mean intensity scores surpassing the midpoint of 2. Furthermore, the correlation between ethical climate and moral distress revealed a moderate negative correlation between perceptions of ethical climate and the frequencies of moral distress ($r = -0.435$, $n = 86$, $p < 0.001$). A significant correlation was not identified between the perceptions of ethical climate and the intensity scores of moral distress ($r = 0.032$, $n = 86$, $p = 0.769$). Consequently, pediatric oncology nurses generally maintain a favorable perspective regarding the ethical climate, particularly in relation to the competence and support of their colleagues. The morally distressing situations outlined in the MDS-R tend to be more unsettling than they are frequent. Issues such as insufficient time and inadequate staffing levels remain among the most commonly reported sources of moral distress. These results underscore the necessity of fostering strong collegial relationships and indicate that ongoing efforts are essential to ensure manageable workloads for nurses, thereby alleviating moral distress. This study is relevant to the current research due to its cross-sectional design and the instrument employed to evaluate ethical climate, although it was conducted in pediatric units. The researcher of the current study selected this article because it provided guidance on the use of the original HECS instruments, consisting of 26 items, which facilitated the examination of the relationship between ethical climate and nurse attitudes, which in this study was not revealed related to moral distress. However, most NICU nurses in Tanzania were bilingual and completed the questionnaire in English (25).

2.3.4 Relationship between ethical climate and nurse’s attitude in neonatal palliative care.

Apart from that the ethical climate within the neonatal intensive care unit (NICU) and its association with various factors, including attitudes, has been examined across multiple domains of palliative care. In Iran, a study investigated "The relationship between moral distress, ethical climate, and attitudes towards the care of a dying neonate among NICU nurses." This descriptive-analytical cross-sectional study was conducted from May to July 2021. The research sample comprised 130 nurses employed in the NICUs of Kerman province, specifically in the cities of Kerman, Jiroft, Bam, and Rafsanjan. The inclusion criterion required participants to possess a bachelor's degree in nursing, while those who failed to answer more than 10% of the questions were excluded. Given the limited statistical population, the research sample was equivalent to the total population of interest. The sample size was determined based on a census of nurses working in the NICUs of hospitals affiliated with Kerman University of Medical Sciences. Data collection involved four questionnaires: a socio-demographic form, the Moral Distress Scale, the Hospital Ethical Climate survey (HECS), and the Frommelt Attitudes towards Care of the Dying (FATCOD). Data analysis was performed using SPSS 22, employing descriptive statistics (frequency, percentage, mean, and standard deviation) to summarize the data. As the primary variables exhibited a normal distribution, the Pearson Correlation Coefficient was utilized to evaluate the relationships among moral distress, ethical climate, and FATCOD. Demographic data were analyzed using independent t-tests and ANOVA, with a significance level set at 0.05. The analysis of 126 completed questionnaires revealed that the average age of the nurses was 32.21±6.89 years, with an average work experience of 7.57±5.57 years. A significant majority of the nurses were married (78.6%), held a bachelor's degree (90.5%), were employed as hired nurses or contract recruits, worked in unfixed shifts (95.2%), and earned an income exceeding 5 million Tomans (89.7%). A significant portion of nurses, specifically 65.1%, did not engage in end-of-life (EOL) care training, while a substantial 91.3% reported having experience in caring for dying neonates. The average frequency and intensity of moral distress among NICU nurses were measured at 44.42±17.67 and 49.45±17.11, respectively, reflecting a moderate level of moral distress. The mean ethical climate score was recorded at 92.21±17.52, suggesting a predominantly positive ethical environment within the NICUs, while the mean FATCOD score was 89.75±9.08, indicating a favorable attitude towards EOL care. The findings revealed a direct and significant correlation between the ethical climate and the FATCOD score, suggesting that a more positive ethical climate correlates with more

favorable attitudes among nurses towards neonatal EOL care (P=0.003, r=0.26). Additionally, there was a significant inverse relationship between the intensity of moral distress and the ethical climate, indicating that as moral distress intensifies, the ethical climate tends to deteriorate (r=-0.19, p=0.03). Furthermore, the study identified a significant variance in moral distress levels based on educational attainment, with nurses holding a master's degree experiencing greater moral distress compared to their bachelor's degree counterparts (P=0.005). Differences in the mean ethical climate were also noted based on employment status, monthly income, and participation in EOL care courses (P>0.05), with employed nurses reporting a more favorable ethical climate. Nurses earning over 5 million tomans monthly, along with those who participated in EOL care courses, also indicated a more positive ethical climate. Therefore, this study underscores the intricate relationship between moral distress, ethical climate, and attitudes towards EOL care among NICU nurses. It is evident that formulating strategies to mitigate the intensity and frequency of moral distress is crucial in this field. The findings emphasize the necessity of fostering a positive moral atmosphere to alleviate moral distress among nurses, thereby enhancing the quality of EOL care provided to infants. It is recommended that policymakers and administrators formulate strategies aimed at enhancing the ethical environment within hospitals and alleviating moral distress experienced by nurses. This approach will enable nurses to foster compassionate communication with families, mitigate their own moral distress, and deliver high-quality end-of-life care for neonates. The author picked up this research due to its relevance to the current study, which employed a cross-sectional design. The previous study was conducted in neonatal intensive care units (NICUs), making its study population comparable to the present research, as it included all nurses working in NICUs. However, the current study encompasses a broader range of study settings, utilized a larger sample size, and implemented NIPCAS tools to evaluate nurses' attitudes toward palliative care. Both studies employed the HECS framework to assess the ethical climate in NICUs (16).

In Turkey, ethical sensitivity has been identified as a crucial factor in palliative care within hospital environments. The authors investigated "The Relationship between Nurses' Ethical Sensitivity Levels and Their Attitudes toward Principles about Dying with Dignity." Utilizing a descriptive and correlational design, the study encompassed a population of 600 nurses employed at two public hospitals in a province situated in the Western Black Sea region of Turkey. Given that the entire population was accessible for this research, no sampling was necessary; thus, the study was conducted with the full population, resulting in participation from 226 nurses, yielding a response rate of 37.7%. Data collection occurred between April

and May 2017, employing the "Personal Information Form," the "Moral Sensitivity Questionnaire (MSQ)," and the "Attitudes toward Principles about Dying with Dignity Scale (ATPDDS)." The analysis of the data included the use of frequency and percentage values to assess the descriptive characteristics of the nurses, while mean and standard deviation values were applied to evaluate their attitudes regarding the principles of dying with dignity and their levels of ethical sensitivity. The Kolmogorov–Smirnov test was utilized to ascertain whether the data adhered to a normal distribution. Subsequently, Spearman's correlation analysis was conducted to explore the relationship between the nurses' ethical sensitivity levels and their attitudes toward the principles of dying with dignity. In the literature, the definitions associated with the correlation coefficient indicate no correlation for values of 0.00, a low-level correlation for 0.01–0.29, a medium-level correlation for 0.30–0.70, a high-level correlation for 0.71–0.99, and a perfect correlation for 1.00. The findings revealed that among the descriptive characteristics of the nurses, 62.0% fell within the 23–35 age range (with a range of 17–57 years, mean age: 31.03±7.47), 85.0% were female, 64.6% possessed a bachelor's degree, and 35% had 1–5 years of professional experience. Additionally, the percentage of nurses who have cared for a patient at the end of life at least once during their careers stands at 71.2%. Conversely, 89.4% of these nurses reported lacking training in palliative care, and 59.7% indicated they had not received any training in ethics. The average score reflecting the ethical sensitivity of the nurses was calculated to be 3.41±0.89. An analysis of the scores from the MSQ sub dimensions revealed that the highest score was achieved in the conflict sub dimension (4.21±1.26), while the lowest score was recorded in the relation sub dimension (2.40±1.18). Regarding the nurses' attitudes towards the principles of dying with dignity, the mean score on the ATPDDS was found to be 45.74±9.08. Furthermore, correlation analysis indicated a negative, significant, and low-level relationship between the nurses' attitudes towards the principles of dying with dignity and the concepts of autonomy (r: −.131), meaning (r: −.174), and relation (r: −.193). Regarding the nurses' attitudes towards the principles of dying with dignity, the mean score on the ATPDDS was found to be 45.74±9.08. Furthermore, correlation analysis indicated a negative, significant, and low-level relationship between the nurses' attitudes towards the principles of dying with dignity and the concepts of autonomy (r: −.131), meaning (r: −.174), and relation (r: −.193). No correlation was identified between nurses' attitudes towards the principles of dying with dignity and the concepts of benevolence, conflict, and regulations. In light of the results of this study, it is advisable to enhance the ethical sensitivity of nurses through targeted training in ethics to mitigate conflicts. This topic should be incorporated into pre-service, post-

service, and ongoing training programs. Additionally, fostering an ethical environment within healthcare facilities is essential. The principles of dying with dignity ought to be embraced in patient care practices, ensuring that these principles are evident in the care provided. Furthermore, it is important to increase awareness regarding the right of all individuals to request a dignified death, and to organize training sessions focused on appropriate approaches to patients who are nearing the end of life. This article aligned with the current research in design and demographics; however, it was conducted across the entire hospital. The present study was adopted following recommendations to consider the ethical sensitivities for nurses by offering ethics training, which aids in enhancing their attitudes toward the care of dying individuals, including neonates (138).

Summary and critiques of studies

A research critique involves a critical evaluation of a study by a skilled reviewer, aimed at refining the researcher's work. It enhances the researcher's knowledge and skills, aiding in the discovery of scientific and humanistic truths. This process supports ongoing professional development for aspiring research scholars and practitioners(139). According to the literature review, neonatal palliative care is still an emerging area globally, highlighting several factors that impede its implementation in neonatal intensive care units. Even though the field of neonatal palliative care continues to be developed, neonatal palliative care is rarely mentioned in Africa, especially in Tanzania. The focus on neonatal palliative care in Tanzania is fascinating, given the limited attention to pediatric palliative care compared to adult palliative care in Africa. Issues such as insufficient knowledge, inadequate resource allocation, technological demands, cultural differences, and the roles of religion and spirituality present challenges to palliative care in NICUs. Thus, studied in Tanzania was crucial as far as there is no neonatal palliative care policy and guidelines. Additionally, the nursing curriculum lacks sufficient focus on palliative care within NICUs. Nevertheless, some research has indicated a negative perception of palliative care, and certain studies had failed to investigate nurses' attitudes, as demonstrated in the cross-cultural adaptation and psychometric testing of the Persian version of the neonatal palliative care attitude scale in Iran. This current study aimed to evaluate nurses' attitudes toward palliative care by utilizing the neonatal palliative care attitude scale (NIPCAs), which has been employed in many studies that confirm its validity and reliability. Although pilot study was conducted prior to study. On the other hand, scholars propose that the ethical climate in NICUs enhances palliative care practices, with research showing a more favorable ethical environment in NICUs correlating with a more positive attitude on palliative care. However, it was still

shown that no information exists from low and middle-income regions assessing the ethical climate of hospitals or NICUs specifically, where most of the global population is born and die. Therefore, it was essential to investigate the ethical climate in NICUs that could affect nurses' attitude on palliative care and pursued more ethically-informed clinical practice in Tanzania as the neonatal morbidity and mortality rate remains high. Furthermore, the relationship between nurses' attitudes and the ethical climate regarding neonatal palliative care has been demonstrated. A study conducted in Iran found that neonatal intensive care nurses generally hold a positive view of the ethical climate and maintain favorable attitudes towards end-of-life care. This study indicated a direct and significant correlation between the ethical climate and nurses' perspectives on end-of-life care; however, moral factors also influenced the findings. The current research in Tanzania assessed only the relationship between nurses' attitudes towards palliative care and the ethical climate in NICUs, which has been a less explored area, with few published articles available. This study aims to support policymakers and interventions that will enhance neonatal palliative care in Tanzania and other low- and middle-income countries (LMICs).Additionally, the study adopted a cross-sectional design suitable for examining the relationship between variables; however, it did not assess the causal impact of these variables, thus highlighting the need for future research to further investigate the influences of this relationship with related variables.

2.4 Chapter summary

In conclusion, it is evident that neonatal palliative care is lacking in research and attention, particularly in low and middle-income countries. The ethical environment in neonatal intensive care units and nurse attitudes towards palliative care are also key areas that require further studies and development. Conducting research in Tanzania could address these gaps and contribute to the improvement of the care for critical ill neonates in neonatal intensive care units (NICUs).

3.0 Chapter three

Research methodology

Chapter three

Research methodology

3.1 Chapter overview

This chapter encompassed methods that would be employed by the researcher to conduct the study which included research design, study setting, study population and study area. It also covered the sample size and sampling technique, ethical consideration, plan for data process and analysis.

3.2 Study design

A cross-sectional study design was used to examine the relationship between nurse's attitudes toward palliative care and ethical climate in neonatal intensive care units (NICUs) in Tanzania, as it is flexible, cost-effective, and time-efficient. The design facilitates data collection at a single point in time. Hence, it addresses the limitation that cannot establish a cause and effect relationship or analyze behavior over a period of time (140). Moreover, the study was likely to apply a quantitative approach for captured investigation of the problem and data was collected online through Google Forms and sequential manner, in order to enable the principal investigator to respond to the questions and offer clarification for all participants via email and WhatsApp, while also supervising the process of completing the questionnaire, with the cooperation of all managers and head nurses in the selected NICUs of each hospital of the study settings and only NICUs nurses were permitted to complete the questionnaire based on inclusion criteria, subsequently the principal investigator conducted a review of the completed online forms. Finally, the analysis was performed to determine the respondent's perceptions.

3.3 Study setting/site

In this study, data was collected in Tanzania within twelve major tertiary and regional referral hospitals of the country located in the nine regions of the country. These areas of the country selected, nurses who are working in neonatal intensive care units (NICUs), were convinience recruited. Therefore, " Muhimbili National hospital Upanga and Mloganzila", Amana Regionals Referral hospital, Mwananyamala Regional Referral hospital, Temeke Regional Referral hospital, Tumbi Regional Hospital, Morogoro Regional Referral hospital, Bugando Medical Center zonal referral, and Teaching hospital, , Mawenzi Regional Referral hospital, Tanga Regional Referral hospital, Dodoma Regional Referral hospital, Ligula Regional Referral hospital and Njombe Regional Referral hospital were chosen as the study settings for

the study. Researcher had selected potential participants who meet the participation criteria based on the primarily objectives of the study. Data collected from participants were checked for relevance in selected hospitals.

3.4 Population, sampling technique and sample size

3.4.1 Population

The study population refer to nurses who were working in neonatal intensive care units (NICUs), of twelve hospitals namely" Muhimbili National hospital Upanga and Mloganzila", Amana Regionals Referral hospital, Mwananyamala Regional Referral hospital, Temeke Regional Referral hospital, Tumbi Regional Hospital, Morogoro Regional Referral hospital, Bugando Medical Center zonal referral, and Teaching hospital, Njombe Regional Referral Hospital, Mawenzi Regional Referral hospital, Tanga Regional Referral hospital, Dodoma Regional Referral hospital and Ligula Regional Referral hospital **(Appendix 1).** A total of 190 NICUs nurses were working in these hospitals.

3.4.2 Sampling method

For all kinds of research, it would be ideal to use the entire population, but in most cases it is not possible to include all subjects because the population is almost finite (141). Therefore, in current study the researcher was used convenience sampling methods to recruit participates in study. Convenience sampling is a method of nonrandom sampling where researchers select participants based on specific practical reasons, like being easy to reach, nearby, available, or willing to join the study. This approach involves choosing subjects that the researcher can easily access, and it is sometimes called "accidental sampling" because participants may be selected just because they are close or convenient for the researcher during data collection. Also, this sampling method utilizes the existing data without imposing any additional criteria. This is a more prevalent practice in pilot testing. Hence, the study's participants or samples are chosen based on their ease of recruitment (142).

3.4.3 Sample size

The size of the sample in a research study is crucial and should be neither too large nor too small. It needs to be optimum in order to meet the requirements of efficiency, representativeness, reliability, and flexibility. Factors to consider when deciding on sample size include precision, confidence level, population variance, population size, parameters of interest, and costs. Therefore, these factors should be carefully considered to ensure a successful research study (143).

Moreover, cross sectional studies are done to estimate a population parameter and finding the average value of some quantitative variable in a population. Sample size formula for qualitative variable and quantitative variable are different (144). In this study the sample size of nurses working in neonatal intensive care units in twelve hospitals in Tanzania was considered as optimal sample size of the following formula:

n = (Z^2 * P * (1-P)) / d^2

$$\boldsymbol{n = \frac{Z^2\, P(1-P)}{d^2}}$$

Where:

- n = required sample size
- Z = Z-value (The standard score corresponding to the desired confidence level) and confidence level used is 1.96 for 95% confidence)
- P = estimated proportion of the population (if unknown, a common default is 0.5 for maximum variability).
- d = margin of error (The precision of estimated sample size) is 0.8.
  - $\mathbf{n= \frac{(1.9)^2 \times 0.5(1-0.5)}{(0.8)^2}}$ **n=140**

Therefore, Initial sample size calculation was 140 nurses, final study results used 170 nurses.

3.5 Sampling Procedures

Sampling procedures lay down the number of items to be included in the sample. The non-probability or non-random sampling technique was used to select the appropriate respondents from the study area in association to selection criteria. This decision was made in order to gather relevant information from the specific population being studied, ensuring that the sample accurately represents the target group.

3.5.1 Inclusion criteria

Recruitment for a study in neonatal intensive care units (NICUs), included all nurses currently working in NICUs and those with previous experience who were willing to participate (20, 46, 145).

3.5.2 Exclusion criteria

Data from nurses who expressed their unwillingness to participate in the study at any stage or questionnaires with more than 10% of questions missing were excluded from the study (146).

3.6 Recruitment Plans

Ethical approval was sought from the ethics committee of school of nursing and midwifery & Rehabilitation -Tehran University of Medical Sciences with approval code IR.TUMS.FNM.REC.1403.128 and the National Health Research Ethics Sub-Committee (NatHREC), National Institute for Medical Research (NIMR) with approval code NIMR/HQ/R.8a/Vol.IX/4782 in Tanzania, for data collection purposes. Permission letters were equally be secured from twelve hospitals in Tanzania that were considered as study settings. Explicit description of the study, risks and benefits, confidentiality and moreover consent protocols were explained to participants before commencement of gathering data. All data collected from participants were tightly secured under lock and key and or on a pass-worded computer to ensure confidentiality. After obtaining the ethical codes, the online questionnaire was distributed in designated research centers within each hospital through Google Forms and sequential manner, in order to enable the principal investigator to respond to the questions and offer clarification for all participants via email and WhatsApp, while also supervising the process of completing the questionnaire, with the cooperation of all managers and head nurses in the selected NICUs of each hospital of the study settings. Hence, only NICUs nurses were permitted to complete the questionnaire based on inclusion criteria, subsequently the principal investigator conducted a review of the completed online forms. Note that each participant filled consent form voluntary and were been given a copy back via email. All questionnaires were validated and assessed for reliability. Although the nurses of the mentioned hospitals were bilingual and it was possible for them to complete the English version irrespective of the questionnaires was translated into Swahili to improve the data gathering validity. The Beaton (2000) guideline was used to translate and back translate the questionnaire (147).

3.7 Data collection instruments

Data collection is crucial in quantitative research to ensure accurate and valid of the study outcomes. Nurse researchers stress the use of reliable instruments to measure nursing-related phenomena. Choosing appropriate methods and approaches is essential for generating evidence for nursing practice. The ideal procedure captures accurate, truthful, and sensitive data (148).

On top of that, Quantitative data are collected in a more structured manner as compared to the qualitative data which are unstructured or semi-structured. The most commonly used data collection approaches by nurse researchers are self-reports which includes interviews, questionnaires and Scales, second is observation which includes rating category systems and checklists scales and rating scale , and bio physiological measures includes self-reports, Observation, laboratory tests and electronic monitoring (148). In this study the online data was collected through three questionnaires, including. Sociodemographic, Neonatal Palliative Care Attitude Scale (NiPCAS) and Hospital Ethical Climate Survey (HECS). It consists of three sections A, B and C as following:

3.7.1 A socio-demographic form:

A sociodemographic form was used to collect information for nurses working in the neonatal intensive care unit, including age. , gender, academic level, work experience, work place, marital status, previous participation in palliative care seminars or training, religions, job descriptions and experience of the neonatal death or end-of-life care (149). It comprised total of ten questions of section A.

3.7.2 Neonatal Palliative Care Attitude Scale (NiPCAS).

The second part of the study will use Neonatal Palliative Care Attitude Scale (NiPCAS).It was developed by Kain et al., (2009), is a standardized tool to assess the attitudes of neonatal nurses towards palliative interventions for neonates with a poor prognosis. The NiPCAS has 26 items that assess the attitudes nurses toward PC. The items are grouped into 3 domains first, is organization (5 items: items 5, 8, 15, 16, and 19) which assess facilitators and barriers to PC, followed by resources (5 items: items 6, 7, 13, 14, and 24) which measures availability of PC support and clinician (2 items: items 20 and 21) which evaluates ethical issues in nursing related to technology and parental demands. The items are scored on a 1-5-point Likert scale; strongly disagree (1), disagree (2), neither agree nor disagree (3), agree (4) and strongly agree (5). The score ranges between 26 and 130. A high score indicates more positive attitudes in all subscales. The scale's Cronbach's alpha for organization, resources and clinician were 0.73, 0.65, and 0.63, respectively. However, they kept the remaining 14 items on the scale and used them to assess the nurses' experiences with palliative care and their beliefs about their patients' deaths (46). It comprised of 26 questions of section B.

Table 2: The Neonatal Palliative Care Attitude Scale (NiPCAS), subscales, items and Cronbach's α.

Subscales	**Items**	**Cronbach's α.**	**Sample items**
Organization	5, 8, 15, 16, and 19	0.73	Staffing is adequate for the needs of dying babies.
Resources	6, 7, 13, 14, and 24	0.65	The physical environment is ideal for palliative care.
Clinicians	20 and 21	0.63	Palliative care is necessary in neonatal nursing education.

3.7.3 Hospital Ethical Climate Survey (HECS).

The 26-item HECS designed by Olson in 1998, measures nurses' perceptions of ethical climate across five dimensions: nurses' perception towards colleagues (4 items), nurses' perception towards patients (4 items), nurses' perception towards managers (6 items), nurses' perception towards hospital (6 items) and nurses' perception towards physicians (6 items). This scale scored on a five-point scale, ranging from (1) almost never, (2) Rarely, (3) sometime, (4) frequently and (5) almost always. The score of each questionnaire ranges between 26 and 130, with higher scores indicating more positive ethical climates. The Cronbach's alpha was 0.91 which indicated an acceptable level of reliability (49). It comprised of 26 questions of section C.

Table 3: The Hospital Ethical Climate Survey (HECS), items and domains:

Domain	**Items**	**Sample items**
Nurses' perception towards colleagues (4 items)	1,2,3 and 4	My colleagues listen to my concerns about patient care.
Nurses' perception towards patients (4 items)	5,6,7 and 8	Patients know what to expect from their care.
Nurses' perception towards managers (6 items)	9,10,11,12,13 and 14	When I'm unable to decide what's right or wrong in a patient care situation, my manager helps me.
Nurses' perception towards hospital (6 items)	15,16,17,18,19 and 20	Hospital policies help me with difficult patient care issues or problems.
Nurses' perception towards physicians (6 items)	21,22,23,24,25 and 26	Physicians ask nurses for their opinions about treatment decisions.

3.8 Pilot study

Prior to actual data collection, the pilot study was conducted to determine any issues or ambiguities with the questionnaire and evaluate the consistency of the responses. In order to ensure that the tools were clear, feasible, reliable and effective in obtaining the necessary data from the study participants, they were improved in response to insightful feedback. A week before to the study, two hospitals Muhimbili Mloganzila and Upanga Hospitals were chosen to carry out the pilot study, accounting for 10% of the sample size (14 participants)(150). For NiPCAS, the Cronbach's alpha coefficient was 0.87, while for HECS, it was 0.92. Every item in tool's Cronbach's coefficient was also computed, and every item had a high level of internal reliability. In the end, during the pilot study, the nurses in the NICU answered all the questions well, with only a few questions and comments being sent to the main investigator through WhatsApp or email.

3.9 Validity and reliability

3.9.1 Validity

To ensure content validity, the questionnaire had undergone a thorough review by an expert team, who have experience in quantitative research methods and palliative care research. Their feedback was incorporated to refine the questionnaire and ensure that the questions accurately captured the intended information. Additionally, the questionnaire was translated from English to Kiswahili to ensure understanding and obtaining accurate responses from the participants.

3.9.2 Face Validity

Face validity refers to how much a test or evaluation seems to assess what it is intended to assess, as judged by a personal evaluation of its apparent relevance and suitability (151).The research team and external experts validated the Neonatal Palliative Care Attitude Scale (NiPCAS) for evaluating nurses' perspectives on palliative care in NICUs, whereas the Hospital Ethical Climate Survey (HECS) assesses the ethical environment of hospitals and was reliable in identifying the ethical climate in neonatal intensive care units that supports the practice of palliative care. This procedure includes examining the items and the overall approach for their clarity, relevance, and suitability to confirm they appear to assess the intended concept. Although it is not a formal statistical analysis, it serves as an essential preliminary step in the validation process to enhance a measure prior to more rigorous studies.

3.9.3 Reliability

The pilot study was conducted by using the same questionnaire on a sample comprising 10% of the estimated study sample size (14 participants) in two different hospitals. The aims to identify any ambiguities or issues with the questionnaire and assess responses' consistency before actual data collection. Questions which were ambiguous was modified to ensure that correct responses was obtain on the actual study. Further, a daily quality check on responses during the data collection process by the principal investigator was done; this ensured consistency in filling out the responses, which also might have helped to minimize missing data.

3.9.4 Internal Reliability of the Instrument

For internal reliability, the Cronbach's alpha coefficient was calculated from fourteen randomly selected participants at at Muhimbili Mloganzila and Upanga Hospitals and a Cronbach's alpha coefficient for Neonatal Palliative Care Attitude Scale (NiPCAS) was 0.87 and Hospital Ethical Climate Survey (HECS) was 0.92. Also, each domain of the tools Cronbach's coefficient were calculated all items had high internal reliability. We selected Cronbach's alpha to assess a scale's internal consistency, as it shows how effectively a group of items or questions consistently gauge the same underlying concept. It offers one numerical figure for this consistency, with larger values indicating increased reliability. This statistical metric is commonly employed in psychology, education, and surveys featuring Likert-type items to evaluate an instrument's reliability without requiring several administrations to the same responded (152).

Table 4: Results of internal Reliability of the Study Instrument; Neonatal Palliative Care Attitude Scale (NiPCAS).

SN	Questionnaires	Cronbach's coefficient	Remarks
1	Parents are informed of palliative care options.	0.877	Good
2	Medical staff support palliative care.	0.852	Good
3	Team can express opinions, values, and beliefs.	0.863	Good
4	Parents are involved in decision-making.	0.862	Good
5	Staffing is adequate for the needs of dying babies.	0.867	Good
6	Health care team agrees with and supports palliative care.	0.855	Good
7	The physical environment is ideal for palliative care.	0.865	Good
8	There are policies/guidelines to support palliative care.	0.867	Good
9	When a baby dies, counseling is available if needed.	0.862	Good
10	When a baby dies, there is time to spend with families.	0.862	Good

11	I have had experience of providing palliative care.	0.865	Good
12	Experiences of providing palliative care were rewarding.	0.864	Good
13	I am often exposed to death in the neonatal environment.	0.863	Good
14	I received education to assist in communicating with parents.	0.865	Good
15	Palliative care is against the values of neonatal nursing.	0.861	Good
16	Personal attitudes about death affect my willingness to deliver palliative care.	0.879	Good
17	I feel a sense of personal failure when a baby dies.	0.878	Good
18	Curative care is more important than palliative care.	0.864	Good
19	Staff go beyond comfort in using technological life support.	0.864	Good
20	Asked by parents to continue care beyond what they feel is right.	0.864	Good
21	Palliative care is necessary in neonatal nursing education.	0.856	Good
22	When babies are dying, providing pain relief is a priority.	0.867	Good
23	Palliative care is as important as curative care.	0.866	Good
24	There is support for neonatal palliative care in society.	0.874	Good
25	There is a belief in society that babies should not die, under any circumstances.	0.861	Good
26	Caring for dying babies is traumatic for me.	0.862	Good

Table 5: Results of internal Reliability of the Study Instrument; Hospital Ethical Climate Survey (HECS).

SN	Questionnaires	Cronbach's coefficient	Remarks
1	Peers listen	0.923	Good
2	Peers help	0.931	Good
3	Competent colleagues	0.918	Good
4	Safe patient care	0.919	Good
5	Patient know what to expect	0.923	Good
6	Access to information	0.916	Good
7	Use information	0.914	Good
8	Family' wishes respected	0.915	Good
9	Manager helps me	0.916	Good
10	Manager supports me	0.917	Good
11	Manager listens to me	0.920	Good
12	Manager someone to trust	0.914	Good
13	Manager helps peers decide	0.910	Good
14	Manager someone I respect	0.917	Good
15	Hospital policies help me	0.913	Good
16	Hospital's mission shared	0.912	Good
17	Practice nursing way I believe it should be	0.917	Good
18	Everyone's feelings taken into account	0.914	Good
19	Conflict dealt with openly	0.915	Good
20	Sense of questioning, learning	0.918	Good
21	Nurses, physicians trust one another	0.919	Good
22	Nurses supported in hospital	0.921	Good

23	Physicians ask nurses' opinions	0.917	Good
24	I participate in treatment decisions	0.912	Good
25	Nurses, physicians respect other's opinions	0.911	Good
26	Nurses, physicians respect each other	0.912	Good

3.10 Data analysis and Presentation

The data collected was analyzed using IBM SPSS Statistics version 26. Descriptive statistics were summarized demographic characteristics, with numerical variables presented as means and standard deviations while categorical variables presented as frequencies and percentages. The relationship between nurse's attitude and ethical climate toward neonatal palliative care was determined through a Pearson correlation coefficient. Missing data was handled through available case analysis, the method of ignoring missing observations, particularly in cross-sectional data in SPSS (153). However, in current study there was no missing data.

3.11 Ethical Consideration

Ethical approval was sought from the ethics committee of school of nursing and midwifery & Rehabilitation -Tehran University of Medical Sciences with approval code IR.TUMS.FNM.REC.1403.128 and the National Health Research Ethics Sub-Committee (NatHREC), National Institute for Medical Research (NIMR) with approval code NIMR/HQ/R.8a/Vol.IX/4782 in Tanzania, for data collection purposes. Permission letters were equally be secured from twelve hospitals in Tanzania that were considered as study settings. Furthermore, the study prioritized confidentiality, anonymity, and privacy. Participant identities was protected with anonymized codes, and data was only be accessible to the research team. Moreover, participants were fill out online questionnaire after receiving information in a comfortable environment to promote relaxation and attentions. Although procedures including questioning and consent, was explained through email and what's up video call to ensure voluntary participation. Measures was taken to prevent discomfort on discussing neonatal death by provide empathy and enough information of the study outcomes, with contingency plans in place and participants could opt-out anytime.

3.12 Disseminating of Findings

The study findings was disseminated through research reports to Tehran University of Medical Sciences for academic purposes, peer-reviewed journal for possible publications, and presentations at relevant conferences and seminars. The abstract was shared with all hospitals considered as study settings for feedback and remediation of care in neonatal intensive care units (NICUs).

3.13 Strengths and Limitations of the Study

Strength: This study represents the first of its kind to be conducted in Tanzania and encompassed nine regions that contained tertiary and referral hospitals equipped with neonatal intensive care units. The researcher successfully obtained an ethical code from the School of Nursing, Midwifery & Rehabilitation at Tehran University of Medical Sciences, as well as from the National Institute for Medical Research (NIMR) in Tanzania. Additionally, the necessary permission letters to commence data collection were gathered from the relevant offices of the research centers within the hospitals, and the participants were willing to cooperate with the researcher**.**

Limitation: A potential possible limitation of this study is the cross-sectional design, which limits causal inference. To mitigate this limitation, data collection tool (questionnaire) was employed appropriately, and data analysis was account for potential confounding factors. Also self-report scale was a measure used in this study which have validity problems. Although future research should explore more the impact of related variables. In addition, among other thing, some research units showed insufficient cooperation or noncooperation in answering questionnaire questions due to boredom or busy work.

3.14 Chapter summary

The chapter looked at data collection method, research design, study setting, study population and study area. It also covered the sample size and sampling technique, ethical consideration, plan for data process and analysis and dissemination of the findings to Tehran University of Medical Science, ministry health in Tanzania and twelve hospitals which were considered as study settings.

4.0 Chapter four

Results and findings

Chapter four

Results and findings

4.1 Chapter review

In this chapter, data were analyzed using descriptive and inferential statistics in SPSS Version 26 to meet research objectives. The socio-demographic characteristics of participants are displayed in Tables 6-15, while Tables 16-18 summarize the means, medians, and standard deviations of the Neonatal Palliative Care Attitude Scale (NiPCAS) and Hospital Ethical Climate Survey (HECS). Finally, Table 19 outlines the correlation between nurses' attitudes toward palliative care and ethical climate in neonatal intensive care units.

4.2 Analysis of demographic profile of respondents

Table 6: Distribution of age variables among the participants

Age range (years)	**Frequency (n)**	**Percentage (%)**	**Cumulative percentage (%)**
20-30	71	41.8	41.8
31-40	74	43.5	85.3
41-50	21	12.4	97.6
Above 50	4	2.4	100
Total	**170**	**100**	

Interpretation

The analysis indicates that the majority of participants were age range from 20-40 years equal to 145 (85.3%), while just 4 participants (2.5%) were over the age of 50.

Table 7: Distribution of gender variables among the participants

Gender	**Frequency (n)**	**Percentage (%)**	**Cumulative percentage (%)**
Female	118	69.4	69.4
Male	51	30.0	99.4
Prefer not to say	1	0.6	100
Total	**170**	**100**	

Interpretation

The analysis shows that female made up the majority, with 118 (69.4%) compared to male of 51 (30%).

Table 8: Distribution of marital status variables among the participants

Marital status	**Frequency (n)**	**Percentage (%)**	**Cumulative percentage (%)**
Married	105	61.8	61.8
Single	65	38.2	100
Total	**170**	**100**	

Interpretation

The analysis indicates that majority of participants were married 105 (61.8%).

Table 9: Distribution of job description variables of the participants

Job description	**Frequency(n)**	**Percentage (%)**	**Cumulative percentage (%)**
Manager	5	2.9	2.9
Registered Nurse	149	87.6	90.6
Ward in charge	16	9.4	100.0
Total	**170**	**100**	

Interpretation

The analysis shows that the majority of participants were registered nurses, comprising 149 (87. 6%), while only 16 (9. 4%) were ward in charges and 5 (2. 9%) were the managers.

Table 10: Distribution of work place variables of the participants

Work place	**Frequency(n)**	**Percentage (%)**	**Cumulative percentage (%)**
Tertiary hospitals	71	41.7	41.7
Regional Referral hospitals	99	58.3	100
Total	**170**	**100**	

Interpretation

The findings reveal that most participants, 99 (58.3%), were employed at regional referral hospitals, while only 71 participants (41.7%) worked in tertiary hospitals.

Table 11: Distribution of work experience variables of the participants

Work experience (years)	**Frequency(n)**	**Percentage (%)**	**Cumulative percentage (%)**
0-5	76	44.7	44.7
6-10	57	33.5	58.2
11-15	23	13.5	64.1
16-20	10	5.9	65.3
21-25	2	1.2	98.8
Above 25	2	1.2	100
Total	**170**	**100**	

Interpretation

The analysis shows that most participants had work experience of 5 years, totaling 76 (44. 7%), while only 4 (2. 4%) had work experience ranging from 21 to over 25 years.

Table 12: Distribution of education level variables of the participants

Education level	**Frequency (n)**	**Percentage (%)**	**Cumulative percentage (%)**
Certificate in Nursing	**5**	**2.9**	**2.9**
Diploma in Nursing	**114**	**67.1**	**70**
BSN (Bachelor of science in Nursing)	**48**	**28.2**	**98.2**
Master in neonatal nurse	**0**	**0**	**98.2**
Master in other filed	**3**	**1.8**	**100**
Total	**170**	**100**	

Interpretation

The analysis shows that the majority of participants, 114 (67. 1%), held a diploma in nursing; however, only 3 (1. 8%) possessed a master's degree in a different field and not a master's in neonatal nursing.

Table 13: Distribution of religion variables of the participants

Religion	**Frequency(n)**	**Percentage (%)**	**Cumulative percentage (%)**
Christianity	147	85.5	85.5
Islam	23	13.5	100
Total	**170**	**100**	

Interpretation

The analysis reveals that the predominant number of participants were Christians, approximately 147 (85. 5%), while just 23 participants (13. 5%) identified as Muslims.

Table 14: Distribution of palliative care training variables of the participants

Having Palliative care training	**Frequency(n)**	**Percentage (%)**	**Cumulative percentage (%)**
YES	43	25.3	25.3
NO	127	74.7	100
Total	**170**	**100**	

Interpretation

The findings show that most participants, 127 (74.7%), had not received any palliative care training, while only 43 (25.3%) had undergone such training prior to this study

Table 15: Distribution of experience of end of life care variables of the participants

Experience of end of life care	**Frequency(n)**	**Percentage (%)**	**Cumulative percentage (%)**
I feel that my nursing education did not prepare me adequate to deal with neonates' death and end of life care	42	24.7	24.7
I feel that my nursing education prepared me adequate to deal with neonates' death and end of life care	128	75.3	100
Total	**170**	**100**	

Interpretation

The findings show that most participants 128 (75.3%) felt that their nursing education sufficiently equipped them to handle neonatal death and end-of-life care; however, only 24.7% stated that they did not feel adequately prepared for these situations through their nursing education.

4.3 Respondents of nurse's attitude toward palliative care

Table 16: Mean, median, standard deviation, minimum and maximum scores of nurses' attitude toward neonatal palliative care scale and its domains.

Subscales	**Minimum and maximum score in questionnaire**	**Mean**	**Standard deviation**	**Median**	**Calculated minimum and maximum score**
Nurses' attitude toward organization	5-25	15.1	3.1	15.0	5-23
Nurses' attitude toward resources	5-25	16.1	3.1	15.0	9-25
Nurses' attitude toward clinicians	2-10	6.9	1.7	6.0	2-10
Nurses' experience of palliative care and their belief of patients death	14-70	43.6	9.1	44.0	25-70
Total nurses' attitude scale	**26-130**	**81.8**	**12.7**	**80.5**	**58-121**

Interpretation

This table indicates the mean score, median, standard deviation, minimum and maximum scores of nurses' attitude to palliative care scale and its domains. Where by the mean average (M) and standard deviation (SD) are (M=81.8, SD =12.7).Thus nurses exhibited favorable attitude toward organization, resources, clinicians and experience of palliative care and their belief of patients death because the mean score are above median level.

4.3.1 Evaluate nurses' attitude toward palliative care.

Table 17: Distribution of total nurses' attitude toward palliative care.

Valid	Frequency	Percentages	Valid percentage	Cumulative percentage
I.00	57	33.5	34.5	34.5
2.00	2	1.2	1.2	35.8
3.00	111	65.3	65.3	100
Total	170	100	100	

Interpretation

Nurses' attitudes towards palliative care, it can be stated that the higher the score obtained by the nurse, the more positive the attitude. The range of scores is between 26 and 130, and the median of these scores is 80.5 refer to table 11. According to the table above, 65.3% of the nurses scored above the median on the attitude questionnaire. This indicates that they had a more positive attitude. It is good that more than half of the neonatal nurses in Tanzanian hospitals have a positive attitude toward palliative care.

4.4 Respondents of ethical climate in neonatal intensive care units

Table 18: Mean, median, standard deviation, minimum and maximum scores of ethical climate scale and its domains.

Subscales	**Minimum and maximum score in questionnaire**	**Mean**	**Standard deviation**	**Median**	**Calculated minimum and maximum score**
Nurses' perception towards colleagues	4-20	14.0	2.9	13.0	6-20
Nurses' perception towards patients	4-20	12.5	2.7	12.0	6-20
Nurses' perception towards managers	6-30	18.9	4.2	18.0	10-30
Nurses' perception towards hospital	6-30	20.5	4.2	19.0	13-30
Nurses' perception towards physicians	6-30	20.1	4.8	18.0	8-30
Total ethical climate scale	**26-130**	**86.1**	**14.2**	**82.5**	**63-125**

Interpretation

This table indicates the mean score, median, standard deviation, minimum and maximum scores of ethical climate in neonatal intensive care units scale and its domains. Where by the mean average (M) and standard deviation (SD) are (M=86.1, SD =14.2). Thus nurses exhibited favorable ethical climates in neonatal intensive care units because the mean score are above median level.

4.5 The correlation between nurses 'attitude toward palliative care and ethical climate in neonatal intensive care units.

Table 19: Determining the correlation between nurses attitude toward palliative care in ethical climate in neonatal intensive care units.

Ethical clinate in NICUs / **Nurses Attitude towards palliative care**	Nurses' perception towards colleagues	Nurses' perception towards patients	Nurses' perception towards managers	Nurses' perception towards hospital	Nurses' perception towards physicians	**Ethical climate in neonatal intensive care units**
Nurses' attitude toward organization	r = 0.047 p = 0.539	r = 0.656 p = 0.000	r = 0.283 p = 0.000	r = 0.090 p = 0.244	r = 0. 130 p = 0. 091	r = 0.291 p = 0. 000
Nurses' attitude toward resources	r = 0. 346 p = 0. 000	r = 0. 667 p = 0. 000	r = 0. 583 p = 0. 000	r= 0. 583 p= 0. 000	r= 0. 408 p= 0. 000	r = 0. 671 p = 0.000
Nurses' attitude toward clinicians	r= 0. 326 p= 0. .000	r= 0. 178 p= 0. 020	r = 0. 281 p = 0. 000	r = 0. 147 p = 0. 056	r = 0. 219 p= 0. 004	r = 0. 303 p = 0. 000
Nurses' experience of palliative care and their belief of patients death	r = 0. 505 p = 0. 000	r = 0. 344 p = 0.000	r = 0. 725 p = 0. 000	r = 0. 388 p = 0. 000	r = 0. 472 p = 0. 000	r = 0. 662 p = 0. 000
Nurses attitude toward palliative care	r = 0. 508 p = 0. 000	r = 0. 605 p = 0. 000	r = 0. 779 p = 0. 000	r = 0. 458 p = 0. 000	r = 0. 506 p = 0. 000	r = 0. 760 p = 0. 000

Interpretation

A Pearson correlation coefficient was computed to assess the relationship between nurses' attitudes toward palliative care and the ethical climate in neonatal intensive care units. The attitude of nurses toward the organization was found to have no significant correlation with their perceptions of colleagues and hospitals in neonatal intensive care units. Nonetheless, a strong, significant, and positive correlation was observed between the examined variables. Therefore, there exists an overall strong and significantly positive association between nurses' attitudes toward palliative care and the ethical climate in neonatal intensive care units.

5.0 Chapter five

Discussions and conclusions

Chapter five

Discussions and conclusions

5.1 Chapter overview

Chapter five outlines a structured analysis that systematically interprets the findings presented in chapter four and is backed by additional research related to the study. This section was developed in order to fulfill all objectives of the study. The primary aim of the study was to evaluate the relationship between nurses' attitudes toward palliative care and the ethical climate in neonatal intensive care units in Tanzania.

Discussions

This research investigated the relationship between the nurses' attitude and the ethical climate toward PC in NICUs in Tanzania. The results indicated that the participants had not received training in PC although believed that their nursing education adequately prepared them for managing neonatal death and EOLC. This perception may arise from a general awareness of PC concepts, despite the nursing curriculum in Tanzania not placing significant emphasis on NPC. In addition, nurses displayed a more positive attitude towards PC and a significant majority of neonatal nurses in hospitals across Tanzania showed a favorable disposition towards PC. This can be attributed to the fact that most participants were relatively young nurses with limited professional experience, thus they are motivated to engage in their roles since they graduated from nursing school and have little exposure to neonatal death. Their conviction against allowing infants to suffer and die may influence their practices within NICUs. This observation aligns with findings from a study conducted in Mainland China in 2022, which indicated that both younger and older nurses exhibited higher scores and a more positive attitude towards PC (131). Additionally, the finding similar with studies conducted by Kyc et al. (2020), Kadivar et al. (2021), and Chin et al. (2021) in the United States, Iran, and New York, respectively, indicated that nurses exhibited a positive attitude toward NPC (10, 24, 154). However, the results of the present study differ from the findings of other studies, including a study of Farahan et al. (2024),failed to examine nurses' attitude toward PC, and these differences arise from the application of cross-cultural adaptation and testing of the psychometric properties of the Persian edition of the neonatal palliative care attitude scale, which was primarily affected by culture and religions in Iran (135). Moreover, nurses reported favorable attitudes toward the organization, resources and clinicians, which is supported by studies conducted by Zhong et al. (2022) and Kyc et al. (2020). Hence, role of the organizational setting in which neonatal nurses operate is vital, together with the

importance of involving parents in decision-making, the support of PC by staff members, and the ability of team members to voice their opinions. Furthermore, it is important to highlight the role of the healthcare team in providing support and to recognize the critical importance of effective pain management(10, 131). The current findings differ from previous studies in several ways, particularly study conducted in Korea in 2021 revealed the nurses did not indicate agree for any of the resources items, and none of the items achieved minimum score or higher from the nursing staff (155). The variation in results may be attributed to multiple factors, such as the differing geographical and working conditions of the nurses involved in the both studies. Additionally, the findings indicate that nurses had a positive experience with PC and believed about patients 'deaths, despite of the study was conducted by Farahan et al. (2024) because of Iran's cultural and religious background, the NiPCAS did not accurately reflect the experiences and beliefs of Iranian nurses in providing NPC (135). This study differs significantly from the current one due to social culture divergent from Tanzania and Iran. On the contrary, nurses exhibit a favorable perception of the ethical climate with a greater average, this results are homogenous from the recent studies by Ventovaar et al. (2021) and Rezaei et al. (2023), which showed that a considerable number of nurses indicated positive views concerning the ethical climate, suggesting a beneficial ethical environment in NICUs to improve NPC (16, 25). Based on the ethical climate findings contrasted with the research conducted by Constantine et al. (2019), which demonstrated that nurses had a poor comprehension of ethical climate due to variations in geographical regions with present study (156). The current research used an ethical climate survey and found that nurses generally have a positive view of their colleagues, patients, managers, the hospital, and physicians. This aligns with a similar study from Sweden performed by Ventovaara et al. (2021) , where nurses felt that working with skilled colleagues led to better effectiveness, productivity, communication and enhance problem solving skills and work quality. However, there is a disagreement regarding hospital policies, showing lower scores, which suggest that individual nurses experience challenges due to increased work demands, leading to frustration and uncertainty. This difference is linked to the study's geographical location (25). Moreover, cultural, spiritual, and regional aspects also influence nurses' perceptions of PC. In Tanzania, most of the population comprises both Muslims and non-Muslims. This study revealed that most participants were Christians, who exhibited a positive attitude and a supportive ethical environment towards PC. In connection with a study carried out by Panagiotis & Khyati (2022), found three main reasons that make religion, belief, and spirituality important for patients and their loved ones when facing imminent death include the sense of comfort and

security, meaning making, and closure (157). However, religion was determined not significantly impact PC delivery among nurses in mainland China (131). The current study's findings indicate the need to explore further the influence of religion, culture, and spirituality on PC. Moreover, the results indicated that nurses' attitudes towards their organization did not significantly connect to their views of colleagues and hospitals. This suggests that nurses' perceptions of the ethical climate can vary due to factors like religion, beliefs, the extent of exposure to ethical issues and dilemmas, and commitment to ethical principles and regulations. Building a supportive ethical climate relies on strong relationships and teamwork among healthcare professionals, influenced by the organization's structure and policies. (131, 156). Ultimately, a strong, significant, and positive relationship was noted between nurses' attitude on PC and the ethical climate in NICUs, which indicates that the more favorable the ethical environment, the more positive the attitudes that impact the enhancement of PC practices in NICUs. Corresponding, of the results of a present study same to that conducted in Iran showed a direct and significant relationship between ethical climate and nurses' attitude toward NPC (16). Thus, implies nurses' attitude and ethical climate have a significant impact on PC. However, the present study contradicts the findings of Gelegjamts et al. (2022), which reported that there was no correlation between nurses' ethical sensitivity levels and their attitudes toward principles regarding dying with dignity (14). This is due to disparity of the tools utilized.

Conclusion

Nurses expressed a positive attitude toward PC and perceived favorable supportive to the ethical climate in NICUs. There was strong, significant and positive relationship between nurse's attitude and ethical climate toward PC in NICUs Tanzania. This means that the more favorable ethical climate the more positive attitude toward PC in NICUs. To strengthen the existed relationships and improve PC practices, policy-makers should create guidelines for neonatal PC that can be used in Tanzania. Additionally, addressing factors that negatively impact nurses' attitudes is crucial. While nurses generally perceived the ethical climate more favorable, challenges related to cultural, religion and spiritual care were noted as infrequently represented. Hence, findings indicated that a more studies are needed to evaluate the influence of culture, religion and spiritual factors toward attitude in PC.

Recommendations

The researcher suggests that further research ought to concentrate on evaluating the effect of nurses' attitudes to the ethical environment in neonatal palliative care. Nevertheless, the policy-makers should create guidelines for neonatal palliative care that can be used in Tanzania. Apart from that, cultural variations and spiritual factors across different geographic areas have also been demonstrated to influence the experiences of ethical dilemmas, hence the role of spirituality and culture in shaping nurses' attitudes toward palliative care should be investigated.

Health care practitioners

Nursing Education. Based on research findings, the majority of participants indicated that they did not receive training in palliative care; thus, this ongoing education is essential in improving the standard of care. Therefore, policymakers should coordinate closely with curricula to enhance awareness of neonatal palliative care, and hospitals must establish and conduct programs that is going to cover fully about neonatal palliative care in their areas.

Clinical implications

The outcomes of this research can serve as a resource in academic settings, particularly in universities, where students can refer to it to gain a deeper understanding of neonatal palliative care and explore how nurses' attitudes relate to the ethical climate surrounding palliative care. Additionally, the results of this study can aid hospital management in reassessing their policies on palliative care within NICUs, ensuring that these policies are carefully designed to benefit patients and their families while also safeguarding nurses who

often face distress in end-of-life situations. It is also essential to provide training for staff members responsible for providing palliative care to critically ill neonates when it becomes necessary. The insights gained from this study can inform nursing research aimed at developing other interventions related to various aspects of neonatal care in regarding of the palliative care practices in NICUs.

Suggestions for future studies

In light of the limitations identified in the current study, it is advisable to propose avenues for future researches. The present investigation employed a correlational design, which primarily examined relationships without establishing causation. Therefore, the researcher recommends the implementation of longitudinal or experimental study designs to address the existing gaps related to neonatal palliative care. Potential areas for further exploration include:

Investigating the relationship between the attitude of neonatal intensive care nurses and the ethical climate of hospitals: the mediating role of contextual variables.

Intervention study to improve the ethical climate and exploring its impact on nurses' attitudes towards neonatal palliative care.

Investigating the influence of spirituality and culture on the nurses' attitudes regarding neonatal palliative care.

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7.0 APPENDICES

7.1 **Appendix 1:** The study setting details

SN	HOSPITAL NAME	BED CAPACITY	NURSES	MIDWIFE	EXPERIENCES
01	MUHIMBILI NATIONAL HOSPITAL UPANGA	16 -71	21 28	2 -	MORE THAN ONE YESR
02	MUHIMBILI NATIONAL HOSPITAL MLOGANZILA	18	10	3	MORE THAN ONE YEAR
03	TEMEKE REGIONAL REFERRAL HOSPITAL,	74	9	7	MORE THAN ONE YEAR
04	TUMBI REGIONAL REFERAL HOSPITAL	23	9	-	3YEARS
05	MOROGORO REGIONAL REFERAL HOSPITAL	20	12	2	MORE THAN ONE YEAR
06	BUGANDO MEDICAL CENTER ZONAL REFFERAL AND TEACHING HOSPITAL	21 20	17 17	4 5	MORE THAN ONE YEAR
07	DODOMA REGIONAL REFERRAL HOSPITAL	-	14	2	6 MONTHS AND ABOVE
08	NJOMBE REGIONAL REFFERAL HOSPITAL	-	9	2	MORE THAN ONE YEAR
09	MWANANYAMALA REGIONAL REFERRAL HOSPITAL	6	10	5	MORE THAN ONE YEAR
10	AMANA REGIONAL REFERRAL HOSPITAL	80	9	10	MORE THAN ONE YEAR
11	MAWENZI REGIONAL REFERRAL HOSPITAL	14	10	-	MORE THAN ONE YEAR
12	TANGA REGIONAL REFERRAL HOSPITAL	-	7	4	MORE THAN ONE YEAR
13	LIGULA REGIONAL REFERRAL HOSPITA	-	8	-	MORE THAN ONE YEAR

7.2 **Appendix 2:** Data Collection tools in English

QUESTIONNAIRE: ENGLISH VERSION
Date of survey administration_____/_____/2024-2025
PART A: DEMOGRAPHIC DATA.
Please circle the right response to the following questions.

1. How old are you? …….years
    A. 20-30
    B. 31-40
    C. 41-50
    D. Above 50
2. What is your gender?
    A. Male
    B. Female

3. What is your marital status?
    A. Single
    B. Married
    C. Divorced

4. Where do you work?
……

5. What is your highest level of education?
    A. Certificate
    B. Diploma
    C. BSN
    D. MSN
    E. Masters in other field
    F. Other (please specify)

6. What is your work of experience?
    A. 0-5 years
    B. 6-10 years
    C. 11-15 years
    D. 16-20 years
    E. 21-25 years
    F. Above 25 years

7. What is your religion?
    A. Christian
    B. Islamic

8. What is your job description?
    A. Manager
    B. Ward In charge
    C. Register nurse

9. Have you ever attended palliative care training course?
   A. YES
   B. NO

10. What is your experience with neonatal death or end-of-life care?
   A. I feel that my nursing education prepared me adequately to deal with neonates death and end-of-life care.
   B. I feel that my nursing education did not prepare me adequately to deal with neonates death and end-of-life care.

PART B: QUESTIONS PERTAINING TO NURSES' ATTITUDE.
Please tick the right response to the following questions.

Items	**Strongly Disagree**	**Disagree**	**Neither Agree nor Disagree**	**Agree**	**Strongly Agree**
Parents are informed of palliative care options.					
Medical staff support palliative care.					
Team can express opinions, values, and beliefs.					
Parents are involved in decision-making.					
Staffing is adequate for the needs of dying babies.					
Health care team agrees with and supports palliative care.					
The physical environment is ideal for palliative care.					
There are policies/guidelines to support palliative care.					
When a baby dies, counseling is available if needed.					
When a baby dies, there is time to spend with families.					
I have had experience of providing palliative care.					
Experiences of providing palliative care were rewarding.					
I am often exposed to death in the neonatal environment.					
I received education to assist in communicating with parents.					
Palliative care is against the values of neonatal nursing.					
Personal attitudes about death affect my willingness to deliver palliative care.					

I feel a sense of personal failure when a baby dies.					
Curative care is more important than palliative care.					
Staff go beyond comfort in using technological life support.					
Asked by parents to continue care beyond what they feel is right.					
Palliative care is necessary in neonatal nursing education.					
When babies are dying, providing pain relief is a priority.					
Palliative care is as important as curative care.					
There is support for neonatal palliative care in society.					
There is a belief in society that babies should not die, under any circumstances.					
Caring for dying babies is traumatic for me.					

PART C: QUESTIONS PERTAINING TO ETHICAL CLIMATE.
Please tick the right response to the following questions.

Items	**Strongly Disagree**	**Disagree**	**Neither Agree nor Disagree**	**Agree**	**Strongly Agree**
Peers listen					
Peers help					
Competent colleagues					
Safe patient care					
Patient know what to expect					
Access to information					
Use information					
Family' wishes respected					
Manager helps me					
Manager supports me					
Manager listens to me					
Manager someone to trust					
Manager helps peers decide					
Manager someone I respect					
Hospital policies help me					
Hospital's mission shared					
Practice nursing way I believe it should be					
Everyone's feelings taken into account					
Conflict dealt with openly					
Sense of questioning, learning					
Nurses, physicians trust one another					
Nurses supported in hospital					
Physicians ask nurses' opinions					
I participate in treatment decisions					
Nurses, physicians respect other's opinions					
Nurses, physicians respect each other					

7.3 **Appendix 3:** Data Collection tools in Swahili

DODOSO: TOLEO LA KISWAHILI

Tarehe ya kujaza dodoso_____/_____/2024-2025

SEHEMU A: TAARIFA BINAFSI

Tafadhali zungushia jibu lililo sahihi katika maswali yafuatayo

1. Una umri gani? …….miaka

    A. 20-30
    B. 31-40
    C. 41-50
    D. Zaidi ya miaka 50

2. Una jinsia gani?

    A. Mwanaume
    B. Mwanamke

3. Hali yako ya ndoa ikoje?

    A. Sijaowa/sijaolewa
    B. Ameolewa/ameowa
    C. Kuachika

4. Unafanya kazi hospitali gani?.....

5. Kiwango chako cha juu cha elimu ni kipi?

    A. Cheti
    B. Diploma
    C. BSN
    D. MSN
    E. Masters katika nyanja nyingine
    F. Nyingine (tafadhali taja)

6. Kazi yako ya uzoefu ni ipi?

    A. miaka 0-5
    B. Miaka 6-10
    C. Miaka 11-15
    D. Miaka 16-20
    E. Miaka 21-25
    F. zaidi ya miaka 25

7. Dini yako ni ipi?

A. Mkristo
B. Kiislamu

8. Je, kazi yako ni nini?

A. Meneja
B. Msimamizi wa wodi
C. Muuguzi

9. Je, ulishawahi kushiriki katika mafunzo ya huduma shufaa au semina?

A. Ndiyo
B. Hapana
C. 10. Je, una uzoefu gani na kifo cha mtoto mchanga au utunzaji wa mwisho wa maisha?
D. Ninahisi kwamba elimu yangu ya uuguzi ilinitayarisha vya kutosha kukabiliana na kifo cha watoto wachanga na utunzaji wa mwisho wa maisha.
E. Ninahisi kuwa elimu yangu ya uuguzi haikunitayarisha vya kutosha kukabiliana na kifo cha watoto wachanga na utunzaji wa mwisho wa maisha.

SEHEMU B: MASWALI YANAYOTOKANA NA MTAZAMO WA WAUGUZI.

Tafadhali weka alama kwenye jibu sahihi kwa maswali yafuatayo.

Vipengee	Sikubaliani kabisa	sikubali	Wala nakubali wala sikubali	kubali	NaKubaliana sana
Wazazi wanaarifiwa kuhusu chaguzi wa huduma ya shufaa.					
Wafanyakazi wa matibabu wanaunga mkono huduma ya shufaa.					
Timu inaweza kutoa maoni, maadili na Imani.					
Wazazi wanahusika katika kufanya maamuzi.					
Watumishi ni wa kutosha kwa mahitaji ya watoto wanaokufa					
Timu ya huduma ya afya inakubaliana na kuunga mkono huduma shufaa.					
Mazingira ya nje ni bora kwa ajili ya huduma ya shufaa.					
Kuna sera/miongozo ya kusaidia huduma shufaa.					
Mtoto anapofariki, ushauri nasaha unapatikana ikihitajika.					
Mtoto anapokufa, kuna wakati					

wa kukaa na familia.					
Nimekuwa na uzoefu wa kutoa huduma shufaa.					
Uzoefu wa kutoa huduma shufaa ulikuwa wenye kuzawadiwa.					
Mara nyingi mimi hukabiliwa na kifo katika mazingira ya huduma ya mtoto mchanga.					
Nilipata elimu ili kusaidia katika kuwasiliana na wazazi.					
Huduma shufaa ni kinyume na maadili ya uuguzi wa watoto wachanga.					
Mitazamo ya kibinafsi kuhusu kifo huathiri utayari wangu wa kutoa huduma shufaa.					
Ninahisi hali ya kushindwa kibinafsi wakati mtoto anapokufa.					
Uponyaji ni muhimu zaidi kuliko tiba shufaa.					
Wafanyakazi huenda zaidi ya faraja katika kutumia usaidizi wa maisha wa kiteknolojia.					
kuombwa na wazazi kuendelea kutunza zaidi ya kile wanachohisi ni sawa.					
Huduma shufaa ni muhimu katika elimu ya uuguzi wa watoto wachanga.					
Wakati watoto wanakufa, kutoa misaada ya kupunguza maumivu ni kipaumbele.					
Huduma shufaa ni muhimu kama huduma ya matibabu na uponyeshaji.					
Kuna msaada kwa ajili ya huduma ya shufaa kwa watoto wachanga katika jamii.					
Kuna imani katika jamii kwamba watoto wachanga hawapaswi kufa, kwa hali yoyote.					
Kuhudumia watoto wanaokufa ni maumivu kwangu.					

SEHEMU C: MASWALI YANAYOTOKANA NA HALI YA MAADILI.

Tafadhali weka alama kwenye jibu sahihi Kwa maswali yafuatayo

Vipengee	Sikubaliani kabisa	sikubali	Wala nakubali wala sikubali	kubali	NaKubaliana sana
Wenzako wanasikiliza					
Wenzako wanasaidia					
Wenzako wenye uwezo					
Huduma salama kwa mgonjwa					
Wazazi wanajua nini cha kutarajia					
Upatikanaji wa habari					
Utumiaji habari					
Matakwa ya wazazi kuheshimiwa					
Meneja hunisaidia					
Meneja ananiunga mkono					
Meneja ananisikiliza					
Meneja ni mtu wa kumwamini					
Meneja huwasaidia wenzangu kuamua					
Meneja ni mtu ninayemheshimu					
Sera za hospitali zinaniasidia					
Misheni za hospitali zinashirikishwa					
Nafanya uuguzi ninaamini inapaswa kuwa					
Hisia za kila mtu zinazingatiwa					
Migogoro inashughulikiwa kwa uwazi					
Hisia ya kuuliza, kujifunza					
Wauguzi, madaktari wanaaminiana					
Wauguzi wanaungwa mkono na hospitali					
Madaktari huuliza maoni ya wauguzi					
Ninashiriki katika maamuzi ya matibabu					
Wauguzi, madaktari huheshimu maoni ya wengine					
Wauguzi, madaktari, wanaheshimiana					

7.4 **Appendix 4:** TUMS Ethical Certificate

Tehran University of Medical Sciences

School of Nursing and Midwifery & Rehabilitation - Tehran University of Medical Sciences

Research Ethics Committees Certificate

Approval ID:	IR.TUMS.FNM.REC.1403.128	Approval Date:	2024-10-08
Evaluated by:	Research Ethics Committees of School of Nursing and Midwifery & Rehabilitation - Tehran University of Medical Sciences		
Status:	Approved		
Approval Statement:	The project was found to be in accordance to the ethical principles and the national norms and standards for conducting Medical Research in Iran. Notice: 1. Although the proposal has been approved by the Biomedical Research Ethics Committee, meeting the professional and legal requirements is the sole responsibility of the PI and other project collaborators. 2. This certificate is reliant on the proposal/documents received by this committee on 2024-10-08. The committee must be notified by the PI as soon as the proposal/documents are modified. 3. Other Comments: • The researcher is required to notify any changes in the approved proposal (such as changes in the title of the research, the names of the principal investigator and collaborators, the methodology and other parts of the proposal) to the Research Ethics Committee and obtain approval.		
Thesis Title:	Assessing the Relationship between Nurses' Attitudes toward Palliative Care and Ethical Climate in Neonatal Intensive Care units in Tanzania 2024-2025".		
Supervisor:	Name: Fatemeh Khoshnavay Fomani Email: F-khoshnava@sina.tums.ac.ir		
Student:	Name: Jina Simai Mohamed Email: jinntsimai@gmail.com		

Dr. Shahrzad Ghiyasvandian
Committee Director
School of Nursing and Midwifery & Rehabilitation - Tehran University of Medical Sciences

Dr. Ahmad Reza Khatoonabadi
Committee Secretary
School of Nursing and Midwifery & Rehabilitation - Tehran University of Medical Sciences

7.5 **Appendix 5:** National Institute for Medical Research in Tanzania (NIMR) Ethical Certificate.

THE UNITED REPUBLIC OF TANZANIA

Permanent Secretary
Ministry of Health
Government City Mtumba
Health Road
P.O. Box 743
40478 Dodoma

NIMR/HQ/R.8a/VoLIX/4782

Ms. Jina Simai Mohammed
Muhimbili National Hospital-Mloganzila
P. O. Box 65000
Dar es Salaam

National Institute for
Medical Research
3 Barack Obama Drive
P.O. Box 9653
11101 Dar es Salaam
Tel: 255 22 2121400
Fax: 255 22 2121360
E-mail: ethics@nimr.or.tz

12 December 2024

RE: ETHICAL CLEARANCE CERTIFICATE FOR CONDUCTING MEDICAL RESEARCH IN TANZANIA

This is to certify that the research entitled **"Assessing the Relationship between Nurses' Attitudes toward Palliative Care and Ethical Climate in Neonatal Intensive Care units in Tanzania 2024 -2025" (Mohammed, J. *et al.*)**, has been granted ethical clearance to be conducted in Tanzania.

The Principal Investigator of the study must ensure that the following conditions are fulfilled:

1. Progress reports are submitted to the Ministry of Health and the National Institute for Medical Research, Regional and District Medical Officers after every six months.
2. Permission to publish the results is obtained from the National Institute for Medical Research.
3. Copies of final publications are made available to the Ministry of Health and the National Institute for Medical Research.
4. Research permits are obtained from the Tanzania Commission for Science and Technology (COSTECH) if the research involves investigators who are not Tanzanian residents.
5. Any researcher, who contravenes or fails to comply with these conditions, shall be guilty of an offence and shall be liable on conviction to a fine as per NIMR Act No. 23 of 1979, PART III Section 10(2).
6. Sites: Dar es Salaam, Pwani, Dodoma, Morogoro, Kilimanjaro, Mwanza, Tanga, Mtwara, Njombe and Mbeya regions.

Approval is valid for one year from: 12 December 2024 to 11 December 2025

Prof. Said S. Aboud

CHAIRPERSON
MEDICAL RESEARCH
COORDINATING COMMITTEE

Prof. Tumaini J. Nagu

CHIEF MEDICAL OFFICER
MINISTRY OF HEALTH

CC:Director, Health Services-TAMISEMI, Dodoma.
RMOs of Dar es Salaam, Pwani, Dodoma, Morogoro, Kilimanjaro, Mwanza, Tanga, Mtwara, Njombe and Mbeya regions.
DMO/DED of respective districts.

7.6 **Appendix 6:** Permissions letters for Data collection in 12 hospitals

THE UNITED REPUBLIC OF TANZANIA
MINISTRY OF HEALTH

AMANA REGIONAL REFERRAL HOSPITAL

Telegram "HEALTH", DODOMA
Phone No.: +255 026 – 2323267
Email: ps@afya.go.tz

REF. NO. MoHCDGEC/ARRH/R.1/VOL VIII/95

P.O. Box 25411
DAR ES SALAAM
Phone: 022—2861903

Date: 13/11/2024

Jina Sinai Mohamed
P.O. Box 65000,
DAR ES SALAAM.

Re: PERMISSION FOR DATA COLLECTION

Refer to your letter dated 29th October, 2024 which requested us to allow **you** to conduct research and collect data in our institution.

We are here to acknowledge your request with the following conditions, that you must submit the results of your research after completion of analysis in order the hospital to make use of data's to solve hospital problems.

Regards.

For:
MEDICAL OFFICER I/C
AMANA REGIONAL REFERRAL HOSPITAL
P. O. Box 25411
DAR ES SALAAM

Dr. Rose Ntambuto
FOR: MEDICAL OFFICER INCHARGE
AMANA REGIONAL REFERRAL HOSPITAL

BUGANDO MEDICAL CENTRE

Consultant and Teaching Hospital

Department of: Administration
Our Ref: AB.286/317/01 PART O/18
Date 31.10.2024

P.O. Box 1370
Mwanza, Tanzania
Telephones 2540610/5
2500513
Fax: 255 – 028 – 2500799
E-mail:hospbugando@gmail.com

Jina Simai Mohamed,
P.O. Box 65000,
Dar es Salaam.
+255679435157

Re: PERMISSION TO CONDUCT RESEARCH AT BUGANDO MEDICAL CENTRE

Refer to the caption above.

*This is to inform you that you have been allowed to conduct study Titled "**Assessing the relationship between nurses' attitude toward palliative care and ethical climate in neonatal intensive care units in Tanzania 2024-2025.**"*

You are warmly welcome.

For: DIRECTOR GENERAL
BUGANDO MEDICAL CENTRE
P.O. Box 1370
MWANZA

Regards,

L.R. Mwilhechi
For: **DIRECTOR GENERAL**

Copy to; Head of Department
Bugando Medical Centre

THE UNITED REPUBLIC OF TANZANIA
Ministry of Health

Telegram: "Afya" DODOMA
Tel. No:: +255 026 23223267
(All letter should be written to Permanent Secretary)

Dodoma Regional Referral Hospital,
P. O. BOX 904,
DODOMA.

REF.NO.PB.22/1307/02/.....

DATE: 15th Oct 2024

Tehran 1416753955, Iran
Tel: (+9821) 88896692-4
Fax: (+9821) 88878532
Web: www.gsir.tums.ac.ir
Email: gsir@tums.ac.ir

REF: DATA COLLECTION PERMIT / RESEACH

Please refer to the above captioned subject matter.

This is to introduce to you JINA SIMAI MOHAMED who is a Student has been permitted/~~not permitted~~ to collect data for her/~~his~~ Research titled Assessing the Relationship between Nurses' attitude towards palliative care and ethical climate in Neonatal Intensive Care Units in Tanzania 2024-2025

Dodoma Regional Referral Hospital grants ~~him~~/her permission to carry out his research as a requested from 21st October 2024 to 4th November 2024

Thank you.

FOR: MEDICAL OFFICER INCHARGE
DODOMA REGION REFERRAL HOSPITAL

Research and Training Committee
DODOMA REGIONAL REFERRAL HOSPITAL

THE UNITED REPUBLIC OF TANZANIA

MINISTRY OF HEALTH

Telegrams.. "Afya", Mtwara
Telephone: + 255 023 2333944

Fax . No. +255 0232334098

(All Letters should be addressed to Medical Officer In charge)

Ligula Regional Referral Hospital

P. O. Box 520,
MTWARA.

In reply please quote:

Ref: No. C.3/2/VOL1/100

Date: 5th October, 2024

SIMAI MOHAMED,
P.O. Box 65000,
DAR ES SALAAM.

Re: PERMISSION TO CONDUCT RESEARCH AT LIGULA REGIONAL REFERRAL HOSPITAL

Please refer your leter dated 25th October, 2024 with the above caption.

2. We are glad to inform you that the request to conduct research at our Hospital on a study titled **"Assessing the relationship between nurses atittude toward palliative care and ethical climate in neonatal intensive care units in Tanzania"** has been accepted for two weeks.

3. Candidate should report to the Human Resource Officer/Health Secretary of the Hospital.

4. Regards.

Peter Mgombozi

For: MEDICAL OFFICER INCHARGE

LIGULA REGIONAL REFERRAL HOSPITAL

MTWARA.

Copy;

Medical Officer Incharge

THE UNITED REPUBLIC OF TANZANIA
MINISTRY OF HEALTH

MAWENZI REGIONAL REFERRAL HOSPITAL

MAWENZI RRH

KILIMANJARO HEALTH
Tel: 2752321 Direct Line
Email: barua@mawenzirrh.go.tz
(All letters should be addressed to
The Medical Officer In charge)

P.O. Box 3054
MOSHI.

Ref. Na. FA.18/227/01/'A'/85

06th November, 2024

Jina Simai Mohamed,
P. O. Box 65000,
DAR ES SALAAM.

Ref: PERMISSION TO CONDUCT RESEARCH

The heading above is concerned.

We acknowledge receiving your letter dated 21st October, 2024 without reference number requesting permission to conduct a research titled "Assessing the relationship between Nurses attitude toward palliative Care and ethical climate in Neonatal Intensive care units in Tanzania 2024-2025"

We also acknowledge receiving your payment bill in control number 924309288066269 bill reference "Research".

You are permitted to to proceed with data collection at Mawenzi Regional Referral Hospital from 11th November, 2024 to 08th December, 2024.

Upon arrival to Mawenzi you will be required to report to Medical Officer incharge who will direct you to Mawenzi Research Coordinator for further action.

Joyce Kivugo

FOR: MEDICAL OFFICER INCHARGE
MAWENZI REGIONAL REFERRAL HOSPITAL
P. O. Box 3054, MOSHI

For. **MEDICAL OFFICER INCHARGE**

JAMHURI YA MUUNGANO WA TANZANIA

WIZARA YA AFYA

Mkoa wa Morogoro
Telegrams: "Afya Mkoa
Simu: 023-3099/4439
Email: moi@morogororrh.go.tz

Hospitali ya Rufaa ya Mkoa
Idara ya Afya
S.L.P.110
MOROGORO

Unapojibu tafadhali taja:

Kumb. Na.DC.160/268/01

29/10/2024

Jina Simai Mohamed
S.L.P.65000
DAR ES SALAAM.

YAH: MAOMBI YA KUFANYA UTAFITI KATIKA HOSPITALI YA RUFAA YA MKOA WA MOROGORO

Rejea somo tajwa hapo juu, pia rejea barua yako ya tarehe 21 Oktoba 2024 ikihusu mada tajwa hapo juu.

Kwa barua hii, napenda kukujulisha kuwa ombi la kufanya utafiti juu ya "Assessing the Relationship Between Nurses' Attitude Toward Palliative care and Ethical Climate in Neonatal Intensive care units in Tanzania 2024-2025" katika Hospitali ya Rufaa ya Mkoa wa Morogoro limekubaliwa kama ulivyoomba.

Hivyo, fika Hospitali ya Rufaa ya Mkoa wa Morogoro au wasiliana na mratibu wa research kwa ajili ya maelekezo zaidi.

Nakutakia kazi njema.

Dr. Abilah Issa
KAIMU MGANGA MFAWIDHI
HOSPITALI YA RUFAA YA MKOA MOROGORO

MGANGA MFAWIDHI
HOSPITALI YA RUFAA YA MKOA WA MOROGORO
S.L.P. 110
MOROGORO

THE UNITED REPUBLIC OF TANZANIA

MINISTRY OF HEALTH

MUHIMBILI NATIONAL HOSPITAL
UPANGA AND MLOGANZILA

In reply please quote
Ref. No.: JA.294/428/01C/075 **28/10/2024**

Director Nursing services and Midwifery
Muhimbili National Hospital- Upanga and Mloganzila

RE: PERMISSION TO COLLECT DATA AT MNH - UPANGA AND MLOGANZILA

Name of Principal Investigator	Ms JINA SIMAI MOHAMED
Title	**Assessing the relationship between nurses attitude toward palliative care and ethical climate in neonatal intentive care units in Tanzania 2024/25**
Institution	Tehran University of Medical Sciences
Supervisors	Dr Fatemeh Khoshnavay Fomani Dr Lucy Mpayo-MNH-Mloganzila
Period	08.10.2024 – 10.12.2024

Approval has been granted to the above principal investigator to collect data at MNH- Upanga and Mloganzila. Kindly ensure the named principle investigator abide to the ethical principles and conditions of the research aproval.

Mbwalila Y. Ng'amilo
For: Executive Director
Muhimbili National Hospital- Upanga and Mloganzila

CC. DNS
CC. Ms JINA SIMAI MOHAMED

THE UNITED REPUBLIC OF TANZANIA
MINISTRY OF HEALTH

Telephone Address

Telephone: 022-2760500

Mwananyamala Regional
Referral Hospital,
P.O.Box 61665
Dar es Salaam

RE: NO: MA. 59/240/01/128

DATE: 3rd November, 2024

Tehran University of Medical Sciences,
Iran,
DAR ES SALAAM.

RE: MS JINA SIMAI MOHAMMED; TO CONDUCT RESEARCH IN MWANANYAMALA REGIONAL REFERRAL HOSPITAL

The captioned subject refers

2. May you be informed that your request to research Titled "***Assessing the relationship between Nurses Attitude toward Palliative care and Ethical Climate in Neonatal Intensive care units at Mwananyamala Regional Referral Hospital" 04nd Nov, 2024, to 31th Nov, 2024*** is asserted.

3. The Institution charges **100,000/=**, as Research fee as per student spent. The payments are to be made upon reporting.

4. May she report to the Administration and HR department head for further instruction.

Thanks.

For-MEDICAL OFFICER INCHARGE
Mwananyamala Regional Referral Hospital
P.O. box 61665
DAR-ES-SALAAM

Dr. Mkiwa Akida
RESEARCH COORDINATOR
FOR: MEDICAL OFFICER INCHARGE
MWANANYAMALA REGIONAL REFERRAL HOSPITAL

COPY:
Head of Pediatric Department - **MWANANYAMALA REGIONAL REFERRAL HOSPITAL**

UNITED REPUBLIC OF TANZANIA
MINISTRY OF HEALTH

NJOMBE REGION
Adress HEALTH
Phone No. +25526-2782912
Fax No. +225 – 262752914
Email: mganganitawdh@njomberrh.go.tz
In reply please quote:
Ref.NJBRRH/RE/01B/32

Njombe Regional Referral Hospital,
14 Road Referral Hospital,
59107 Ramadhani-Njombe,
P.O.BOX 1044,
NJOMBE.
29th October, 2024

Ms. Jina Simai Mohammed
P.O Box 65000
Dar es Salaam
jinntsimai@gmail.com
+255679435157

RE: **AGREEMENT LETTER FOR CONDUCTING ICU RESEARCH AT NJOMBE REGIONAL REFERRAL HOSPITAL.**

Dear Applicant

2. We are pleased to formally confirm the acceptance of your application to conduct research in the Intensive Care Unit (ICU) at Njombe Regional Referral Hospital (RRH). Your proposed research, titled **"Assessing the Relationship between Nurses' Attitudes toward Palliative Care and Ethical Climate in Neonatal Intensive Care Units in Tanzania 2024-2025,"** aligns with our commitment to advancing critical care practices and improving patient outcomes.

3. We do attach terms of reference waiting for your acceptance; please read carefully and sign for next process

4. Warm regards,

Evaristus P. Makota
For; medical Officer In-charge
Njombe Regional Referral Hospital

MEDICAL OFFICER INCHARGE
NJOMBE REGIONAL REFERRAL HOSPITAL
P. O. Box 1044
NJOMBE

C.C: Medical Officer Incharge
Njombe Regional Referral Hospital
P.O.BOX 1044
NJOMBE

(See it on the file)

THE UNITED REPUBLIC OF TANZANIA
MINISTRY OF HEALTH

Tel: 2642997/ 2646683/84
Fax: 2647314 MOIC

Medical Officer In charge,
Tanga Regional Referral Hospital,
P.O. Box 452,
TANGA.

In Reply Please Quote

Ref. No. RM/R.20/2/33

November 6, 2024

Tehran University of Medical Sciences,
Vice-Chancellor for Global Strategies
And International Affairs,
TEHRAN.

RE: PERMISSION TO CONDUCT RESEARCH WITH TITLE "ASSESSING THE RELATIONSHIP BETWEEN NURSES ATTITUDE TOWARD PALLIATIVE CARE AND ETHICAL CLIMATE IN NEONATAL INTENSIVE CARE UNITS IN TANZANIA 2024 – 2025"

The heading above is concerned.

2. The heading above for the research by a Student Jina Simai Mohamed is granted to convence at out facility.

3. Payment is also request for te study which is 100,000/= Tshs and to be paid through the control number which given from the accountant Office.

Wishing you all the best.

Dkt. Athuman Kihara
TRAINING AND RESEARCH COORDINATOR
FOR: MEDICAL OFFICER IN-CHARGE
REGIONAL REFERRAL HOSPITAL
TANGA

JAMHURI YA MUUNGANO WA TANZANIA
WIZARA YA AFYA.
HOSPITAL YA RUFAA YA MKOA YA TEMEKE

Barua pepe:barua@temekerrh.go.tz,S.L.P 45232 Dar es Salaam,Simu: 0222856007

Kumb. Na. MOH/TRRH/RSC/9/10/61 Tarehe: 23/10/2024

Ndg. Jina Simai Mohammed
Muhimbili National Hospital
S.L.P 65000,
DAR ES SALAAM.

YAH: OMBI LA KUFANYA UTAFITI "ASSESSING THE RELATIONSHIP BETWEEN NURSES ATTITUDES TOWARD POLLIATIVE CARE AND ETHICAL CLIMATE IN NEONATAL INTENSIVE CARE UNITS IN TANZANIA 2024-2025 (RESEARCH)

Tafadhali husika na somo tajwa hapo juu. Oktoba, 2024 kuhusu ombi lako la kufanya Utafiti (Research) katika Taasisi yetu, kuhusu **"Assessing the Relationship between Nurses attitudes toward polliative care and ethical climate in Neonatal Intensive care units in Tanzania 2024-2025"**

2. Ombi lako limekubaliwa, utatakiwa kulipa ada kiasi cha **Tshs. 100,000/=** Hivyo wasiliana na mhasibu wa mapato wa Hospitali **Ndg. Lusajo Nsajigwa** kwa namba **0717 959495** ili akupatie control Number kwa ajili ya malipo ya ada hii ili uweze kuruhusiwa kufanya utafiti.

3. Asante kwa ushirikiano.

FOR ASSISTANT DIRECTOR
P.O. Box 45237
28 OCT 2024
DAR ES SALAAM

Dkt. Husna Msangi
Kny: MKURUGENZI
HOSPITALI YA RUFAA YA MKOA YA TEMEKE

Nakala: CSCO - *Tafadhali hakikisha taarifa ya utafiti inabaki hospitalini*

THE UNITED REPUBLIC OF TANZANIA
Ministry of Health

Telegram" AFYA" DODOMA
Tell Phonce no: +255 026 - 2323267
FAX Na:
(All letter should be addressed to the permanent Secretary)

Medical Officer In charge
Tumbi Regional Referral Hospital
P.O.Box 30041
KIBAHA.

In reply please quote:

REF: NO: TDRRH/AB.144/247/01

30, Agost,2024

Director,
Tehran University Medical Science,
P.O.Box

IRAN

REF: STUDENT INTRODUCTION FOR RESEARCH WORK.

Reference is made to your letter with dated 19th October, 2024.

2. I would like to authenticate your letter which introduces **Jina Simai Mohamed** as a student in your institution, who is aspired to collect research Data in our Hospital.

3. it's here to inform you, she has been permitted to do her research work within one week from today, and with a due respect, she is required to abide with all the policies and practice of Tumbi hospital during her run through.

4. You're sincerely,

Kny: MGANGA MFAWIDHI
HOSPITALI YA RUFAA YA MKOA TUMBI
S. L. P. 30041
KIBAHA - PWANI

Mkama Julius
For: MEDICAL OFFICER INCHARGE
TUMBI REGIONAL REFEERAL HOSPITAL.

7.7 **Appendix 7:** Participants Consent Form in English

THE INFORMED CONSENT FORM FOR PARTICIPATION IN THE STUDY: ENGLISH VERSION.

TITLE OF THE STUDY: "Assessing the Relationship between Nurses' Attitudes toward Palliative Care and Ethical Climate in Neonatal Intensive Care units in Tanzania 2024-2025."

PRINCIPLE INVESTIGATOR

JINA SIMAI MOHAMED

Email address: jinntsimai@gmail.com

Phone numbers: (+255)679-435-157 OR (+98) 992-092-89-14

Dear Sir / Madam

You are invited to participate in the aforementioned study. This form contains information about the study and whether or not you have the right to participate in the study.

You don't have to make a decision right away and can ask your questions to the research team or consult with someone. Before you sign this form, make sure you understand all the information on this form and that all your questions have been answered.

Investigator

1) I understand that, the aims of this study are:
   - ❖ To assessing the relationship between nurses' attitudes toward palliative care and ethical climate in neonatal intensive care units (NICUs) in Tanzania.
   - ❖ This study will explore the relationship between nurses' attitudes towards palliative care and ethical climate in neonatal intensive care units in Tanzania. The findings will inform policies and interventions aimed at improving quality of care by changing nurses' attitudes and enhancing the ethical environment.
2) I understand that my participation in this study is completely voluntary. I was assured that if I do not participate in this study, I will not lose the job position or its financial and non-financial benefits.
3) I know that even if I agree to participate in the study, I can withdraw from the project by notifying the research conductor, and that withdrawing from the study will not prevent me from financial and non- financial benefits of my job.
4) My collaboration in this study is as follows:
   - ❖ I will collaborate to fill the questionnaire.
5) The possible benefits of my participation in this study are as follows:

- ❖ The results of this study will inform policy decisions and interventions aimed at enhancing care in neonatal intensive care units by addressing nurse attitudes and ethical climates.

6) The possible risks, possible harms and complications of my participation in this study are as follows:

- ❖ Study participants will be free from potential physical, psychological, psychosocial harms resulting from the study.

7) Confidentiality:

- ❖ Your responses to this study will be anonymous and no any identifying information of yours will be included. Every effort will be made by the research team to preserve your confidentiality by assigning code names/numbers for participants that will be used on all research notes and documents.

8) I know that, the Ethics Committee in Research can access my information to make sure my rights have been preserved.

9) I understand that, the costs of study will not be on me.

10) Contact Information:

- ❖ If you have questions at any time about this study, you may contact the main researcher whose contact information is provided on the first page. If you have questions regarding your rights as a research participant, or if problems arise which you do not feel you can discuss with the Primary Investigator, please contact Ethics Committee of the Tehran University of Medical Sciences, (situated at Keshavarz Blvd, Qods St., sixth floor, Research & Technology Management, the Secretariat of the Ethics Committee, headquarters building of Tehran University of Medical Sciences, Phone no: 81633626) and address my problem either verbally or in writing. **Email address:** Gsia@tums.ac.ir. Or contact the National Health Research Ethics Sub-Committee (NatHREC) National Institute for Medical Research, 3 Barack Obama Drive, and 11101 Dar es salaam, Tanzania. Contact phone number: +255 758 587 885 **Email**: ethics@nimr.or.tz.

- ❖ 11) Consent:
- ❖ I have read and I understand the provided information and have had the opportunity to ask questions. I understand that my participation is voluntary

and that I am free to withdraw at any time, without giving a reason and without cost. I understand that I will be given a copy of this consent form. I voluntarily agree to take part in this study.

Participant's signature _____Date_____

Investigator's signature _____Date _____

7.8 **Appendix 8:** Participants Consent Form in Kiswahili

FOMU YA IDHINI YA KUSHIRIKI KATIKA UTAFITI: TOLEO LA KISWAHILI

KICHWA CHA UTAFITI: " Kutathmini Uhusiano kati ya Mtazamo wa Wauguzi kuhusu Huduma Shufaa na Hali ya Hewa ya Kimaadili katika vyumba vya wagonjwa mahututi wa watoto wachanga nchini Tanzania 2024-2025".

MTAFITI MKUU

JINA SIMAI MOHAMED

Barua pepe: jinntsimai@gmail.com

Namba za simu: (+255)679-435-157 OR (+98) 992-092-89-14

Mpendwa Mheshimiwa bibi/bw

Unaalikwa kushiriki katika utafiti uliotajwa hapo juu. Fomu hii ina taarifa kuhusu utafiti na kama una haki ya kushiriki katika utafiti au la.

Si lazima ufanye uamuzi mara moja na unaweza kuuliza maswali yako kwa timu ya watafiti au kushauriana na mtu fulani. Kabla ya kusaini fomu hii, hakikisha umeelewa taarifa zote kwenye fomu hii na kwamba maswali yako yote yamejibiwa.

Mtafiti

1) Ninaelewa kuwa, malengo ya utafiti huu ni:
    - ❖ Kutathmini Uhusiano kati ya Mtazamo wa Wauguzi kuhusu Huduma Shufaa na Hali ya Hewa ya Kimaadili katika vyumba vya wagonjwa mahututi wa watoto wachanga (NICUs) nchini Tanzania.
    - ❖ Utafiti huu utachunguza uhusiano kati ya mitazamo ya wauguzi kuhusu huduma shufaa na hali ya kimaadili katika vyumba vya wagonjwa mahututi wa watoto wachanga nchini Tanzania. Matokeo yataarifu sera na hafua zinazolenga kuboresha ubora wa huduma kwa kubadilisha mitazamo ya wauguzi na kuimarisha mazingira ya kimaadili.
2) Ninaelewa kuwa ushiriki wangu katika utafiti huu ni wa hiari kabisa. Nilihakikishiwa kwamba ikiwa sitashiriki katika utafiti huu, sitapoteza nafasi ya kazi au manufaa yake ya kifedha na yasiyo ya kifedha.
3) Ninajua kwamba hata nikikubali kushiriki katika utafiti, ninaweza kujiondoa katika mradi kwa kumjulisha kondakta wa utafiti, na kwamba kujiondoa katika utafiti hakutanizuia kutokana na manufaa ya kifedha na yasiyo ya kifedha ya kazi yangu.

4) Ushirikiano wangu katika utafiti huu ni kama ifuatavyo:

- ❖ Nitashirikiana kujaza dodoso.

5) Faida zinazowezekana za ushiriki wangu katika utafiti huu ni kama ifuatavyo:

- ❖ Matokeo ya utafiti huu yatafahamisha maamuzi ya kisera na hatua zinazolenga kuimarisha huduma katika vitengo vya wagonjwa mahututi wa watoto wachanga kwa kushughulikia mitazamo ya wauguzi na hali ya kimaadili.

6) Hatari zinazoweza kutokea kwa mshiriki wa utafiti, pamoja na juhudi za kupunguza hatari:

- ❖ Washiriki wa utafiti hawatakuwa na athari za mwili, kisaikolojia wala kijamii zinazotokana na utafiti huu kwani washiriki hawashiriki wala kuhusishwa katika utaratibu wowote wa kuchukua sampuli yeyote katika miili yao.

7) Usiri na uhifadhi wa taarifa:

- ❖ Majibu yako kwa utafiti huu hayatajulikana na hakuna habari yoyote ya taarifa binafsi itajumuishwa. Kila juhudi zitafanywa na mtafiti kuhifadhi usiri wako kwa kutumia alama maalumu za utambuzi kwenye dodoso licha ya majina ambazo zitatumika kwenye maelezo na hati zote za utafiti

8) Ninajua kwamba, Kamati ya Maadili katika Utafiti inaweza kupata taarifa zangu ili kuhakikisha kuwa haki zangu zimehifadhiwa.

9) Ninaelewa kuwa, gharama za utafiti hazitakuwa juu yangu.

10) Maelezo ya Mawasiliano:

- ❖ Ikiwa una maswali wakati wowote kuhusu utafiti huu, unaweza kuwasiliana na mtafiti mkuu ambaye maelezo yake ya mawasiliano yametolewa kwenye ukurasa wa kwanza. Ikiwa una maswali kuhusu haki zako kama mshiriki wa utafiti, au matatizo yakitokea ambayo huhisi unaweza kuyajadili na Mpelelezi Mkuu, tafadhali wasiliana na Kamati ya Maadili ya Chuo Kikuu cha Tehran cha Sayansi ya Tiba, (kilichopo Keshavarz Blvd, Qods St. , ghorofa ya sita, Utafiti na Usimamizi wa Teknolojia, Sekretarieti ya Kamati ya Maadili, jengo la makao makuu ya Chuo Kikuu cha Tehran cha Sayansi ya Tiba, Nambari ya simu: 81633626) na kushughulikia tatizo lako ama kwa maneno au kwa maandishi wasiliana kwa **Barua pepe:** Gsia@tums.ac.ir. Au wasiliana na Kamati Ndogo ya Kitaifa ya Maadili ya Utafiti wa Afya (NatHREC) Taasisi ya Kitaifa ya Utafiti wa Matibabu, 3

Barack Obama Drive, na 11101 Dar es salaam, Tanzania. Nambari ya simu ya mawasiliano: +255 758 587 885 **Barua pepe**: ethics@nimr.or.tz.

- 11) Idhini:
- Nimesoma na nimeelewa maelezelo na taarifa zote ziliyotolewa na nimepata nafasi ya kuuliza maswali. Nimeelewa kuwa ushiriki wangu ni wa hiari na kwamba niko huru kujiondoa wakati wowote, bila kutoa sababu na bila gharama. Nimaelewa kuwa nitapewa nakala ya fomu hii ya idhini. Ninakubali kwa hiari yangu kushiriki katika utafiti huu.

Saini ya mshiriki _____ Tarehe _____

Saini ya mtafiti _____ Tarehe _____

7.9 **Appendix 9:** Study Implementation Schedule

Prepare a list of the activities planned for the research proposed. Mark with X the appropriate cells to reflect the time (each cell represents one month) and duration of each activity.
An example of activities is provided in the first three rows.

SN	**ACTIVITIES**	**DURATION OF ACTIVITIES (2024- 2025)**											
1	Proposal writing and earning ethical approval code	X	X	X									
2	Questionnaires validity tests				X	X							
3	Data gathering						X	X	X	X			
4	Data analysis										X		
5	Writing the research report											X	X
6	Preparing manuscript											X	X

7.10 **Appendix 10:** Abstract in Persian

عنوان: بررسی رابطه بین نگرش پرستاران نسبت به مراقبت تسکینی و جو اخلاقی در بخش‌های مراقبت ویژه نوزادان در تانزانیا (2024-2025).

زمینه: مراقبت تسکینی با هدف ارتقای کیفیت زندگی بیماران و خانواده‌های آنان، بدون در نظر گرفتن شدت بیماری ارائه می‌شود.

در بخش‌های مراقبت ویژه نوزادان (NICUs)، آکادمی اطفال آمریکا (AAP) و انجمن ملی پرستاران نوزادان (NANN) پیشنهاد می‌کنند که مراقبت تسکینی به‌عنوان یک استاندارد ادغام شود، به‌ویژه در کشورهایی مانند تانزانیا که میزان بالای مرگ‌ومیر و بیماری نوزادان مشاهده می‌شود. پرستاران نقش مهمی در ارائه مراقبت پایان زندگی برای نوزادان ایفا می‌کنند، اما ممکن است با چالش‌های احساسی و اخلاقی مواجه شوند. تحقیقات موجود در زمینه تأثیر نگرش پرستاران و جو اخلاقی بر مراقبت تسکینی در NICUs محدود بوده و نتایج مطالعات متناقضی ارائه داده‌اند.

هدف: این مطالعه با هدف بررسی رابطه بین نگرش پرستاران نسبت به مراقبت تسکینی و جو اخلاقی در بخش‌های مراقبت ویژه نوزادان در تانزانیا انجام شده است.

مواد و روش‌ها: این پژوهش یک مطالعه مقطعی توصیفی است. جمعیت مورد مطالعه شامل 170 پرستار شاغل در بخش‌های مراقبت ویژه نوزادان در 12 بیمارستان منتخب در تانزانیا است. روش نمونه‌گیری هدفمند غیرتصادفی برای انتخاب شرکت‌کنندگان استفاده شد. داده‌ها با استفاده از سه پرسشنامه ساختاریافته جمع‌آوری شدند که شامل پرسشنامه دموگرافیک، مقیاس نگرش به مراقبت تسکینی نوزادان (NiPCAS) و پرسشنامه جو اخلاقی بیمارستان (HECS) بود. داده‌ها با نرم‌افزار SPSS26 تحلیل شدند. متغیرهای عددی با میانگین و انحراف معیار و متغیرهای دسته‌ای با فراوانی و درصد گزارش شدند. نگرش پرستاران و ادراک آنها از جو اخلاقی بر اساس میانگین نمره تعیین شد. رابطه بین متغیرها با استفاده از ضریب همبستگی پیرسون تحلیل شد. مقادیر p کمتر از 0.05 معنادار در نظر گرفته شدند.

نتایج: نتایج نشان داد که از میان 170 پرستاری که در مطالعه شرکت کردند، اکثر آن‌ها در رده سنی 20 تا 40 سال (85.3٪) قرار داشتند. 74.7٪ از پرستاران گزارش دادند که آموزش مراقبت تسکینی ندیده‌اند. 75.3٪ معتقد بودند که تحصیلات پرستاری آن‌ها برای مدیریت مرگ نوزادان و مراقبت پایان زندگی کافی بوده است. میانگین نمره 81.8 نشان داد که پرستاران نگرش مثبتی نسبت به مراقبت تسکینی داشتند، و میانگین نمره 86.1 نشان‌دهنده جو اخلاقی مطلوب در NICUs بود. هیچ رابطه معناداری بین نگرش پرستاران نسبت به سازمان و ادراک آن‌ها از همکاران و بیمارستان‌ها یافت نشد ($p = 0.539$، ($r = 0.047$، $p = 0.244$)، $r = 0.090$). با این حال، همبستگی مثبت، قوی و معناداری بین نگرش پرستاران نسبت به مراقبت تسکینی و جو اخلاقی در NICUs مشاهده شد ($p < 0.001$، $r = 0.760$).

نتیجه‌گیری: رابطه‌ای قوی، مثبت و معنادار بین نگرش پرستاران نسبت به مراقبت تسکینی و جو اخلاقی در NICUs تانزانیا مشاهده شد. پرستاران نگرش مثبتی نسبت به سازمان، منابع موجود و پزشکان ابراز کردند و معتقد بودند که آموزش پرستاری آن‌ها را برای مدیریت مراقبت پایان زندگی آماده کرده است. علاوه بر این، پرستاران جو اخلاقی حمایتی در NICUs را درک کردند که با تعاملات مثبت با بیماران، همکاران، مدیریت بیمارستان و پزشکان مشخص شد. برای تقویت این روابط موجود و بهبود عملکرد مراقبت تسکینی، سیاست‌گذاران باید دستورالعمل‌هایی برای مراقبت تسکینی نوزادان تدوین کنند که در تانزانیا قابل اجرا باشد.

کلیدواژه‌ها: مراقبت تسکینی؛ نگرش پرستاران؛ جو اخلاقی؛ بخش‌های مراقبت ویژه نوزادان؛ تانزانیا.

دانشگاه علوم پزشکی تهران

پردیس بین‌الملل

دانشکده پرستاری و مامایی

عنوان: بررسی رابطه بین نگرش پرستاران نسبت به مراقبت تسکینی و جو اخلاقی در بخش‌های مراقبت ویژه نوزادان در تانزانیا 2024-2025.

"پایان‌نامه ارائه شده به‌عنوان بخشی از الزامات دریافت مدرک کارشناسی ارشد (MSc)"

در رشته پرستاری مراقبت ویژه نوزادان

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