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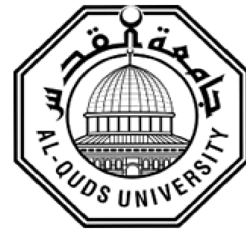

Stress, Coping Strategies and Psychological Well-being due to End of Life Care among Nurses in Neonatal Intensive Care Units

Mohammed Ahmed Nimer Salman

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Stress, Coping Strategies and Psychological Well-being due to End of Life Care among Nurses in Neonatal Intensive Care Units

Prepared by:

Mohammed Ahmed Nimer Salman

B.Sc of Nursing -Islamic University of Gaza

Supervisor: Dr. Hamza Abdeljawad

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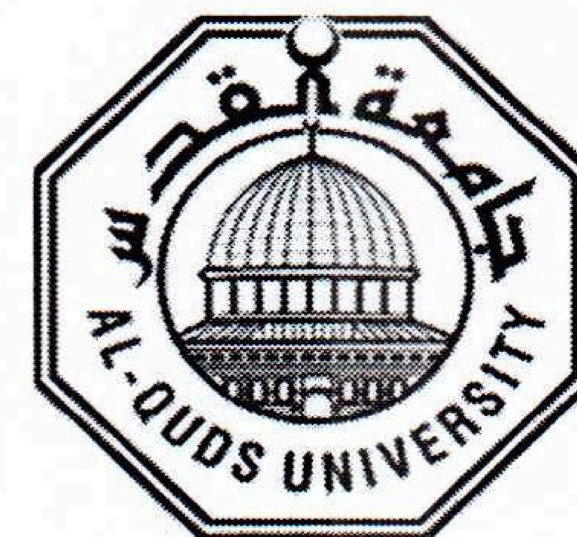

Thesis Approval

Stress, Coping Strategies and Psychological Well-being due to End of Life Care among Nurses in Neonatal Intensive Care Units

Prepared by: Mohammed Ahmed Nimer Salman

Registration No: 21711356

Superviser: Dr. Hamza Abdeljawad

Master thesis submitted and accepted, Date: / /

The name and signature of the examining committee members as follows:

1. Head of Committee: Dr. Hamza Abdeljawad Signature ……………….
2. Internal Examiner: Dr. Mohammed El-Jerjawi Signature ……………….
3. External Examiner: Dr. Ashraf El-Jedi Signature ……………….

Jerusalem-Palestine

1441/2020

Dedication

To my father who taught me how to give.

To my mother who supported me on the front line wholeheartedly.

To my brothers who spared no effort to help.

To my study colleagues and my work colleagues.

To all of them I dedicate this work.

Mohammed Ahmed Salman

Declaration

I certify that this thesis has been composed of my own research and that it has not been submitted, in whole or in part, in any previous application for a degree. Except where stated other wise by reference. The work presented is entirely my own.

Signed: ……………….

Mohammed Ahmed Nimer Salman

Date:…………….

Acknowledgment

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I would thank all my beloved friends who helped me to collect questionnaires from the participants.

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Mohammed Ahmed Salman

Abstract

End of life care of neonates by nurses at the neonatal intensive care units (NICUs) may contribute to stress and establish coping strategies among nurses, as well as may lead to influence the psychological well-being among nurses who provide the end of life care for these neonates. The study purpose was to identify stress levels due to end-of-life care, coping strategies, and psychological well-being among nurses in the neonatal intensive care units, and to investigate the effect of stress levels and coping strategies on their Psychological well-being. The study is a descriptive-analytical cross-sectional carried out in the level III NICUs of the governmental hospitals at Gaza Strip. The study started in March 2019 and ended in November 2019. The study participants were census population, the sample size is 117 eligible nurses. The data collection was through a valid and reliable self-administered questionnaire. SPSS was used for data entry and analysis, the researcher used simple statistics including frequencies, means and percentages, also independent sample *t* test, One-way ANOVA, and person correlation. The findings of the study showed that the population of the study mostly was from males (65%). Regarding their experience in NICU (40.2%) of the participants have 3 years work experience, 20.5% have 4-6 years of experience, 15.4% have 7-10 years of experience and 23.9% have more than 10 years of experience, also 76.9% of the study participants have bachelor degree in nursing, 17.9% of them have diploma, while 4.3% have higher education certificate. The total mean percentage of the level of nurses' stress due to end-of-life care 69.95%, the most source of stress among nurses due to end-of-life care with neonates is "the unexpected death of neonates". The mean percentage of the level of nurses' coping strategies during the end-of-life care with neonates was 64.34%. The mean percentage of the level of nurses' psychological well-being was 70.08%. The study showed 93.2% of the nurses said that the nurses are in need for educational and training session about end of life care. The study showed that there is no significant difference in the mean level of nurses' stress or coping strategies due to end-of-life care with regard to their ages, gender, marital status, educational levels, working hospital, number of children, and their level of working experience. The result of the study showed was an increase in the level of nurses' stress, will lead to a significant increase in their coping strategies, an increase in the level of nurses' coping strategies, will lead to significantly increase in their psychological well-being. The study concluded that an increase in the level of nurses' stress, leads to a significant increase in their coping strategies, an increase in the level of nurses' coping strategies, leads to a significant increase in their psychological well-being. The study recommended that providing educational sessions and training courses to prepare every nurse in neonatal intensive care units to deal with cases are needed.

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List of Abbreviation

BOS: Burnout Syndrome.

CAP: Child and Adolescent Psychiatry.

DNR: Do Not Resuscitate.

EOL: End of Life

EOLC: End of Life Care.

GNN: Gaza Neonatal Network.

GS: Gaza Strip.

HCP: Health Care Provider.

ICU: Intensive Care Unit.

IES-R: Impact of Events Scale-Revised.

MOH: Ministry of Health.

NICU: Neonatal Intensive Care Unit.

PCBS: Palestinian Central Bureau of Statistics.

PHIC: Palestine Health Information Center.

PICU: Pediatric Intensive Care Unit.

PTSD: Post-Traumatic Stress Disorders.

QOL: Quality of Life

RAM: Roy Adaptation Model.

SJCRH: St Jude Children Research Hospital.

UNICEF: United Nations International Children's Emergency Fund.

UNRWA: United Nations Relief and Works Agency

WHO: World Health Organization.

Chapter one

Introduction

1.1 Background

The environment of neonatal intensive care unit (NICU) can be stressful for nurses as well as infants and their families. In these units, many personnel are involved in the treatment and care of infants. Among all staff members, nurses are responsible for the majority of everyday care procedures of the infants. NICU is a unit designed to provide care for sick and premature infants during the transitional period after birth in which the infant has the most physiological changes (Berma & Elkazaz, 2017).

Despite the development in medical technology, deaths due to respiratory diseases, fetal developmental disorders, and congenital heart malformations accounted for 74.8% infant deaths that occurred in Korea in 2014. Newborns with critical health problems are managed in the NICU, in which nurse's care for high-risk newborns at the forefront of clinical care, in an environment that requires frequent interventions and highly-developed skills for handling emergencies (Park &oh, 2019).

Each year in the United States, over 1 million pregnancies end in fetal death and 19,000 newborns die in the neonatal period. As a result, most NICU care providers face the death of an infant. Some infants die unexpectedly; however, many deaths are anticipated and can be preceded by the support of palliative and end-of-life care. Healthcare providers typically find initiating this to be challenging (Cortezzo et al., 2104). The stress experienced by a nurse and the moral distress is recognized as one of the major sources of stress for nurses who provide end of life care to infants (Lane & Zhang, 2013).

Due to the close relationship between the health care providers and the newborn and his/her family at the NICU the nursing staff deals with difficult emotional situations. The fragility and suffering of an extremely premature baby, in life-threatening conditions, and feelings of anxiety and insecurity of family members are constant in their daily work. In addition, the complications in the newborn's clinical situation are frequent and they require not only technical skills, specific and updated knowledge, but also agility and sensitivity, causing great physical and emotional stress in these professionals (Almeida et al., 2016).

Upon the death of a newborn, nurses may experience contradictory feelings of sadness, guilt, depression, helplessness, frustration, as well as the need to remain focused on their other patients. Utilizing coping strategies may help nurses avoid the exhaustion and depersonalization that may arise as a result of exposure to stress. Nurses encounter many emotionally charged situations, the most intense of which is patient death (Roseline et al., 2016).

1.2 Problem statement

Stress and establishing coping strategies among nurses in NICU due to end of life care is considered the major problem among nurses working in NICU, the first 28 days of life – the neonatal period – is the most vulnerable time for a child's survival (Kwon et al., 2018).

End-of-life care (EOLC) refer to helps all those with advanced, progressive, incurable illness to live as well as possible until they die. It enables the supportive and palliative care needs of both patient and family to be identified and met throughout the last phase of life and into bereavement. It includes management of pain and other symptoms and provision of psychological, social, spiritual and practical support (The National Council for Palliative Care, 2011).

Parents may begin stressed and grieving at the moment when their baby admitted to the NICU, some become stressed during the pregnancy knowing their infant no chance at life. The unexpected death of neonate is even more difficult when the nurse shares this journey with the family she gives meaning to the neonate life (Lisle-Porter & Podruchny, 2009).

Due to the experienced stress, in NICU stay can cause anxiety, depression and post-traumatic stress disorder in family members. Since the consequences for family members may be severe, it is reasonable that not only care is provided for patients, but nurses also care for families. This triangle, patient, family and professionals, is called a care triad (Noome et al., 2016).

Children face the highest risk of dying in their first month of life at an average global rate of 18 deaths per 1,000 live births in 2017. Globally, 2.5 million children died in the first month of life in 2017 alone (UNICEF, 2017).

In 2017, the number of births reported in Palestine was 136,349 of which 78,046 were born in West Bank, as 57.2% of all births and 58,303 in Gaza Strip, which 42.8% of all reported births in 2017, the incidence of neonatal mortality rate in 2017 at Gaza strip 9 per 1000 (MOH, 2017).

According to unpublished reports in the targeted NICUs in the Gaza Strip governmental hospitals the total number of neonatal admission during 2018 to (El Shifa hospital 2127 , El-Naser hospital 1719, European Gaza Hospitals 655, El-Threer hospital 1830) and the total number of death during 2018 in these hospital (El Shiffa hospital 273 , El-Naser hospital 63, European Gaza Hospitals 52, El-Threer hospital 117) (Unpublished report of MOH, 2019).

1.3 Justification

NICU nurses are facing the pain and suffering of a newborn continuous emergency needs and limited time, too excessive duties, NICU nurses face emotional pain caused by the death of a child, in the dying situation. The serious problem the nurse cannot give anything to dying neonate this is causes guilt and anger, experience negative emotions, such as fear of death, the dying process can take minutes to days. It also the ideas that should help the nurses have a peaceful deathmatch to reduce the unnecessary suffering and at the same time that the obligation to maintain the life experiences of emotionally confused round (Downey et al., 1995).

Nurses who provide end of life care for their patients often experience high work-related stress and poor Quality of Life (QOL). There are various factors that negatively influence psychological well-being and QOL among nurses provide end of life care. There is a need to explore these factors and identify specific measures to improve psychological well-being among nurses. Improving nurses' psychological wellbeing is essential to help them provide quality care for their patients (Baqeas & Rayan, 2018).

Nurses play an important role in supporting families who are faced with the critical illness and death of their child. Grieving families desire compassionate, sensitive care that respects their wishes and meets their needs. Families often wish to continue relationships and maintain lasting connections with hospital staff following their child’s death. A

structured bereavement program that supports families both at the end of their child's life and throughout their grief journey can meet this need (Mullen et al., 2015).

Most of studies concern about the neonate and their families little of studies interested to health team worker such as nurses, up to the researcher knowledge there is no studies conducted on stress due to end of life and coping strategies among NICU nurses in Palestine.

1.4 The study purpose

This study was conducted to identify stress levels due to end-of-life care, coping strategies, and psychological well-being among nurses in the neonatal intensive care unit, and to investigate the effect of stress levels and coping strategies on their psychological well-being. The findings of this study may contribute to improving the quality of work conditions related to end of life care at NICUs at Gaza Strip Hospitals.

1.5 Objectives

1. To determine the level of stress among NICU nurses.
2. To assess the coping strategies that used by NICU nurses.
3. To assess the relationship between stress levels, coping strategies and nurses' demographic characteristics
4. To determine the relationship between stress levels and psychological well-being of nurses
5. To determine the relationship between coping strategies and psychological well-being of nurses
6. To recommend strategies that help in improving work conditions at NICUs that may decrease end of life stress and promote coping strategies among nurses.

1.6 The research questions

1- What is the level of stress among nurses providing end of life care in NICU?
2- What are the coping strategies that the nurses used to cope with end of life care?
3- Does level of stress and coping strategies differ according to nurse age, gender, experience, number of own children, level of education …. etc.

4- What is the relationship between stress level and psychological well-being of nurses at NICUs?
5- Is there relationship between the coping strategy used by nurses at NICUs and their psychological well-being?
6- What are the recommendations to decrease end of life stress and promote coping strategies among nurses at NICUs?

1.7 Operational definitions

Stress: the level of discomfort that result from end of life care among nurses at NICU that may result from emotional stress (Depression, Anxiety, Irritability, Memory and concentration problems, Compulsive behavior), lack of knowledge, deficiencies of physical and structural environment and difficulties related to end-of life care practice that will be measured by using likert scale questionnaire.

Coping strategies: process by which a person deals with stress, solves problems or makes decisions, the coping strategies among nurses in NICU may be problem-focused coping, emotional focused, distancing, wishful thinking, seeking social support and tension reduction that will be measured by using likert scale questionnaire.

Psychological well-being: It's including self-acceptance, positive relations with others, autonomy, environmental mastery, purpose in life, personal growth that will be measured by using likert scale questionnaire.

1.8 The context of the study

This study was conducted in the governmental NICU in Gaza governorate. The researcher provides the background of the context of the study and variables that influence the topic under the study. The context involves demographic, socio-economic, political and Palestinian health care system context.

1.8.1 Demographic context

Palestine is situated on the eastern of the Mediterranean Sea. The total surface area of historical Palestine is about 27.000 Km^2 (Palestine, MOH, 2006). Mediterranean Sea, Lebanon, Syria, Jordan, Egypt, surround Palestine. Palestine was occupied in 1948 by

Israel, the two remaining parts are separated geographically (West Bank and Gaza Strip) after war in 1967. The total area of the Gaza strip and West Bank is about 6020 Km^2 with the total population living in is about 4,952,168 individuals (1,943,398 in GS and 3,008,770) (Palestinian Central Bureau of Statistics-PCBS, 2017).

Gaza Strip (GS) is narrow land, located on the south Palestine on the coast of the Mediterranean Sea. The total area of GS is about 360 square kilometers (PCBS, 2018). GS is overcrowded area, the estimated population at the end of 2016 about 1,912,276 with a population density of 5,239 inhabitants/ km^2. The proportion of population aged under 5 years (16.8% in GS) (Palestine Health Information Center-PHIC, 2017), the mean number of children ever born to ever-married Palestine women (15 Years and Over) in GS 4.5. In 2017, the number of births reported in Palestine was 136,349 of which 58,303 were born in Gaza Strip, which 42.8% of all reported births in 2017, five Governorate were divided Gaza Strip: Gaza Governorate, North Governorate, Mid-zone Governorate, Khan-Younis Governorate, and Rafah Governorate. This high population density in GS increases the overload on the hospitals care (PCBS, 2018).

1.8.2 Socio-economic and political context

The Gaza strip has suffered from three wars in eight years resulted in hundreds of fatalities and thousands of injuries; and further badly affected the already weakened status of the water, sanitation, health and power sectors in the GS (United Nations, 2017).

In the last decade the Israeli siege on the Gaza Strip has intensified and the restrictions on the West Bank and Jerusalem have increased. In 2017 marked the 50th year of Israeli military occupation of the West Bank, including East Jerusalem and the Gaza Strip.

Humanitarian needs throughout the occupied Palestine territory remain extensive, particularly in the GS. Increase number of unemployment, low incomes, the elevated coast of living (particularly for food) resulted in continued high levels of food insecurity in the occupied Palestine territory; 1.6 million people need health and nutrition support, and 1.9 million people require some form of protection assistance. In 2017, more deterioration in the Gaza Strip, in particular, its chronic energy crisis, exacerbates an already-fragile humanitarian situation as a consequence of the further deepening of the internal Palestinian political divide on top of the 10 years of Israeli blockade and periodic escalations of hostilities (UN Office for the Coordination of Humanitarian Affairs, 2017)

1.8.3 Palestinian health care system context

The health care system in Palestine is complex and unique under Israeli occupation. That strongly influences the healthcare system in Palestine. The consequences of closures and separation formed a great challenge for the Ministry of Health (MOH) by creating obstacles regarding the accessibility to health care services and affect the unity of the health care system in all Palestine Governorates (MOH, 2017) there are four major health care providers: the MOH, UNRWA, NGOs and the private sector (non and for profit hospitals). The MOH is the main HCP; it provides primary, secondary and tertiary care and purchases some services from private providers domestically and abroad. The Palestinian's overall health is relatively good compared to several countries of the region, major outbreaks of diseases are prevented and health indicators also improved by effective health services (WHO, 2006).

The health sector has faced significant challenges resulting from the impact of the Israeli occupation on the Palestinian people and Palestinian state institutions. The ongoing blockade, closures and roadblocks, arrests and human rights abuses perpetrated against women, children, the elderly and those with special needs, steps taken to prevent Palestinians from accessing safe healthcare services, repeated military aggressions, particularly against Palestine's southern governorates, settlement building, settler violence, and the construction of a racist separation barrier have all had a devastating effect on the physical and mental health of Palestinians and have undermined the Palestinian Government's efforts to establish an integrated healthcare system, through infrastructure development and the provision of services, with a view to meeting the needs of citizens (WHO, 2016)

There is also a chronic shortage of essential lifesaving drugs and medical disposables in Gaza's hospitals, where care for newborn babies, particularly those cared in intensive care. Medical supplies were in very short supply and health facilities were often not able to treat the sick during the crisis. The overall bad economic status of the Palestinians in GS increases the load on the government hospitals to provide secondary care especially in case of emergency and violence. This also increases the need for efficient healthcare provision and effective clinical supervisory system to effectively managing the services (WHO, 2017)

1.8.4 Neonatal Intensive Care Unit in Gaza governmental hospitals

There are 81 hospitals in total in the occupied Palestine territory, with 51 in the West Bank and 30 in the Gaza Strip. Bed capacity is approximately 1.3 beds per 1000 of the population, which is the same in the West Bank and Gaza Strip. The Ministry of Health accounts for 44% of bed capacity in the West Bank and 69% of bed capacity in the Gaza Strip. Nongovernmental organizations account for 40% of bed capacity in the West Bank and 24% in the Gaza strip, while private institutions provide 14% of bed capacity in the West Bank and none in the Gaza Strip (WHO, 2017)

The total number of nurses working at governmental hospitals in GS is about 2665 nurses and this is relatively not the satisfactory number in relation to a large number of the population served in the GS. Shortage of nursing may influence the quality of care provided and greatly stress the need for an effective clinical supervisory system in governmental hospitals (MOH, 2017).

Chapter Two:
Literature Review

2.1 Conceptual Framework

From the evidence of literature review the psychological wellbeing of nurses influenced by stress and coping strategies approved from end of life care moreover, all these may be influenced by age, educational level, marital status, children, duration worked at hospital, duration worked in NICU (year), number of cases of terminal care, education in terminal care. Reviewing the different previous literature, the researcher has designed the conceptual framework in the following figure.

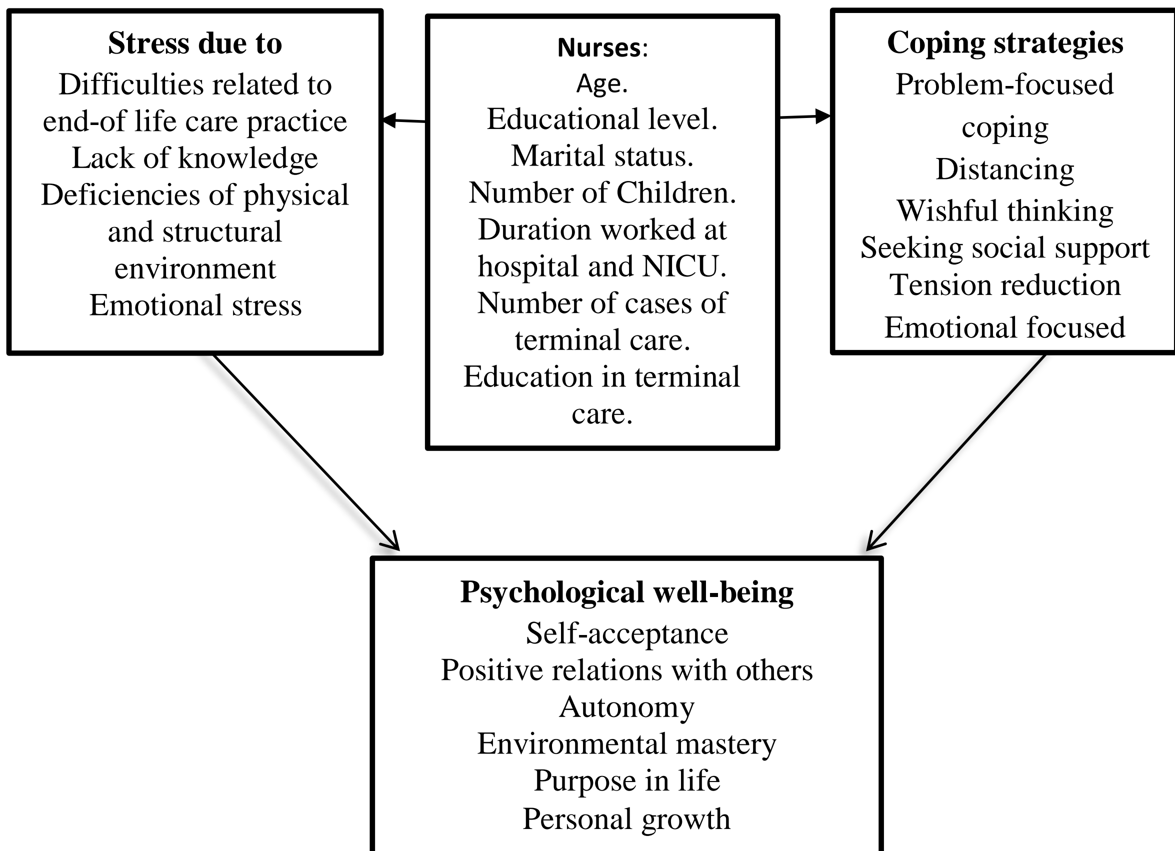

Figure (2.1): Conceptual framework

2.2 Preparedness of nurses to provide End of Life Care

According to a study in Taiwan the demographic data among neonatal nurses in this research were revealed the younger and less experienced working in the NICU. This may increase their educational needs regarding neonatal palliative care. The research revealed that few experienced nurses' mentor new nurses in caring for dying infants in the NICUs. This fact may also imply the importance of providing neonatal palliative care education for neonatal nurses. Nurses in this research reported minimal training, experience, and knowledge about applying neonatal palliative care. Although 88.7% of neonatal nurses reported having received some palliative care education, most of the training focused on adult palliative care. Despite caring for a large number of dying neonates, the findings reveal the nursing need for training in the basic principles of neonatal palliative care and should be prepared with the special skills, confidence and expertise to provide consistent and high-quality palliative care and need for training about pain control and communication(Peng et al., 2013).

In Korea NICU nurses' knowledge of palliative care was below standard across the board, implying that there is a definite need for palliative care education for nurses. The education program for palliative care should include a section that focuses on fostering a positive perception of death as well as defining and delineating the role of nurses (Wi & Kang, 2016)

Study was done in three tertiary pediatric children's hospitals located in urban areas and affiliated with the Children's Oncology Group: Health Riley Hospital for Children, Indianapolis, Indian; Cardinal Glennon Children's Medical Center, Missouri, USA and St Jude Children's Research Hospital (SJCRH), The main take-home recommendations for investigators who are planning training procedures for health care providers on delivery of EOL communication intervention include a minimum of three days to adequately train medical doctors and registered nurses dyads for collaborative delivery of an intervention and comprehension of required study procedures, use of trained actors as simulated patients/family members during training, use of parent advisors as consultants during training and intervention planning; and when conducting training for interdisciplinary teams, provide training on working as a collaborative team. The study proposes that integrating these recommendations into future training procedures for physicians and

nurses to deliver the EOL communication intervention will foster increased confidence and competence in these individuals (Hendricks-Ferguson et al., 2015).

According to Iranian study the results show, the nurses who failure to complete courses and workshops about the care of patients at the terminal stage of life was the main reason for the negative attitude of nurses. The results showed that nurses who had completed training courses and workshops of care had a better attitude to the final stage of life. Accordingly, such training can lead to the development of terminal care (Bayat et al., 2018).

In Jordan a study showed many nurses who provide palliative care for patients might not have basic education on various topics regarding palliative care. Furthermore, many nurses providing palliative care for their patients are not certified in palliative care. Nurses who provide palliative care for their patients who feel incompetent in this area might suffer from professional compassion fatigue. Subsequently, adequate preparation and training for nurses to provide palliative care might reduce their stress and their professional compassion fatigue (Baqeas & Rayan, 2018).

According to Ochsner Medical Center in U.S.A appear the educational deficiencies in nursing care of the dying exist. Nurses rated the lack of nursing education in EOL care as an obstacle. When asked how well their basic nursing education prepared them for providing EOL care, 71% rated pain management education as inadequate, 62% rated overall content of EOL care as inadequate, and 59% rated management of other symptoms as inadequate. Because of these deficiencies, EOL dilemmas and barriers to providing high quality EOL care are common in nursing practice (Hebert et al., 2011).

According to study in liberty university in united states the education can potentially play an important role in coping because it can teach newer nurses what they need to look for in regards to compassion fatigue and burnout syndrome in order to avoid it. Studies showed that educational seminars on compassion fatigue increased both awareness and resources for the prevention of emotional stress in the future. Participants in this study verbalized that they felt more at peace after the intervention (Rasberry et al., 2017).

According to study in the U.S.A appear many nurses expressed feeling inadequate in caring for grieving parents because of their lack of knowledge and expertise in end of life care. They felt hindered by lack of education and experiences about end of life care, this leads the nurse to feel stressed. The importance of nurses being able to express their own grief and found that they fared better with bereavement care if they a personal experience with death. Hospital and nursing administrators need to facilitate end of life care in the clinical areas by providing continuing education for staff. Such education should be tailored to the experiences of the nurses and ought to include an appreciation for cultural beliefs on death and dying, peer support group, bereavement-specific guidelines, and supportive work environment. Other areas of education that would benefit the nurse working with the family of a dying neonates are communication strategies, quality care at the end of life, ethical and legal issues, and self-care (Lisle-Porter & Podruchny, 2009).

The Ohio State University College of Nursing in Columbus show the palliative care education could greatly impact a nurse's relationship with parents during the dying process. NICU nurses believe that formal education would facilitate more effective EOL care. An important component of palliative care education is learning to communicate with grieving parents. Nurses report they lack knowledge and skills needed to comfort grieving parents. Courses in undergraduate and graduate nursing programs focusing specifically on EOL care vary. In one survey, 63% of NICU nurses had some formal content during their education, but only 42% were satisfied with the content. The study hypothesize that palliative care training will help nurses be comfortable providing EOL care to infants and parents (Fortney & Steward, 2014).

The study about attitudes of Iranian nurses toward caring for dying patients in this study, more than half of the participants (about 58%) had less than two years of experience in working with people at the end of life, and the majority of them (87.8%) had not received any education on how to care for them and their families. In addition, Iranian nurses are overworked due to the nursing shortage in the health care system. So, they may have limited time to spend with patients and their families in order to talk with them or even educate them about death and dying. Another possibility, as is related to cultural limitations (Iranmanesh et al., 2007).

According to results of study in Korea, EOL care education programs and protocols are necessary to improve NICU nurses' attitudes towards EOL care, content aiming to improve emotional intelligence should be added to educational programs, and education should focus on reducing negative perceptions and fostering positive perceptions of death. In addition, administrative and institutional support from hospitals should be provided to support such initiatives (Park &oh, 2019).

According to study in Isfahan University of Medical Sciences in Iran the study was a quasi-experimental, two-group and two-stage study in which 56 nurses working at Infants' and children's wards were divided into experiment and control groups. The results of this study showed the importance of planning for training courses in taking care of dying children for nurses working at infants and children wards. The findings showed that if nurses of infants and children wards participate in training courses for dying child, they will have a more positive attitude about taking care of these children. The results of the study also supported the previous international requirements, through which it was required to place the end-of-life training among the nurses training syllabus (Boroujeni et al., 2010).

According to Quasi experimental design study in Menoufiya University Hospital Egypt the finding of study revealed that the age of the studied nurses were 35- 40 years and most of them were bachelor degree , also more than one quarter of them had range of experience ranged from 5 – 10 years and most of them none caring for dying children in the past year, the study reflected that there was significant difference in nurses' knowledge pre- post intervention regarding care of chronically ill who found that palliative care education can make difference in nurses knowledge and provide information help them to increase their confidence in dealing with the ethical and legal issues they experience. In relation to nurses' attitude pre-post intervention regarding care of chronically ill children's, it was noticed that there was highly significant difference in nurses' attitude pre/posttest intervention related to care of chronically ill children. Also, that's possible the healthcare professionals find it easier to control physical symptoms (versus emotional and ethical issues), and therefore healthcare professionals feel more comfortable about their ability to control physical symptoms such as nausea, vomiting and constipation. Additionally, controlling symptoms often have more tangible effects; it may be that the emotional and ethical issues a huge problem when cannot be the ability to control (El-Nagar & Lawend, 2013).

According to study among undergraduate medical and nursing students in Buenos Aires, Argentina the study conducting to 730 students. Seventy-three percent of nursing students and 65% of medicine students, had direct exposure to dying patients. Students' attitudes towards dying patients, was positive and with a feeling of empathy for the patients. In their approaches to interact with terminally ill patients in the future, 51.3% of nursing students and 57% of medical students, expressed their wish to engage in a relationship that would allow the caregiver to adapt to the needs of the patients. In medicine as well as in nursing, it was impossible to establish a relation between the course year (first and last) and the training received to understand and care for patients near their end-of-life. However, students of both careers referred to have been trained more on the meaning of suffering and death than on the technical aspects of caring for dying patient (Mutto et al., 2012).

According to Iranian study show the training may facilitate the implementation of EOL approach by reducing stress, the fatigue caused by empathy, burnout, and post-traumatic stress syndrome in healthcare providers. Therefore, training programs containing instructions about the philosophy and advantages of palliative care, principles of multidisciplinary and collaborative work, symptom management using pharmacological and non-pharmacological methods, communication skills, religious and spiritual sensitivities, ethical and legal principles regarding the discontinuation of treatment, coping mechanisms, and supportive resources seem to be essential. To provide instructions, various approaches could be adopted, such as workshops, online educational courses and forums to share professional experiences (Salmani et al., 2018).

2.3 Stress due to end of life care in Neonatal Intensive Care Unit (NICU)

The death of the newborn is always a very difficult time for professionals as they establish a strong bond with the infant and his/her family. The people also emphasize that it is always more difficult to accept the death of a newborn than an adult or elderly. The nurse begins to experience some of the daily life of that family, knowing their anxieties, fears and intensely participating of their daily routine, at a time of family fragility. Nurses wonder to what extent they should invest in maintaining life of seriously ill neonates who do not have a good prognosis, since that decision is not up to the nurse (Almeida et al., 2016)

In 2014 studies quoted in Muraczyńska's publication show that 61.5% of nurses have had certain emotional problems related to the patient's death. On the basis of the comparative analysis of these studies with the up-to-date studies it is possible to suggest that situations of end of life care still bring nurses significant emotional distress. Supposedly, such emotions are evoked upon breaking off strong emotional bonds which are established between the patient and his or her nurse. Death suddenly breaks them off and leaves emptiness (Żurek et al., 2014).

In UK the study shows there was no strong evidence that palliative care or hospice nurses experienced higher levels of stress than nurses in other disciplines. Common causes of stress were the work environment, role conflict, and issues with patients and their families. Constructive coping styles appeared to help nurses to manage stress; the managers have a key role in providing education and training for palliative care nurses to support their personal development and to help reduce vulnerability to and the impact of stress in the workplace (Peters et al., 2012).

Nurse's reported feelings of helplessness and intense sorrow when baby dies, as a result they experienced the physio-emotional responses of chronic fatigue decrease interest in exercise, irritability and being overcritical, the greatest help in coping with grieving came through discussion with coworkers, a chaplain, the patient's family and nurse's own family (Downey et al., 1995).

In study about exploring neonatal intensive care nurses' affective responses to providing End-of-Life Care in The University of Tennessee, Knoxville in U.S narrative analysis revealed many affective responses, but three were the most frequent: responsibility, moral distress, and identification. Feelings of responsibility included a commitment to deliver the best end-of-life care possible, professional inadequacy, disbelief, and advocacy. Feelings associated with moral distress were quite common and often related to conflicts between nurses, physicians, and families. Nurses reported feelings of identification with families of dying infants through sharing their grief, forming excess attachments, and experiencing survivor-like guilt (Lewis, 2013).

A study was performed at the Israelite Hospital Albert Einstein in Brazil, this study conducted in three different areas the adult intensive care unit (78.70%), with pediatric intensive care unit coming second (14.7%) and neonatal intensive care unit coming last

(6.7%). Regarding working shifts, most belong to the night shift (53.3%) and have a postgraduate degree (93.3%). The results observed in this study do not show impact on the stress levels in different working shifts. However, investigations on this topic show that individual differences, situations at work and changes in sleep and wake may be responsible for the nurse's stress, with one of the agents being the alternating working shifts - particularly the night shift. According to data from investigations on nurses' stress, post-graduation may be a positive factor for the professional, since it usually leads to seeking out new projects, increasing self-esteem and contributing for a better performance and security to face the stress factors (Cavalheiro, 2008).

A study in Pediatric Intensive Care Units (PICU) in Australian have shown that gender, age, and having children or not did not influence burnout and PTSD levels, with regards to work-related variables, only the occurrence of the death of a patient and having had conflicts with work colleagues or patients/families the week before were associated with higher burnout and PTSD. Thus, when working staff are struggling with immediate additional difficulties, they tend to be more distressed, it could be also that cumulative stress leads to a reduction in their perceived capacity of resources, which influences the way they report on themselves. Other variables, such as number of nights shifts the week before or years of experience did not influence clinicians' mental health in this study group. Taking care of clinicians' mental health, by developing programs and policies that provide support to them would likely contribute to decline the problem of a shortage of critical care personnel. Programs based on mindfulness training or teaching stress management skills have proved to be useful in reducing the stress associated with working in intensive care and increasing clinicians' quality of life (Rodríguez-Rey et al., 2018).

In Jordan the study was shown the high levels of stress experienced by nurses providing end-of-life or palliative care might have negative consequences not only on nurses but also on the health care organization and retention of nurses in their jobs. As a response to high levels of distress, nurses could experience frustration, burnout, stress, and leave their jobs. Because of the high levels of work-related stress and the emotional demands of palliative care nurses, the retention and recruitment of nurses providing hospice care have been a challenge, the study assessed the levels of distress and its consequences among palliative care nurses and found that about 45% of the participants have reported a desire to leave their job because of the high levels of distress associated with palliative care. The difficulty

of retention and recruitment of palliative care nurses can have a negative impact on the care provided for patients and increase workload among nurses who are currently providing palliative care. Providing care for the patients receiving futile treatment and life-sustaining care such as mechanical ventilators is considered among the most commonly reported stressful aspects of palliative care. In fact, the futile treatment and life-sustaining care might include providing aggressive care that could not result in a survival for patients, which could increase the risk for moral distress among nurses (Baqeas& Rayan, 2018).

According to study in liberty university in united states appear both hospice and hospital staff recorded that the ethics of decision making at the end of a child's life was a challenging obstacle. There is an invisible line of transition between curative measures and end-of-life treatments, but deciding when this transition occurs is dreadfully hard on both health care workers and parents. Nurses reported increased anxiety when families insisted on continuing treatments that were not in the child's best interest. Another big stressor experienced in this kind of unit was the fact that nurses were not able to share the entire truth with children if their family members did not permit it. This also raised ethical concerns because if the child knows less, the child has less of a view and control of their own care. Communication with the family is another difficulty that professionals have identified as stressful. Doctors and nurses reported that sometimes they end up avoiding the families altogether because they feel they are at a loss for words and are anxious about using the terms death or dying (Rasberry et al., 2017).

According to Azerbaijan study in Iran about assessment sources of nurses stress in NICUs the study shown human factors, the most important stressors for the nurses were health and safety risks, watching the infants suffering, times taking care of very ill infants, unpredicted, unorganized working shift schedules, dealing with dying or dead infants, not having access to physicians or residents in emergency cases, death of an infant with whom they had a close bond, having responsibilities in the NICU without enough experience, not having enough time to finish all nursing tasks, getting criticism and blames from the physicians, and having more than standard responsibilities (Valizadeh et al., 2012).

The literature review study about nurses' experiences of ethical problems in the end-of-life care of patients was shown that nurses experienced decision-making, ineffective treatments and therapies, insufficient communication, the lack of cooperation, inadequate respect for patient's autonomy and uncertainty in caring role as ethical problems in the end-of-life

care of patients. The study shown that nurses experience different ethical problems because of their different responsibilities in the end-of-life care of patients. The study also shown that most ethical problems in the palliative care are related to the insufficient communication and cooperation with patients, families and other health care professionals. Communication and cooperation as two important skills facilitate relationships among patients, families and nurses at the end-of-life care and decrease ethical problems (Winnberg, 2015).

According to retrospectively view study in Sa˜o Joa˜o Hospital in Portugal appear a neonatal death in the NICU results in a great deal of spiritual distress and can initiate a serious crisis of meaning and connection, which highlights the need for religious and spiritual support to families and caregivers. the parents draw on and rely on their spirituality to guide them during end-of-life decision making, to find meaning in their loss, and to sustain them emotionally. We observed a major increase in the number of Christian interventions in response to families' spiritual needs, which suggests more acceptance and integration of spiritual issues during end-of-life care in the NICU and emphasizes the significance of having access to a clergy persons as an important part of good care (Moura et al., 2011).

According to an Iranian study, there was show frequent contact with death and sorrow can cause job stress and affect the quality of care of dying patients and their families. In the care of dying patient's care environment, not only the family affected but also the nurses face stress and severe anxiety. Inevitably, witnessing the scene of death and sorrow, with families crying around, intensifies nurses' distress. Nurses experience moderate to severe anxiety at the time of patient death, also reported high levels of anxiety in pediatric ICU nurses. end-of-life care was an important factor for increasing nurses' distress and leaving their job (Heidari & Norouzadeh, 2014).

According to a study in Korea appear in case the subject was young, with work experience of 1~5 years, single, female and position of the general nurse, the turnover intention was statistically significantly higher. Turnover intention, supervisor's support, nursing work environment, organizational commitment and ego-resilience showed significantly negative correlations, but burnout showed significantly positive correlations. In the case of controlling general characteristics, higher correlational variables with turnover intention accounted for 30.2% (Bin et al., 2013).

A study was performed at the Israelite Hospital Albert Einstein in Brazil, this study conducted in three different areas the adult intensive care unit (78.70%), with pediatric intensive care unit coming second (14.7%) and neonatal intensive care unit coming last (6.7%). Characteristics related to age, number of children, length of time working in the hospital and length of time in the career presented in descriptive measurements identified a majority between 23 and 47 years of age (SD ± 5.8). The number of children averages at 0.5 (SD ± 0.9), and length of time working in the hospital and career were 5.8 years (SD ± 5.2) and 5.1 years (SD ± 5.1), respectively. Such data shows that a large amount of the nurses who belong to intensive care units has been working in the institution since graduation. This fact may help the professional to reduce the feelings of stress, with a higher experience and identification with the workplace probably causing a lower negative stress impact. Marital status and number of children were not found to be relevant as a stress source. As for the relation between the analyses of information regarding working conditions, such as questions referring to the nurse's satisfaction with his/ her activity in the intensive care unit, there was a prevalence of professionals who were dissatisfied with their work. Shows the distribution of frequency of nurses who reported being dissatisfied with their work. It was observed that, when questions referred to stress levels, following the sequence of the questionnaire, there was a correlation between the dissatisfaction score and the sources of stress (Cavalheiro, 2008).

According to study in Brazil appear the nurses' express feelings of suffering at work regarding young critical patients the fact that many takes problems home, becoming involved with the patients' relatives, team work, alternating work shifts and absenteeism, and ICU technology. The feelings of suffering that originate from these factors demonstrate the difficulties that nurses deal with at work, which can affect the care rendered to patients and their families, as well as the mental health of these professionals (Martins & Robazzi, 2009).

According to study in East Carolina University in USA appear nurses working with children who are dying can be extremely difficult and trying to everyone involved. Repeated exposure to the traumas experienced by patients and their families can exacerbate symptoms of compassion fatigue and primary traumatization. This study accentuates the need for providers to care for themselves personally and professionally. Educational seminars that introduce the topic of compassion fatigue and provider coping strategies

should be incorporated on all ICUs with children, because this study found it to be effective in reducing clinical stress and compassion fatigue. The nurses in pediatric ICUs, the passion in caring for patients should be the same passion that we have in caring for ourselves. If providers neglect caring for themselves and recognizing the symptoms of compassion fatigue, we may be compromising our ability to care for the patients at the high standard we expect from health care providers (Meadors & Lamson, 2008).

According to study about student nurses' experience of their first death in clinical practice in University of Glamorgan in the united king appear the reality of death and the symptoms observed seemed to be very influential in shaping the overall experience. The words that the students used to describe what they saw were very negative, awful, this replicates the earlier findings. This difference between expectation and reality has direct implications for the teaching of skills. the drama could assist in the provision of effective education in death-related issues, e.g. through the safe simulation of experience. Indeed, the use of scenarios and simulation in nursing education is both increasing and developing. However, such simulations would-be teacher- and time-intensive for large numbers of students. Alternatives such as the use of a video showing the completion of last offices (on an actor) may be helpful if shown prior to placement and provided that support is available following the screening. However, it may simply not be possible to entirely prepare students for such deeply affecting personal experiences (Parry, 2011).

According to study in Tata Memorial Hospital in India show the intensive care unit (ICU) work environment is demanding and challenging. Doctors, nurses, and technicians all form part of a multidisciplinary team that strives to improve outcomes in sick patients, many of whom are likely to die. However, in this quest for good outcomes for patients, we often overlook the impact of intensive care on health care workers. In the ICU, there are often moments of intense accomplishment and reward, but there are also many moments of emotional turmoil, frustration, and defeat. Doctors and nurses are faced with the burden of making difficult decisions, breaking bad news, and bearing the emotional impact of dying patients and their families. These factors undoubtedly contribute to stress and burnout amongst health care workers in the ICU (Divatia, 2014).

According to Canadian study appear the death and dying were spoken of as largely a culturally taboo topic in hospitals. Participants′ attitudes towards end-of-life communication and decision-making reflected a dominant cultural, economic construction

of hospitals, doctors, medicine, as primarily about saving lives: warding off death, not overseeing the dying. Participants′ descriptions reflected a general assumption on their part and the part of patients and families that patients were admitted for hospital care to regain health, not to die. Care continued under this assumption until death was imminent. Importantly, participants described a norm of discussions being avoided until doctors (and sometimes nurses) recognized that life-saving interventions were increasingly futile and that death could not be postponed. Physicians and nurses characterized communications with patients or more often families as difficult and stressful when they felt the urgency to communicate with families primarily to prevent delivery of futile care. Discussions about life-sustaining technology at such late points in the patient′s life (or illness) focused on ′getting the DNR [do not resuscitate]′ (resident physician), and writing it in the chart (Kryworuchko et al., 2016).

According to American study appear nurses working in high-risk areas such as pediatrics, oncology, and critical care are vulnerable to burnout because of patients' intense needs, uncertain outcomes, and the highly charged context of the nurses' work, particularly the impact of ongoing witnessing of suffering and death. Burnout is an important contributor to retaining trained nurses in their roles. Burnout scores of hospital nurses are significantly high. In this study appear 1 of 5 nurses indicated that they intended to leave their position within 1 year. Targeting nurses in these high-risk areas will address an important segment of nurses who have the potential to most markedly affect a health care organization's bottom line (Rushton et al., 2015).

According to Canada study reported that nurses are the healthcare professionals who have the most intimate experiences of children's dying and their death. They also reported that nurses face death with a certain amount of pragmatism while at the same time reporting difficulties in handling their emotions in relation to the death of a child they had come to know well. Nurses reported a variety of feelings toward caring for a dying child from cancer. Those feelings were sadness, helplessness and weakness to overcome their own anxieties and dilemmas that arise when providing ongoing support to the child and family. Not being able to reach the child within a therapeutic relationship influenced nurses' motivation in providing care to these children (Yadegari et al., 2018).

The Study in Townsville Hospital in Australia about the barriers in neonatal units included nurses' values and moral dilemmas, beneficence and nonmaleficence, nurses' exposure to death, emotional control and protection, stress, grief, lack of optimal environment, and lack of education in palliative care principles. The moral distress was reported by nurses when they perceived an escalation of treatment via the use of technology in a futile situation. Moral distress was a result of treating a neonate with no hope of survival and contributing to false expectations of the parents. Moral distress has also been identified when nurses perceived continued intensive care was being provided which was not in the best interests of the neonate (Kilcullen & Ireland, 2017).

According to Iranian study appear the ethical distress in the healthcare providers of palliative care could be addressed by providing the opportunities to reflect and discuss the critical thinking outputs regarding values, beliefs, and ethics, especially when different aspects of care are in contrast with the personal values of the caregivers. Furthermore, ethical decision-making is a learned skill and an effective measure to eliminate ethical distress. However, it demands clear executive policies regarding the implementation of palliative care (Salmani et al., 2018).

In Jordan a study investigated sleep disturbances among nurses and found that nurses provide care for critically ill patients such as the ICU patients are at high risk for sleep disturbance, which was associated with poor QOL. In addition, occupational stress was found to play a significant role in sleep disturbances among nurses. The researchers assessed the health-related quality of life (QOL) among nurses and compared their scores with scores reported by the general population. The results indicated that nurses had problems with their activity, in addition to pain levels, discomfort, and depression and anxiety, which indicates that nurses have relatively poor QOL in these aspects compared with the general population. (Baqeas & Rayan, 2018).

According to study in Korea aimed to identify the effects of NICU nurses' perceptions of death, EOL care stress, and emotional intelligence on attitudes towards EOL care, the showed most of the subjects were female (99.1%), with an average age of 29.2 years, and 22.5% were married, while 13.5% had children. Only 25.0% of the subjects who reported a religious affiliation (36.0%) stated that they were faithfully living a religious life. Most of the subjects were general nurses (87.4%); and about 46.9% of the subjects had a total clinical career of less than 5 years, while 55.0% had a NICU clinical career of less than 5

years. On average, the subjects had experienced deaths of their patients 7.32 times, and 36.0% had experienced the death of an immediate family member during their period of duty. Furthermore, 72.1% of the subjects had not received EOL care Education no statistically significant differences were found in perceptions of death and EOL care stress according to the general characteristics of the subjects. However, emotional intelligence showed a significant association with occupational position, academic degree, and whether the subject had received EOL care education (Park & oh, 2019).

2.4 Coping strategies for end of life care in Neonatal Intensive Care Unit (NICU)

According to study in São Paulo in Brazil appear nurses seek strategies to cope with loss and dealing with family in these situations, reflecting on the efforts made to maintain the life of the newborn. Accordingly, being faced with the possibility of newborn death in their daily lives is faced with the difficulty of deciding the feasibility of treatment for seriously ill patients and nonconformity with death when therapeutic measures do not achieve success. The daily life of the neonatal ICU of nursing professionals is not sufficient to prepare them to deal with the death of a newborn. Feelings of guilt, failure and denial of death emerge, representing difficulty in understanding the transition life and death at this moment. (Almeida et al., 2016).

In Australian fifty-six percent of Pediatric Intensive Care Unit (PICU) working staff reported burnout in at least one dimension (36.20% scored over the cut-off for emotional exhaustion, 27.20% for depersonalization, and 20.10% for low personal accomplishment), and 20.1% reported Post Traumatic Stress Disorder (PTSD). There were no differences in burnout and PTSD scores between PICU and non-PICU staff members, either among physicians, nurses, or nursing assistants. Higher burnout and PTSD rates emerged after the death of a child and/or conflicts with patients/families or colleagues. Around 30% of the variance in burnout syndrome (BOS) and PTSD is predicted by a frequent usage of the emotion focused coping style and an infrequent usage of the problem-focused coping style (Rodríguez-Rey et al., 2018).

According to study in New York University the Roy Adaptation Model (RAM) was the nursing model that guided the study to help understand that nurses are an adaptive system, using censoring as a compensatory adaptive process to help function for a purposeful cause. Nine female nurse participants with one to four years of experience were

interviewed. The context of the experiences told by nurses caring for dying pediatric patents uncovered seven essential themes of empathy, feelings of ambivalence, inevitability, inspiration, relationship, self-preservation, and sorrow, and these themes demonstrated a connection formed between the nurse and the patient (Curcio, 2017).

According to study in liberty university in united states conducted for 395 nurses were selected and completed a ways of Coping questionnaire. The results of this questionnaire showed that sociodemographic, educational, and job characteristics may have an impact on the ways in which a nurse will cope. In this questionnaire, it was discovered that nurses with more education and more work experience were able to better come up with problem solving strategies than others with less education and experience. The nurses with less education relied more on prayer than nurses that graduated from universities who relied more on problem solving. Women also are more prone to use emotional strategies to cope such as prayer and the search for divine intervention, while men were more prone to use strategies focused on problem solving. The gender findings were expected, according to the authors of the journal detailing this study, these nurses, once adjusted to the ICU, have more autonomy which could lead to an internal locus of control, or the belief that they can change their circumstances. This type of way to cope with stress is beneficial because it reduces their perceived workplace stress. Another aspect that could be involved is the bond that critical care nurses have on the unit, creating a support system and therefore, increasing the ability to conquer stressors (Rasberry et al., 2017).

According to Korean study the results suggest that pediatric nurses' perception of obstacles and supportive behaviors in end-of-life care need to be assessed when considering turnover intention. Furthermore, psychological counseling should be offered to nurses to prevent burnout and reduce moral distress which is correlated with the turnover rate (Baek & Kang, 2018).

A study conducted for national sample of 490 critical care nurses was recruited from the American Association of Critical- Care Nurses News line and social media the primary aim of this study was to explore the relationship between unresponsive cardiopulmonary resuscitation stress (postcode stress), PTSD symptom severity, and the coping behaviors of critical care nurses. A weak ($r = 0.20$, $P = .01$) association between postcode stress scores (postcode stress severity) and IMPACT OF EVENTS SCALE-Revised (IES-R) scores (PTSD symptom severity) was demonstrated. Statistically significant correlations were

found between the effective coping behavior of acceptance (r = 0.24, P = .01), the ineffective coping behaviors of self-distraction (r = 0.14, P = .01) and self-blame (r = 0.16, P = .01), and postcode stress severity. PTSD symptom severity was also correlated with all of the 7 coping behaviors: acceptance (r = 0.24, P = .01), instrumental support (r = 0.46, P = .01), active coping (r = 0.45, P = .01), denial (r = 0.69, P = .01), behavioral disengagement (r = 0.69, P = .01), self-distraction (r = 0.68, P = .01) and self-blame (r = 0.70, P = .01) (McMeekin et al., 2017).

In Brigham Young University in USA the NICU nurses suggested ten cohesive themes to improve End of Life Care obstacles there were identified: identified: (1) environmental design issues, (2) improved communication between healthcare teams, (3) ending futile care earlier, (4) realistic and honest physician communications to families, (5) providing a “good death,” (6) improved nurse staffing, (7) need for EOL education, (8) earlier entry into hospice/palliative care, (9) availability of ancillary staff, and (10) allowing parents more time to prepare for death (Beckstrand et al., 2019).

A study was conducted to student nurses in Sacred Heart University in USA, the students identified the emotions, particularly sadness and grief, that are experienced during end-of-life care. A few of the student's reflections captured the emotional impact on the student, exploring their role as a nurse and emotional caregiver. The nursing students were surprised to learn that one of the simulation faculty had lost a child of her own. The students felt having the opportunity to ask someone with direct knowledge specific questions regarding grief was very beneficial. Students identified the challenges that exist when caring for the child and their family during an emotional time, including the decisions that are made, communication, emotions and comfort. Self-care was also discussed during the debriefing sessions. Only three students identified spirituality and end of life care in their reflective responses, however, spirituality was discussed and explored during debriefing (Cole & Foito 2019).

In UK a study showed nurses who learn to apply effective coping strategies may be able to moderate the impact of palliative care work stress. Learning to cope with palliative care roles was found to be a process of self-development in which nurses constructed and were able to maintain a sense of self. The employers and managers have a key role in providing education and training for palliative care nurses to support their development and to help reduce their vulnerability to and the impact of stress in the workplace (Peters et al., 2012).

Case study research was mad in Haven of Hope Hospital in China about coping strategies in the face of death revealed each individual cope in his or her unique way. People in the same family may cope with the same stressor in very different ways. Coping is a fluid and dynamic process and individuals will change from one coping strategy to another. Moreover, it is also an interactive process – there are interactions among patients, their families and health care professionals. As palliative care workers, we should try to understand these processes in order to serve the needs of our patients and their families with respect, honesty, flexibility and empathy (Man, 2009).

According to literature review study appear that the education of staff around grief theory, support from others and the development of coping strategies could help support nursing staff in this area of their work. Awareness of their personal responses to loss and of the impact of the culture in which they work may also contribute to their understanding and therefore their responses following the death of a patient (Wilson & Kirshbaum, 2011).

According to literature review study in federal university in Brazil the NICUs are places that generate tensions and stress, motivated by interpersonal relationship, intense emotions caused by the constant exposure to risks of dying, by the frequent oscillation between success and failure and by the demands imposed on the team. With all these stimuli, feelings such as inadequacy, insecurity and impotence arise, which can influence negatively in the interpersonal relationships and the professional ability, thus creating a vicious circle, marked for the difficulties in the interpersonal relation with patients´ family, difficult relationships with some members of the multi-professional team, desire to abandon the work, the emotional exhaustion, the lack of professional accomplishment the overload of work (overcrowding, unpreparedness of the team technique, inappropriate physical space) among others factors, will influence negatively in the quality of life in the work (Fogaça et al., 2008).

According to Iranian study showed crying may have a profound therapeutic effect in helping nurses deal with feelings of distress. When a patient whom a nurse takes care of for a long time passes away, the nurse feels attached to the patient and sees the patient as his or her own family. As a result, the nurse would cry but still help the family finish the remaining care and without interrupting care for other patients. Therefore, in the long-term care, crying can be a good strategy to provide emotional support. If, however, there are no tears in the nurse's eyes, it cannot reflect negative comments and thoughts such as being

“not professional,” “emotional,” and even “putting too many feelings toward the patients.” In any case, weeping and mourning for a long time are likely due to nonadaptation after bereavement (Heidari & Norouzadeh, 2014).

According to study in turkey reveal the majority of nurses stated that they had strong or very strong religious beliefs, and nearly half of the nurses (45%) expressed that being religious greatly affects their attitude toward death and toward the dying patient. also, 43.3% of the nurses expressed that not being religious does not affect their attitude toward death and toward the dying patient so, nurses who stated they had strong religious belief reported less fear and avoidance of death, and higher approach acceptance compared with nurses who have fewer religious beliefs. In similar to this finding, studies indicate that a belief in God and in the afterlife is associated with a more positive attitude toward death and dying among nurses, doctors, and the general population (Cevik & Kav, 2013).

According a study in Brazil showed when the nurses’ express feelings of suffering at work regarding neonatal critical cases the individual should identify for the coping strategies, nurses reported searching for strength in religiosity, engaging in physical activities, and withdrawing from patients and their relatives. Coping strategies are essential to protect oneself against suffering but, when used collectively, they can strengthen the team through the process of bonding among workers, because work should not be merely a task, but rather a common life experience of facing the resistance to reality, and assigning meaning to work, the situation, and suffering. There are methods for workers to deal with the suffering experienced in their work site, as each human has his or her own beliefs, culture, meaning of life, and other factors which influence them. However, that does not mean that one is free from searching, reflecting, and trying, collectively, to find new ways to organize work, so that men are not only a set of insurmountable rules, in which the only aim is to justify one’s own behaviors (Martins & Robazzi, 2009).

According to a study about newly graduated nurses working in isolation with palliative patients in University Alumni in London suggests that role modeling of how to engage in conversations and communicating effectively with patients and families experiencing the end of life issues is a useful tool. Participants in this study identified the need to support people who were regarded as experts in the workplace to offer advice and guidance and respond to questions that new graduates had and for professional development to enhance their skills and knowledge. Participants acknowledged the benefits of sharing real-life

experiences, particularly when addressing how to deal with their own personal stress and reactions to the loss of a patient. In the workplace, senior staff can take the lead in supporting and being a role model for new graduates. support the practice of reflection on practice and recommend that new graduate nurse programs should provide participants with an opportunity to evaluate their knowledge and skill concerning palliative care through reflection, to encourage their understanding of its meaning and to nurture resilience (Anderson et al., 2017).

According a study in Sweden indicate that nursing personnel health promotion that integrates tactile massage or hypnosis may help to support some nursing personnel deal with a very stressful work environment. suggesting that nursing personnel experience high levels of work-related stress. Tactile massage and hypnosis may hence be useful complements to other health promotion activities as the health promotion interventions allow the body and mind to rest. It may also contribute to positive aspects in the nursing care and improve the nursing personnel's ability to support their patients and colleagues as their tolerance and patience had reached a higher threshold. The health promotion interventions were appreciated by most of the personnel and it gave them the ability to deal with the high dependency nursing care environment. they had the energy to continue their shift and enjoy a better social life in their free time (Airosa et al., 2011).

A study in Greece appear workshops targeting to facilitation and verbalization of feelings, normalization of experience, relaxation techniques teaching, conflicts solving and positive reappraisal may help both to stress responses modification and stress coping. on the one hand nurses could be taught ways to create positive meaning from difficult situations and on the other they may be helped to discover effective stress coping strategies in an individual level. In addition, interventions at an institutional and organizational level, including additional supervisor support, staff recognition policies, and more breaks provision, may be proved helpful to more supportive work environments establishment, preventing stress on a primary level (Sarafis et al., 2016).

According to Malaysian study about challenging and coping strategies on delivering home based End of Life care appear nurses visiting patients with a seniors was useful nurses. Senior colleagues are also a source of emotional support and guidance for patient management. Sharing with close family members were also important ways to cope. Nurses value informal and formal debriefing sessions. Positive feedback from parents

during home visits and at bereavement visits reinforces their role as palliative care nurses. The 24-hour service for patients helped reassure nurses that their patients are cared for at all times. When faced with challenging home visits, nurses coped by being mentally focused and emotionally prepared, maintaining professional boundaries with compassion and reminding themselves that they cannot fix everything all the time. Some nurses mentioned that prayers and meditation was helpful when she was stressed after work. Nurses felt the learning experience from each family enhanced their confidence and resilience. Following the death of their patients, some nurses were worried for the parents and knowing that they were coping was comforting (Chong & Abdullah, 2016).

According to York University in Canada the nurses identified the need for nurse self-care, further clarification of palliative and bereavement care in NICU, and inter-professional relationships. nurses were invited to share an anonymous, written response to the identified patterns as part of the research process. it was affirming that the nurses recognized the relevance of call-to-presence followed closely by their experience of knowing/ unknowing in end-of-life situations (Lindsay et al., 2012).

2.5 Psychological wellbeing that related end of life care in Neonatal Intensive Care Unit (NICU)

In Korea a study showed the factors affecting the well-being of the participants were wishful thinking, problem-focused coping and seeking social support, in order. Those three variables explained 21 % of the total variance in psychological well-being. Problem-focused and seeking social support were positively associated with psychological well-being, while wishful thinking showed a negative association, in order to improve the psychological well-being of nurses in neonatal intensive care units, it is necessary to provide nurses with a program to build a social support system and to improve their problem-based coping skills (Kwon et al., 2018).

According to Queen's University Belfast study showed it is not feasible to draw any meaningful conclusions about what psychosocial interventions are effective in improving the psychological wellbeing of palliative care staff. The implications that the lack of high-quality research needs to be addressed and, furthermore, interventions need to be developed more thoughtfully. The study showed increases awareness of the lack of research, and lack of quality of the research, in this area which means that, as yet,

psychological outcomes for palliative care staff have not been meaningfully improved (Dempster et al., 2016).

In Australia, the burnout level of nurses working in NICUs and the effects of burnout on their quality of life is reported. It was found that nurses had a moderate level of emotional exhaustion and personal accomplishment, and a low level of depersonalization. It was also observed that nurses at management level, and those unhappy in their working environment, had greater emotional exhaustion. Moreover, the results showed that burnout at the personal accomplishment level increased with nurse age and the number of years working in a NICU. Additionally, the quality of life of the nurses decreased as their burnout level increased (Aytekin et al., 2014).

Neonatal intensive care nurses at Lithuanian Centers of Perinatology regularly experienced job-related emotional and physical tension that was reflected on their moderate emotional exhaustion. The degree of depersonalization was low for the majority of neonatal intensive care nurses although their personal accomplishments, especially those related to interaction with patients and emotional calm, were estimated as insufficient. There is a need for neonatal intensive care unit nurses' relaxation training and managerial interventions to improve their working environment (Skorobogatova et al., 2015).

According to an Iranian study, nurses with higher beliefs had a more positive attitude toward death. Regarding the work experience of nurses, they concluded that nurses with less professional experience had a more positive attitude toward death. The study showed that attitudes in the care of a dying patient during the training program had a positive change. The theoretical and clinical education of palliative care has a positive impact on end-stage care, as most students finally felt they were ready to take care of patients and families of dying patients. In comparison for Turkish nurses towards death and care of dying patients were less than the attitudes of nurses reported in other studies, which could be due to cultural differences. The results of this study indicated that there was a need for further education research and better development of educational programs to help nurses for discovering their attitude towards death, increase communication skills and strengthen stress management strategies (Bayat et al., 2018).

In Jordan a study showed high stress levels directly affect the ability of the individual to maintain healthy interpersonal relationships with others. Establishing unhealthy interpersonal relationships with others might be associated with poor satisfaction with the social aspects of Quality of Life (QOL). Furthermore, high levels of anxiety and stress might result in poorer psychological well-being. The results of the study revealed high levels of anxiety, stress, and depression among these nurses. In addition, the high workload among nurses was associated with poor psychological health and impaired attention process in addition to psychomotor decline. Such impairment in cognitive function has an impact on thought, attention, learning, perception, and memory. This is associated with difficulty in carrying out activities of daily living and nursing care to the patients and directly influence quality of life of nurses. Subsequently, working with patients who need palliative care might have stressful psychological, physical, and social conditions that influence various aspects of QOL among nurses. Research suggested that, when coping strategies are ineffective, stress might cause severe psychological disorders and eventually reduce the overall quality of life among nurses (Baqeas & Rayan., 2018).

The Ohio State University College of Nursing in Columbus showed the organization philosophy can directly influence the nurse's relationship with the parents and infant. Once nurses realize that death is inevitable, performing procedures perceived as unnecessary, especially invasive ones, becomes difficult and may result in moral distress. Internal conflict can result in anger and resentment towards physicians, parents and others who insist upon providing futile care. Nurses may also question personal and professional values. The nurses' spiritual belief system may affect their perceptions of EOL care decisions and nursing care. In one survey, 83% of NICU respondents reported praying for infants and their parents. Nurses may also rely upon spiritual beliefs to make sense of a family's suffering (Fortney & Steward, 2014).

According to literature review study the death of a patient can have an impact on nurses both inside and outside their work environment and can affect their relationships with others. Their personal experiences of death outside work can contribute positively to their work situation if these have been well integrated into their lives. However, if personal experiences of death are unresolved or there have been difficulties in accepting the death of a relative or close friend then this can result in nursing staff being more vulnerable when confronting the death of a patient. The culture of the work environment was seen as a

factor in determining how freely staff feel able to express their emotions around patient death (Wilson & Kirshbaum, 2011).

According to study in USA the caregiver deal with aggressive medical care in the final week of life the bereaved caregivers experienced the worse quality of life, more regret, and were at higher risk of developing a major depressive disorder in a median of 6.5 months later. When caregivers deal with less aggressive care, this is associated with a better quality of life among surviving caregivers who experienced less regret and showed improvements in self-reported health, physical functioning, mental health, and overall quality of life during the bereavement period (Wright et al., 2008).

According to study in Linkoping University in Sweden show when nurses caring End of life care for neonate the nurses are expected to maintain rules and draw the line for unacceptable behavior, while simultaneously maintaining a caring and supportive relationship. Walking such a fine line is open to subjective evaluation, and different viewpoints may easily lead to conflict among staff. Also, NICU nurses scored higher on self-determination NICU nurses usually also receive direct feedback on their actions. No significant differences were found between the two groups of NICU nurses and Child and Adolescent Psychiatry (CAP) regarding psychosocial working conditions, or job strain. However, NICU nurses had significantly higher social support with CAP nurses (P = 0.04) (Mörelius et al.,2013).

According to study in Japan the compare with pediatricians revealed that nurses were significantly more likely to be female and had fewer years of working experience, and there is a possibility that nurses are more likely to experience high psychological distress. Therefore, as a part of nursing education, information on psychological distress related to children′s deaths and bereavement care should be conveyed from the early stage, and nurses must obtain preliminary knowledge. Although NICU nurses used coping methods to counter psychological distress, their suffering did not reduce, suggesting the limitations of individuals in coping by themselves. Therefore, considering the approach from environmental factors, a bereavement follow-up system consisting of a multidisciplinary team having different perspectives should be created (Kitao et al., 2018).

According to a study in multiple departments of NICU in U.S.A appear high rates of burnout among nurses who deal with EOLC cases, in general, are associated with many adverse effects on patient care, including a decrease in recognition and reporting of errors and increase in patient mortality and a decrease in patient-reported satisfaction. Hospitals whose nurses have high rates of burnout are more likely to experience increased rates of employee tardiness and absenteeism as well as high rates of nursing turnover. a health-care professional develops burnout and/or compassion fatigue Reducing staff burnout and compassion fatigue could lead to lower costs in the treatment of healthcare-associated infections and hiring and training new staff. Other benefits include the potential to improve employee morale, patient and family satisfaction and ultimately patient survival (Hall et al., 2015).

A study in Portugal showed three hundred professionals (82 physicians and 218 nurses) from ten ICUs were included in the study, out of a total of 445 who were eligible. There was a high rate of burnout among professionals working in Portuguese ICUs, with 31% having a high level of burnout. However, when burnout levels among nurses and physicians were compared, no significant difference was found. Using multivariate analysis, we identified gender as being a risk factor, where female status increases the risk of burnout. In addition, higher levels of burnout were associated with conflicts and ethical decision-making regarding withdrawing treatments. Having a temporary work contract was also identified as a risk factor. Conversely, working for another service of the same health care institution acts as a protective factor (Teixeira et al., 2013).

Chapter Three
Methodology

In this chapter the researcher focused mainly on issues related to study methodology used to answer the research questions. It includes the study design, setting of the study, period of the study, study sample and population, the study instruments which used in the study, ethical and administrative consideration, piloting, data collection process, selection criteria, data analysis and limitation of the study.

3.1 Study Design

The design of this study is descriptive, analytical, cross sectional study as it assesses the stress due to end-of-life care, coping strategies, and psychological well-being among nurses in neonatal intensive care units.

3.2 Setting of the study

The study was carried out in all Neonatal Intensive Care Unit level III in Gaza strip (El-Shifaa hospital, El-Nasr hospital, Nasser complex and European Gaza hospital) was included in this study.

3.3 Period of the study

The study was carried out during the period March 2019 and ended in November 2019. It was started by preparing a research proposal and designing the data collection instrument, and then get approval from the Faculty of Health Professions – Al-Quds University and from the Helsinki Committee, and General Directorate of Hospitals at the Palestinian MOH, to complete study, pilot study was done in September 2019 then data was collected in October 2019 and completing the research in November.

3.4 Study Population

The study population is the entire number of nurses working in the targeted four NICUs in the Gaza Strip.

3.5 Sample size

The research was taken census population from the Neonatal Intensive Care Unit level III nurses. The sample is 117 eligible nurses.

3.6 Eligibility Criteria

3.6.1 Inclusion Criteria

Nurses who are working in the selected departments of targeted hospitals with full-time employment.

3.6.2 Exclusion criteria

Nurses under special short temporary contract.

3.7 Data collection method

Data was collected by interviewing questionnaire. The average time for each questionnaire is 20 minutes. The data was collected from 14 October to 30 October 2019, the explanation was given just to avoid mistakes in wording of the questions to the subjects during data collection, so that the subjects clearly was understand the questions.

3.7.1 Questionnaire design

A questionnaire is designed to cover areas of research topic, stress due to end of life care, coping strategies, and psychological well-being among nurses in Neonatal Intensive Care Units, and to meet the study objectives. The questionnaire was constructed and prepared designed in the English language. It was revised by experienced people. It was composed of close ended questions and consists of four parts, the first part of the questionnaire is socio-demographic data and preparedness & exposure to end of life care, the second part of the questionnaire includes questions to determine the level of stress due to end of life care among NICU nurses, the third part of the questionnaire includes assessment the coping strategies that used by NICU nurses and to recommend strategies that help in improving work conditions at NICUs that may decrease end of life stress among nurses, the fourth part of the questionnaire to determine the psychological wellbeing of a NICU nurses.

3.8 Ethical consideration

The researcher was maintaining all ethical and administrative requirements to conduct this study. Approval from the faculty of health professionals at Al-Quds University, Helsinki committee (annex 3), and General Directorate of Hospitals at the Palestinian MOH (annex4) was obtained before conducting the study, every participant was provided a full explanation to the questionnaire by written attachment. The attachment form was included the purpose of the study, assurance about the confidentiality of the information, and the instructions how to respond to the questionnaire. Also, it included a statement indicating that the participant has the right to participate or not in this study. The participation was optional, anonymity and confidentiality were given and maintained. A consent form was obtained from each participant and it were attached to each questionnaire to ensure their voluntary participation after signing the consent, no procedure, materials and other intervention activities in this study were hazardous or put the participants at risk.

3.9 Data entry and analysis

Data was carefully checked to exclude incomplete answered question. One hundred and seventeen filled questionnaires were processed and entered into computer by the researcher using statistical package for social science (SPSS) version 22. The researcher used simple statistics including frequencies, SD, means and percentages, also independent sample *t* test, One-way ANOVA, and person correlation.

3.10 Pilot study

A pilot study was conducted on 50 nurses. It was conducted to insure the reliability and feasibility of the study. The researcher found that there is no need for major changes in the instrument.

3.11 Validity and Reliability

3.11.1 Face and content validity

The questionnaire was submitted to panel of expert's (annex 1) with experience and knowledge in the field as arbitrators who make suggestions and judgment about the adequacy of the questionnaire.

3.11.2 Reliability of the instrument

- **Cronbach's coefficient alpha**

This method was used to measure the reliability of the questionnaire between each field and the mean of the whole fields of the questionnaire. As shown in table 3.1 the results are in the range from 0.909 to 0.960. This range is considered excellent; the result ensures the reliability of the questionnaire, meaning that the instrument is reliable to measure the objectives of the study.

Table (3.1): Cronbach's Alpha for reliability for all domains

Domain	**No. of Items**	**Cronbach's coefficient alpha**
Stress among nurses due to end of life care	14	0.909
The nurse coping strategies during end of life care	18	0.917
Psychological well-being of the nurses	15	0.960
Total	47	0.959

3.12 Internal consistency

Internal consistency of the questionnaire was measured by a scouting sample, which consisted of thirty questionnaires, through measuring the correlation coefficients between each paragraph in one field and the whole filed. The results showed that the P -Values for the majority of the questions are significant at 0.01 and 0.05 level, so it can be said that the paragraphs of these questions are consistent and reliable.

Table (3.2): The correlation coefficient for each paragraph in the domain of stress among nurses due to end of life care total degree of the domain

No	Stress among nurses due to end of life care	Pearson correlation	P value
1	My working in NICU environment leads to increase my stress level.	0.600	0,000**
2	My working with dying neonate leads to increase my stress level.	0.677	0,000**
3	The unexpected dying of neonates leads to increase my stress level.	0.626	0,000**
4	When I notice deterioration of the vital signs of a neonate during end of life care my stress level increase.	0.653	0,000**
5	When I work with dying neonate my stress increased due to sense of guilt feeling.	0.549	0,000**
6	Lack of knowledge about End of Life care (EOLC) leads to increase my stress level during practice.	0.649	0,000**
7	Dealing with the dying cases in NICU increase my emotional stress even in my home.	0.716	0.001*
8	Facing dying neonates leads to increase my depressed mood.	0.760	0,000**
9	Facing dying neonates leads to increase my anxiety and irritability.	0.776	0,000**
10	Facing dying neonates leads to increase my compulsive behavior.	0.718	0,000**
11	Facing dying neonates leads to increase my problems in Memory and concentration.	0.699	0,000**
12	My stress level increase due to lack of essential supplies needed to provide end of life care.	0.731	0,000**
13	My stress level increase due to lack of essential medication needed to provide end of life care.	0.658	0,000**
14	My stress level increase due to frequent alarm sounds from monitors attached to dying neonates.	0.716	0,000**

**Correlation is significant at the 0.01 level (2-tailed)

*Correlation is significant at the 0.05 level (2-tailed)

Table (3.3): The correlation coefficient for each paragraph in the domain of nurses' coping strategies during end of life care and total degree of the domain

No	The nurse coping strategies during end of life care	Pearson correlation	P value
1	I cope with stress by work with other dying neonate very hard.	0.527	0,000**
2	I cope with stress by avoiding taking on more responsibility in end of life care situations.	0.412	0,000**
3	I cope with end of life care stress by talking about strong emotions to another person such as: my family, my best friend.	0.321	0,000**
4	I cope with end of life care stress by writing about negative events which precipitated the negative emotions.	0.589	0,000**
5	I cope with stress by keeping myself busy to take my mind off the issue to distract myself.	0.553	0,000**
6	I use praying for guidance to cope with End of Life care stress.	0.549	0,000**
7	I tend more to eat more to cope End of life care stress when I exposed to end of life care events.	0.637	0,000**
8	I tend to use drugs such as: analgesics and/or opioid When I exposed to end of life care events,	0.606	0,000**
9	I tend to use relaxation techniques, when I exposed to end of life care events.	0.617	0,000**
10	When I exposed to end of life care, I take time for meditative practices to cope with the end of life car stress.	0.709	0,000**
11	I cope with End of life care stress by using social support from my family.	0.685	0,000**
12	I cope with End of life care stress by using social support from my friends.	0.750	0,000**
13	I cope with End of life care stress by using social support from my colleagues.	0.690	0,000**
14	I cope with End of Life care stress by shares these stressful events with the social media to relieve my stress.	0.584	0,000**
15	Stress experiences become less when I receive emotional support.	0.706	0,000**
16	I cope with End of Life care stress by using some exercise practices.	0.784	0,000**
17	I cope with End of Life care stress by using periodic recreational session.	0.338	0.058
18	I cope to end of life care stress because I thought that the dying is predestination.	0.524	0,000**

**Correlation is significant at the 0.01 level (2-tailed)

*Correlation is significant at the 0.05 level (2-tailed)

Table (3.4): The correlation coefficient for each paragraph in the domain of psychological well-being of the nurses and total degree of the domain

No	Psychological well-being of the nurses	Pearson correlation	P value
1	I acknowledge and accept all aspects of myself (including good and bad).	0.712	0,000**
2	I able to take more risks without worrying about the consequences.	0.650	0,000**
3	I become less self-critique and more self-kindness with myself.	0.792	0,000**
4	I have a heightened sense of freedom with lesser degrees of fear of failure.	0.720	0,000**
5	I feel that I have ability of Building and renewing self-identity and confidence.	0.784	0,000**
6	I able to identify and improve the potential psychological effect on myself.	0.838	0,000**
7	I can identify to my passions and where I want to use my energy.	0.918	0,000**
8	I live my life according to my values.	0.911	0,000**
9	I set goals for my life that are in line with my overall purpose and in harmony with one another.	0.857	0,000**
10	I develop a new positive relationship with others and I learn to trust more.	0.790	0,000**
11	I'm listening to other people effectively and give people his/her own time.	0.824	0,000**
12	I have the experience of understanding another person's thoughts, feelings, and condition from his or her point of view.	0.760	0,000**
13	I am good to coordinate my time so that I can fit everything in that need to get done.	0.826	0,000**
14	I able to create a lifestyle for myself that is preferable to me.	0.850	0,000**
15	I have simply arranging my life in a way that is satisfying to me.	0.810	0,000**

**Correlation is significant at the 0.01 level (2-tailed)

*Correlation is significant at the 0.05 level (2-tailed)

Chapter Four

Results and discussion of the study

4.1 Introduction

This chapter illustrates the results of statistical analysis of the data, including descriptive analysis that presents the socio -demographic characteristics of the study sample and answers to the study questions. The researcher used simple statistics including frequencies, means and percentages, also independent sample *t* test, One-way ANOVA, and person correlation.

In the chapter, frequencies, means, SD, and mean percentages were used to describe the level of nurses' stress, their coping strategies, and their psychological well-being. Independent sample *t* test was used to investigate the differences in the level of mean nurses' stress and their coping strategies with regard to categorical (only 2 categories) independent variables like gender and marital status. One-way ANOVA was used to investigate the differences in the level of mean level of nurses' stress and their coping strategies with regard to categorical (more 2 categories) independent variables such as educational levels and hospitals.

4.2 Demographic characteristics of the study participants

Table (4.1): Sample distribution according to the participants' gender, education, age, marital status, and experience (n=117)

Variable	Number	Percentage (%)
Gender		
Male	76	65.0
Female	41	35.0
Education		
Diploma	21	17.9
Bachelor	90	76.9
Higher education	5	4.3
Missing	1	0.9
Age		
≤30 years	49	41.9
31 – 40	47	40.2
>40 years	10	8.5
Missing	11	9.4
Marital status		
Single	29	24.8
Married	88	75.2
Experiences		
<3 years	47	40.2
4 – 6 years	24	20.5
7 – 10 years	18	15.4
>10 years	28	23.9

Table 4.1 shows the distribution of study participants' according to their demographic factors. The table shows that more than half (65.5%) of the study participants are males, while 35.0% are females. Also, 76.9% of the study participants have bachelor degree in nursing, 17.9% of them have diploma, while 4.3% have higher education certificate (master and Doctorate).

Regarding the ages of participants, 41.9% of them are 30 years old and less, 40.2% are between 31 – 40 years, while 8.5% are more than 40 years old. Moreover, 75.2% of the

study participants are married, while the rest (24.8%) are single. On the other hand, 40.2% of the study participants have work experience less than 3 years, and 20.5% have 4-6 years of experience.

4.2.1 Distribution of the Participants' based on their Hospitals

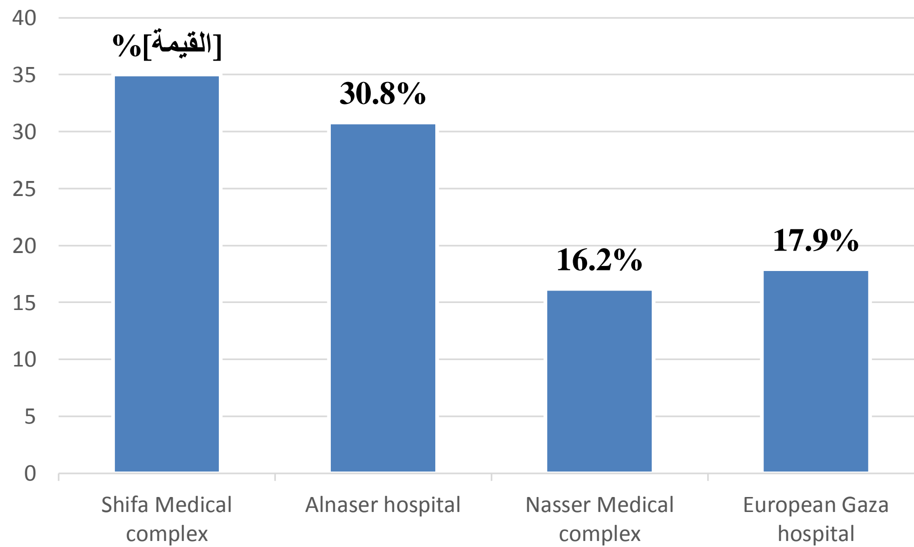

Figure (4.1): Distribution of the Participants' based on their Hospitals

The figure 4.1 shows that 30.8% of the study participants are working in Alnaser hospital, 17.9% of them are working in European Gaza Hospital, 16.2% are working in Nasser medical complex, and 35.0% are working in Shifa medical complex.

4.2.2 Distribution of the Participants' based on their Number of Children

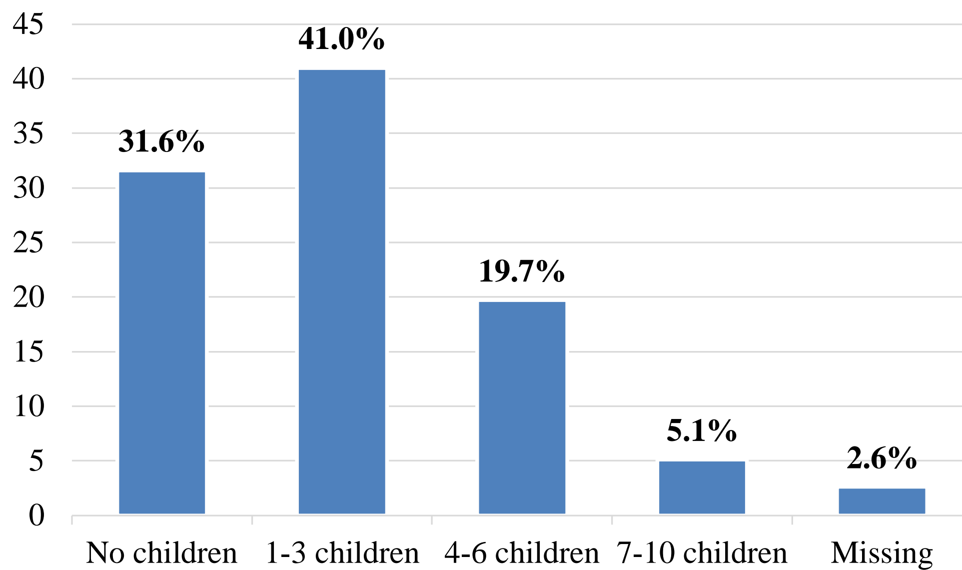

Figure (4.2): Distribution of the Participants' based on their Number of Children

The figure 4.2 shows that 41.0%% of the study participants have 1 – 3 children, 19.7% have 4 – 6 children, while 5.1% have 7 – 10 children.

4.3 Nurses' Opinion about their Preparedness and Exposure to End-of Life Care (n=117)

Table (4.2): Nurses' Opinion about their Preparedness and Exposure to End-of Life Care

Variable	Number	Percentage (%)
Need of nurses for educational and training session about end of life care		
Yes	109	93.2
No	8	6.8
Received educational sessions about end of life care for neonates		
Yes	54	46.2
No	62	53.0
Missing	1	0.8
Previous work with end of life care of neonates in the hospital		
Yes	91	77.8
No	26	22.2
Number of neonates who need end of life care from you during the last year		
<5 neonates	51	43.6
6 – 10	29	24.8
11 – 15	6	5.1
>15 neonates	20	17.1
Missing	11	9.4

The table 4.2 shows that 93.2% of the nurses said that the nurses are in need for educational and training session about end of life care, while 6.8% did not. Also, 53.0% of the nurses in the current study did not received educational sessions about end of life care for neonates, while 46.2% of them received this kind of educational sessions. Regarding the number of neonates were in need for end of life care from nurses during the last year, 43.6% of the nurses have been working with less than 5 neonates, 24.8% have been working with 6 – 10 neonates, while 17.1% have been working with more than 15 neonates in the last year.

4.4 Stress among nurses due to end-of life care

Table (4.3): The level of nurses' stress due to end-of life care

	Scale	N	Min	Max	Mean	SD	Mean %[1]	Rank
1.	My working in NICU environment leads to increase my stress level.	117	1	5	3.95	1.08	79.0	2
2.	My working with dying neonate leads to increase my stress level.	117	1	5	3.80	0.97	76.0	3
3.	The unexpected dying of neonates leads to increase my stress level.	115	1	5	3.97	1.00	79.4	1
4.	When I notice deterioration of the vital signs of a neonate during end of life care my stress level increase.	117	1	5	3.65	1.02	73.0	4
5.	When I work with dying neonate my stress increased due to sense of guilt feeling.	117	1	5	3.36	1.20	67.2	9
6.	Lack of knowledge about End of Life care (EOLC) leads to increase my stress level during practice.	116	1	5	3.58	1.08	71.6	6
7.	Dealing with the dying cases in NICU increase my emotional stress even in my home.	115	1	5	3.34	1.00	66.8	11
8.	Facing dying neonates leads to increase my depressed mood.	117	1	5	3.36	0.96	67.2	9
9.	Facing dying neonates leads to increase my anxiety and irritability.	115	1	5	3.34	1.05	66.8	11
10.	Facing dying neonates leads to increase my compulsive behavior.	115	1	5	3.03	1.05	60.6	13
11.	Facing dying neonates leads to increase my problems in Memory and concentration.	116	1	5	2.94	1.09	58.8	14
12.	My stress level increase due to lack of essential supplies needed to provide end of life care.	116	1	5	3.43	1.01	68.6	8
13.	My stress level increase due to lack of essential medication needed to provide end of life care.	117	1	5	3.51	1.08	70.2	7
14.	My stress level increase due to frequent alarm sounds from monitors attached to dying neonates.	117	1	5	3.61	1.01	72.2	5
	Total		**14**	**70**	**48.97**	**9.39**	**69.95**	

The table 4.3 shows the mean, SD, and mean percentage of the level of nurses' stress due to end-of life care. The total mean score of the level of nurses' stress due to end-of life care is 48.97 out of 70 (69.95%). The most source of stress among nurses due to end-of life care with neonates is "the unexpected dying of neonates" with a mean percentage 79.4%, followed by "their working in NICU environment" with a mean percentage 79.0. while the lowest source is "facing dying neonates leads to increase my problems in memory and concentration" with a mean percentage 58.8%.

[1] Calculated by (dividing the mean score of each item / 5) x 100

4.5 Nurses' coping strategies during the end-of life care with neonates

Table (4.4a): Coping strategies during the end-of life care with neonates

No	Scale	N	Min	Max	Mean	SD	Mean %[2]	Rank
1.	I cope to end of life care stress because I thought that the dying is predestination	117	1	5	3.73	1.02	74.6	1
2.	I cope with stress by work with other dying neonate very hard.	117	1	5	3.49	0.99	69.8	2
3.	Stress experiences become less when I receive emotional support	116	1	5	3.49	0.92	69.8	2
4.	I cope with end of life care stress by talking about strong emotions to another person such as: my family, my best friend.	117	1	5	3.38	1.01	67.6	4
5.	I use praying for guidance to cope with End of Life care stress.	117	1	5	3.33	1.13	66.6	5
6.	I cope with End of Life care stress by using some exercise practices.	117	1	5	3.32	0.85	66.4	6
7.	I cope with End of life care stress by using social support from my friends.	117	1	5	3.24	1.10	64.8	7
8.	I cope with stress by avoiding taking on more responsibility in end of life care situations.	117	1	5	3.22	0.99	64.4	8
9.	I cope with end of life care stress by writing about negative events which precipitated the negative emotions.	117	1	5	3.22	0.92	64.4	8

[2] Calculated by (dividing the mean score of each item / 5) x 100

Table (4.4b): Coping strategies during the end-of life care with neonates

No	Scale	N	Min	Max	Mean	SD	Mean %[3]	Rank
10.	I cope with End of Life care stress by using periodic recreational session.	117	1	5	3.21	1.02	64.2	10
11.	I cope with stress by keeping myself busy to take my mind off the issue to distract myself.	116	1	5	3.19	1.08	63.8	11
12.	I cope with End of life care stress by using social support from my family.	116	1	5	3.15	1.11	63.0	12
13.	I cope with End of Life care stress by shares these stressful events with the social media to relieve my stress.	117	1	5	3.09	1.22	61.8	13
14.	I tend more to eat more to cope End of life care stress when I exposed to end of life care events.	117	1	5	3.09	1.13	61.8	13
15.	I cope with End of life care stress by using social support from my colleagues.	117	1	5	3.07	1.11	61.4	14
16.	I tend to use relaxation techniques, when I exposed to end of life care events.	117	1	5	3.07	1.05	61.4	14
17.	When I exposed to end of life care I take time for meditative practices to cope with the end of life car stress.	116	1	5	2.88	1.07	57.6	17
18.	I tend to use drugs such as: analgesics and/or opioid When I exposed to end of life care events	117	1	5	2.69	1.221	53.8	18
	Total		**18**	**90**	**57.91**	**12.08**	**64.34**	

The table 4.4 shows the mean, SD, and mean percentage of the level of nurses' coping strategies during the end-of life care with neonates. The total mean score of coping strategies is 57.91 out of 90.0 with a mean percentage 64.34%. The most common coping strategies used by the nurses is "cope to end of life care stress because I thought that the dying is predestination" with a mean percentage 74.6%, followed by "I cope with stress by work with other dying neonate very hard" and "Stress experiences become less when I receive emotional support", while the lowest" with a mean percentage 69.8%, while the lowest item "I tend to use drugs such as: analgesics and/or opioid when I exposed to end of life care events" with a mean percentage 53.8%.

[3] Calculated by (dividing the mean score of each item / 5) x 100

4.6 Psychological well-being of the nurses

Table (4.5): The level of psychological well-being of the nurses

No	Scale	N	Min	Max	Mean	SD	Mean %[4]	Rank
1.	I acknowledge and accept all aspects of myself (including good and bad).	117	1	5	3.73	1.00	74.6	2
2.	I able to take more risks without worrying about the consequences.	117	1	5	3.34	0.95	66.8	13
3.	I become less self-critique and more self-kindness with myself.	113	1	5	3.21	0.93	64.2	15
4.	I have a heightened sense of freedom with lesser degrees of fear of failure.	117	1	5	3.25	1.00	65.0	14
5.	I feel that I have ability of Building and renewing self-identity and confidence.	116	1	5	3.35	1.06	67.0	12
6.	I able to identify and improve the potential psychological effect on myself.	117	1	5	3.54	0.93	70.8	9
7.	I can identify to my passions and where I want to use my energy.	115	1	5	3.56	0.94	71.2	7
8.	I live my life according to my values.	116	1	5	3.65	1.01	73.0	4
9.	I set goals for my life that are in line with my overall purpose and in harmony with one another.	117	1	5	3.47	1.04	69.4	11
10.	I develop a new positive relationship with others and I learn to trust more.	117	1	5	3.55	1.00	71.0	8
11.	I'm listening to other people effectively and give people his/her own time.	116	1	5	3.54	1.02	70.8	9
12.	I have the experience of understanding another person's thoughts, feelings, and condition from his or her point of view.	117	1	5	3.79	1.04	75.8	1
13.	I am good to coordinate my time so that I can fit everything in that need to get done.	117	1	5	3.66	0.97	73.2	3
14.	I able to create a lifestyle for myself that is preferable to me.	117	1	5	3.64	0.91	72.8	5
15.	I have simply arranging my life in a way that is satisfying to me.	117	1	5	3.63	1.07	72.6	6
	Total		**15**	**75**	**52.56**	**10.82**	**70.08**	

The table 4.5 shows the mean, SD, and mean percentage of the level of nurses' psychological well-being. The total mean score of nurses' psychological well-being is 52.56 out of 75.0 with a mean percentage 70.08%. The table shows that 75.8% of the nurses are in agreement about "they have the experience of understanding another person's thoughts, feelings, and condition from his or her point of view", and 74.6% of them are in agreement about "they acknowledge and accept all aspects of myself (including good and bad", while 64.2% of the are in agreement about "they become less self-critique and more self-kindness with myself"

[4] Calculated by (dividing the mean score of each item / 5) x 100

Table (4.6): Summary of the level of stress, coping strategies, and psychological well-being among nurses due to end-of Life care

Measure	Min	Max	Mean±SD	Mean %
Nurses' stress	14	70	48.97±9.39	69.95
Nurses' coping strategies	18	90	57.91±12.08	64.34
Psychological Well-being	15	75	52.56±10.82	70.08

The table 4.6 shows that mean and SD for the domains stress, coping strategies, and psychological well-being among nurses due to end-of life. The mean of nurses' stress is 48.97 out of 70 (69.95%), and the mean of nurses' coping strategies is 75.91 out of 90 (64.34%), while the mean of psychological well-being is 5.56 out of 75 (70.08%).

4.7 Differences in the level of nurses' stress and their coping strategies with regard to their demographic factors

Table (4.7): Differences in the level of nurses' stress and their coping strategies with regard to their gender

Variable	N[1]	Mean	SD	t statistics	p value[2]
Nurses' Stress due to End-of Life Care					
Male	71	49.30	9.78	0.516 (106)	0.607
Female	37	48.32	8.67		
Coping Strategies					
Male	72	58.70	12.32	0.928 (111)	0.655
Female	41	56.51	11.67		

[1] There are missing data, this affect the results

[2] Independent sample t test

The table 4.7 shows that there is no significant difference in the mean level of nurses' stress due to end-of life care with regard to their gender (p>0.05). Also, there is no significant difference in the mean level of nurses' coping strategies due to end-of life care with regard to their gender (p>0.05).

Table (4.8): Differences in the level of nurses' stress and their coping strategies with regard to their marital status

Variable	N[1]	Mean	SD	t statistics	p value[2]
Nurses' Stress among due to End-of Life Care					
Single	27	48.44	10.36	-0.336(106)	0.738
Married	81	49.14	9.10		
Coping Strategies					
Single	72	58.70	12.32	0.383 (111)	0.703
Married	41	56.51	11.67		

[1] There are missing data, this affect the results

[2] Independent sample t test

The table 4.8 shows that there is no significant difference in the mean level of nurses' stress due to end-of life care with regard to their marital status (p>0.05). Also, there is no significant difference in the mean level of nurses' coping strategies due to end-of life care with regard to their marital status (p>0.05).

Table (4.9): Differences in the level of nurses' stress with regard to their educational level, hospital work, number of children and years of experience.

Nurses' Stress	N[1]	Mean	SD	F (df)	*P* value[2]
Educational Level					
Diploma	18	45.55	9.85	1.498 (2, 105)	0.228
Bachelor	85	49.57	8.48		
Higher education	5	51.00	19.20		
Hospital					
Shifa Medical Complex	39	45.94	9.47	2.515 (3.104)	0.062
Alnasser hospital	32	49.53	9.40		
Nasser Medical Complex	17	51.88	8.38		
European Gaza hospital	20	51.50	8.93		
Number of Children				1.890 (3.102)	0.136
No children	36	47.94	10.22		
1 - 3 children	42	50.80	7.68		
4 – 6 children	23	46.56	10.54		
7 – 10 children	5	54.80	5.54		
Experience					
≤3 years	45	50.62	8.57	1.145 (3.104)	0.334
4 – 6 years	22	46.18	11.71		
7 – 10	17	48.29	8.05		
>10 years	24	48.91	9.26		

1 There are missing data, this affect the results

2 One way ANOVA

The table 4.9 shows that there is no significant difference in the mean level of nurses' stress due to end-of life care with regard to their educational levels, working hospital, number of children, and their level of working experience (p>0.05).

Table (4.10): Differences in the level of nurses' coping strategies with regard to their educational level, hospital work, number of children and years of experience.

Coping Strategies	N[1]	Mean	SD	F (df)	*P* value[2]
Educational Level					
Diploma	19	56.00	10.93	0.334 (2, 109)	0.717
Bachelor	88	58.34	11.71		
Higher education	5	59.60	22.76		
Hospital					
Shifa Medical Complex	39	55.89	11.88	0.875 (3.109)	0.457
Alnaser hospital	35	60.42	9.37		
Nasser Medical Complex	18	57.94	15.60		
European Gaza hospital	21	57.42	13.21		
Number of Children				0.522 (3.106)	0.668
No children	36	56.77	12.22		
1 - 3 children	46	57.93	12.11		
4 – 6 children	22	58.36	13.96		
7 – 10 children	6	63.50	5.89		
Experience					
≤3 years	45	58.08	11.19	1.098 (3.109)	0.353
4 – 6 years	23	54.08	15.21		
7 – 10	17	59.70	10.65		
>10 years	28	59.67	11.33		

[1] There are missing data, this affect the results

[2] One way ANOVA

The table 4.10 shows that there is no significant difference in the mean level of nurses' coping strategies with regard to their educational levels, working hospital, number of children, and their level of working experience (p>0.05).

Table (4.11): Relationship between nurses' Stress and their coping strategies with the age

Domain	Nurses' age	
	r	**p value***
Nurses' Stress	-0.156	0.128
Coping Strategies	-0.064	0.518

*Pearson correlation

The table 4.11 shows that there is no significant relationship between nurses' stress and their ages ($p>0.05$). Also, there is no significant relationship between nurses' coping strategies and their ages ($p>0.05$).

4.8 Relationship between nurses' stress and their coping strategies

Table (4.12): Relationship between nurses' stress and their psychological well-being

Domain	Coping Strategies	
	r	**p value***
Nurses' Stress	0,647	0.000
Psychological Well-being	0,427	0.000

*Pearson correlation

The table 4.12 shows that there is a significant positive relationship between nurses' stress and their coping strategies ($p<0.05$), an increase in the level of nurses' stress, will lead to significantly increase in their coping strategies.

Also, there is a significant positive relationship between nurses' stress and their psychological well-being ($p<0.05$), an increase in the level of nurses' coping strategies, will lead to significantly increase in their psychological well-being.

4.9 Discussion of the Study Results

4.9.1 Introduction

The following paragraphs illustrate the discussion of the study results in all domains of the study results, they include: Stress among Nurses due to end-of life care, nurses' coping strategies during the end-of life care with neonates, psychological well-being of the nurses, differences in the level of nurses' stress and their coping strategies with regard to their demographic factors, and relationship between nurses' stress and their coping strategies with the age. The current study results are compared to the previous studies, also the personal opinion of the researcher is illustrated based on his experience in the field.

4.9.2 The level of nurses' stress due to end-of life care

The current study results showed that the level of nurses' stress due to end-of life care is 69.95% and the most source of stress among nurses due to end-of life care with neonates is "the unexpected dying of neonates" with a mean percentage 79.4%, followed by "their working in NICU environment" with a mean percentage 79.0. While the lowest source is "facing dying neonates leads to increase my problems in memory and concentration" with a mean percentage 58.8%.

These results are consistent with the results of Moura et al. (2011) which revealed that the neonatal death in the NICU results in a great deal of spiritual distress among nurses and can initiate a serious crisis of meaning and connection, which highlights the need for religious and spiritual support to caregivers. Also, same results were revealed by Heidari & Norouzadeh (2014) which showed that the nurses experience moderate to severe anxiety at the time of neonatal death in NICU, the study showed that end-of-life care was an important factor for increasing nurses' distress and leaving their job (Heidari & Norouzadeh, 2014).

The result of the current study also consistent with the result of Meadors & Lamson (2008), which revealed that the nurses in NICU suffer from compassion fatigue during death of the patient .Regarding nurses' stress caused by end—of life care could be attributed to the fact that the nurses feel the same state which is felt by the parents at that time when their neonate died, some of died neonates is considered the first one after

several years of infertility, this cause a significant stress among the nurses, this stress can affect their daily work life.

Also, working in NICU environment cause stress among the nurses, this could be attributed to the routine work within this department, the presence of ventilator, and hard work encountered by the nurses during the shift.

4.9.3 Coping strategies during the end-of life care with neonates

The current study results revealed that the total mean score of coping strategies which are used by the nurses is 64.34%. The most common coping strategies used by the nurses is "cope to end of life care stress because I thought that the dying is predestination" with a mean percentage 74.6%, followed by "I cope with stress by work with other dying neonate very hard" and "Stress experiences become less when I receive emotional support", while the lowest" with a mean percentage 69.8%, while the lowest item "I tend to use drugs such as: analgesics and/or opioid when I exposed to end of life care events" with a mean percentage 53.8%.

The results of current study are not consistent with the results of Almeida et al. (2016) which revealed that the nurses in NICU deal with stress by sense of guilt, failure and denial when death emerge, representing difficulty in understanding the transition life and death at this moment (Almeida et al., 2016). Moreover, the current results are not consistent with the results of Rodríguez-Rey et al. (2018) which revealed that the nurses used to practice burnout for emotional exhaustion, they used depersonalization as well.

Different results were observed in the study of Rodríguez-Rey et al. (2018) which showed that the coping strategies of the nurses include emotion focused coping style and an infrequent usage of the problem-focused coping style. Differences which are observed between the current study results and previous results can be explained by the culture and religious situation of the participants included, in which 74.6% of the nurses in the current study used to cope with stress and end-of life care because they thought that the dying is predestination, this could be attributed to the status of religion and culture of participants, since all of the participants are Moslem nurses, thus their belief in predestination as a manner to cope is natural process introduced by them.

4.9.4 Psychological well-being of the nurses

The study results revealed that the total mean score of nurses' psychological well-being is 70.08%, in which 75.8% of the nurses are in agreement about "they have the experience of understanding another person's thoughts, feelings, and condition from his or her point of view". The current study results could be attributed to the fact that the nurses can really understanding another person's thoughts and feelings since the nurses have good experience in psychology and sociology as well as their relationship with patients make them having more experience in this aspect.

4.9.5 Differences in the level of nurses' stress and their coping strategies with regard to their demographic factors

The current study results did not show any association between demographic factors of the nurses and the nurses stress nor coping strategies. These results are not consistent with the results of Aytekin et al. (2014) which revealed that the nurses who had a moderate level of stress, emotional exhaustion and personal accomplishment increased with nurses' age and years of experience.

Also, the current study results are not consistent with the results of Teixeira et al. (2013) which revealed that female nurses are significantly more affected by stress and burnout than male nurses. Different results were observed also within the study of Rodríguez-Rey et al. (2018) which revealed that nurses' gender, age, and having children significantly influence burnout and stress levels of the nurses. Moreover, the current study results are not consistent with the results of Teixeira et al. (2013) which revealed that female nurses are significantly more affected by stress and burnout than male nurses.

Another inconsistency was observed in the results of Bin et al. (2013) which showed that work experience of 1-5 years, single marital status, female and position of the general nurse are significantly associated with the nurses' stress and coping strategies. The current study results and the observed differences between the current study results and other studies could be attributed to the size of the sample included in the current study, it could be attributed also to the differences in the culture of participants.

Moreover, the current study results are not consistent with the results of Rasberry et al. (2017), which showed that sociodemographic factors like educational level, and job

characteristics have significantly affect the nurses' stress and their coping strategies, in which the nurses with more education and more work experience were able to better come up with problem solving strategies than others with less education and experience.

Another explanation for the absence of significant association between the current study results and previous ones are the variations among participant's groups such as the variation within gender such as the number of male nurses was not consistent with the number of female ones, and this can be applied to the majority of demographic variables; hence it can affect the results of the current study.

4.9.6 Relationship between nurses' stress and their coping strategies

The current study results revealed that there is a significant positive relationship between nurses' stress and their coping strategies, and there is a significant positive relationship between nurses' stress and their psychological well-being. These results are consistent with the results obtained by Baqeas & Rayan. (2018) which showed that high levels of anxiety and stress might result in poorer psychological well-being.

Similar results were observed in the study of Curcio (2017). The current study results can be explained by the fact that the human being tend to use and utilize coping mechanisms and strategies in order to adapt to stress, thus when the nurses face more stress; they tend to use more coping strategies. Also, when the nurses have more coping strategies, they have more psychological well-being since the issue of coping strategies is considered intrinsic within the human being as the presence of more coping strategies, lead to more psychological well-being benefits.

Chapter Five

Conclusion and Recommendation

5.1 Conclusion

The study purpose was to identify stress levels due to end-of-life care, coping strategies, and psychological well-being among nurses in neonatal intensive care units, and to investigate the effect of stress levels and coping strategies on their psychological well-being.

The study found that more than half (65.5%) of the study participants were males, while 35.0% were females. Also, the most participants of the study have bachelor degree in nursing 76.9% and 17.9% of them have diploma, while 4.3% have higher education certificate.

The study found that the majority of participant working in El- Shifa Hospital 35.% and 30.8% of the study participants are working in Alnaser hospital, 17.9% of them are working in European Gaza Hospital, 16.2% are working in Nasser medical complex. The majority of nurses answer that they are in need for educational and training session about end of life care. Also, more than the half of the nurses in the current study did not received educational sessions about end of life care for neonates.

The results mean percentage of the level of nurses' stress due to end-of-life care it's about 69.95%. The most source of stress among nurses due to end-of life care with neonates is "the unexpected dying of neonates" with a mean percentage 79.4%. The mean percentage of the level of nurses' coping strategies during the end-of life care with neonates is 64.34%. The majority of coping strategies used by the nurses is "cope to end of life care stress because I thought that the dying is predestination" with a mean percentage 74.6%. The mean percentage of the level of nurses' psychological well-being 70.08%. The most of participant in agreement about "they have the experience of understanding another person's thoughts, feelings, and condition from his or her point of view.

The study showed there is no significant relationship in the mean level of nurses' stress due to end-of life care with regard to nurses age, gender, marital status, educational levels, working hospital, number of children, and their level of working experience. Also, there is no significant relationship between nurses' coping strategies and their nurses ages, gender, marital status, educational levels, working hospital, level of experience and the number of children.

The study showed an increase in the level of nurses' stress, will lead to significantly increase in their coping strategies this indicate that there is a significant positive relationship between nurses' stress and their coping strategies .Also, an increase in the level of nurses' coping strategies, will lead to significantly increase in their psychological well-being this indicate that there is a significant positive relationship between nurses' stress or coping and their psychological well-being.

Finally, the researcher emphasizing on the importance of taking the research finding in consideration of decision makers from hospitals managers to improve work conditions of neonatal nurses in relation to care with end-of life babies.

5.2 Recommendations

Based on the finding of the study, the researcher would emphasize recommendations that may help in promoting in improving the psychological wellbeing among nurses in governmental hospitals.

1. Provide every nurse in neonatal intensive care units' educational sessions and training courses to prepare everyone to deal with cases that need end of life care.
2. Orient the nurses about useful coping strategies that the nurse should use in a stressful situation.
3. Provide the nurses the sufficient knowledge that will improve the psychological wellbeing among NICU nurses.
4. Managers of the hospitals should provide emotional support and sufficient facilities to nurses to relieve the stress due to end of life care among nurses.
5. Conducting further research to assess the effect of implementing educational program about end-of life care and coping strategies for stress among nurses on their psychological wellbeing.

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Annexes

Annex (1) Names of experts

Name	Institution
❖ Dr. Hatem El Dabakha	Al- Quds University
❖ Dr. Mohammed El JerJawy	Palestine college of nursing
❖ Dr. Osama Alian	Al – Aqsa University
❖ Dr. Abd Al Kareem Radwan	Islamic University
❖ Dr. Ahmed Nejim	Al- Azhar University
❖ Dr. Kayed abu sief	Al – Aqsa martyrs' hospital
❖ Dr. Samer Al- nawajha	University college of applied sciences

Annex 2: permission to collection data

State of Palestine
Ministry of health

دولة فلسطين
وزارة الصحة

التاريخ:13/10/2019
رقم المراسلة 378805

السيد : رامي عيد سليمان العبادله المحترم

مدير عام بالوزارة /الإدارة العامة لتنمية القوى البشرية ـ /وزارة الصحة

السلام عليكم ,,,

الموضوع/ تسهيل مهمة الباحث// محمد سلمان

التفاصيل //
بخصوص الموضوع أعلاه، يرجى تسهيل مهمة الباحث/ **محمد أحمد سلمان**
الملتحق ببرنامج ماجستير التمريض – تخصص الأطفال – جامعة القدس أبوديس في إجراء بحث بعنوان:ـ
"Stress, Coping Strategies and Psychological Well-being due to End of Life Care among Nurses in Neonatal Intensive Care Units"
حيث الباحث بحاجة لتعبئة استبانة من الممرضين العاملين في أقسام العناية المركزه لحديثي الولادة في مستشفيات قطاع غزه (مجمع الشفاء الطبي – مجمع ناصر الطبي – مستشفى النصر للأطفال – مستشفى غزه الأوربي)، بما لا يتعارض مع مصلحة العمل وضمن أخلاقيات البحث العلمي، ودون تحمل الوزارة أي أعباء أو مسئولية.
وتفضلوا بقبول التحية والتقدير،،،
ملاحظة /
1. البحث المذكور حصل على موافقة لجنه اخلاقيات البحث الصحي (لجنة هلسنكي)
2. تسهيل المهمة الخاص بالدراسة أعلاه صالح لمدة 3 أشهر من تاريخه.

محمد ابراهيم محمد السرساوي
مدير دائرة/الإدارة العامة لتنمية القوى البشرية ـ

14/10/2019

Gaza — Tel. (+970) 8-2846949 — Fax. (+970) 8-2826295

غزة — تلفون. (+970) 8-2846949 — فاكس. (+970) 8-2826295

Annex 3: Helsinki committee for ethical approval

المجلس الفلسطيني للبحث الصحي

Palestinian Health Research Council

تعزيز النظام الصحي الفلسطيني من خلال مأسسة استخدام المعلومات البحثية في صنع القرار

Developing the Palestinian health system through institutionalizing the use of information in decision making

Helsinki Committee

For Ethical Approval

Date: 2019/10/7 **Number:** PHRC/HC/617/19

Name: Mohammed Ahmed Salman الاسم:

We would like to inform you that the committee had discussed the proposal of your study about:

نفيدكم علماً بأن اللجنة قد ناقشت مقترح دراستكم حول:

Stress, Coping Strategies and Psychological Well-being due to End of Life Care among Nurses in Neonatal Intensive Care Units

The committee has decided to approve the above mentioned research. Approval number PHRC/HC/617/19 in its meeting on 2019/10/7

و قد قررت الموافقة على البحث المذكور عاليه بالرقم والتاريخ المذكوران عاليه

Signature

Member Member

7/10/2019

Chairman

Genral Conditions:-

1. Valid for 2 years from the date of approval.
2. It is necessary to notify the committee of any change in the approved study protocol.
3. The committee appreciates receiving a copy of your final research when completed.

Specific Conditions:-

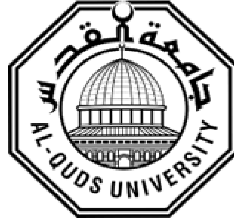
E-Mail:pal.phrc@gmail.com

Gaza - Palestine غزة - فلسطين

شارع النصر - مفترق العيون

Annex 4: Questionnaire

بسم الله الرحمن الرحيم



Questionnaire

Stress, Coping Strategies and Psychological Well-being due to End of Life Care among Nurses in Neonatal Intensive Care Units

Dear participant:

I am / Mohammed Ahmed Salman, a master student in pediatric nursing at Al-Quds University, Faculty of health professions, I am conducted this research as a major health requirement of obtaining the Master's degree. The main objectives of this study to identify stress levels due to end-of-life care, coping strategies, and psychological well-being among nurses in neonatal intensive care unit and to investigate the effect of stress levels and coping strategies on their Psychological well-being.

I highly appreciate your participation in this study, which can take about 15 minutes. Note the participation is optional and you have the right to withdraw whenever necessary while ensure the confidentiality of the information provided and that this research will be used for the purposes of scientific research only.

Please answer all the research questions in the questionnaire as it deems appropriate in practice and reality, where there is no wrong answer and other correct.

Thank you very much

Researcher/ Mohammed Salman
0598763953

Signature of participant to participate

Section I: Socio-Demographic Data and Preparedness & exposure to end of Life care

Part 1: Socio-Demographic Data

Please answer the following questions

1) Age: ………….. years.
2) Sex
   A)Male B) Female
3) Marital status
   A) Single B)Married C)Widowed D) Divorced
4) Education level:
   A) Diploma B) Bacholar C) Master D) Doctorate

5)Number of children:
   A) 0 B) 1 – 3
   C) 4 – 6 D) 7 – 10

6) The hospital name:
   A) El Shifaa hospital B) El Naser hospital
   C) Nasser complex D) European Gaza hospital

7)Years of experience in NICU:
   A) 0 – 3 B) 4 – 6
   C) 7 – 10 D) more than 10

Part 2: Preparedness & exposure to end of Life care

8) Do you think that the nurse need educational and training session about end of life care before working in NICU?

A)Yes B) No

9) The nurse working in NICUs in Gaza receives educational sessions about end of life care for neonates.

A)Yes B) No

10) Did you work with end of life care of neonates in your workplace?

A)Yes B) No

11) If (yes), you exposed to how many neonates need end of life care from you at your workplace during the last year?

A) 0 – 5 B) 6 – 10 C) 11 – 15 D) more than 15

Section II: Stress among nurses due to end of life care:

SA: Strong Agree A: Agree N: Neutral

D: Disagree SD: Strong disagree

	THE ITEM	SA (5)	A (4)	N (3)	D (2)	SD (1)
1	My working in NICU environment leads to increase my stress level.					
2	My working with dying neonate leads to increase my stress level.					
3	The unexpected dying of neonates leads to increase my stress level.					
4	When I notice deterioration of the vital signs of a neonate during end of life care my stress level increase.					
5	When I work with dying neonate my stress increased due to sense of guilt feeling.					
6	Lack of knowledge about End of Life care (EOLC) leads to increase my stress level during practice.					
7	Dealing with the dying cases in NICU increase my emotional stress even in my home.					
8	Facing dying neonates leads to increase my depressed mood.					
9	Facing dying neonates leads to increase my anxiety and irritability.					
10	Facing dying neonates leads to increase my compulsive behavior.					
11	Facing dying neonates leads to increase my problems in Memory and concentration.					
12	My stress level increase due to lack of essential supplies needed to provide end of life care.					
13	My stress level increase due to lack of essential medication needed to provide end of life care.					
14	My stress level increase due to frequent alarm sounds from monitors attached to dying neonates.					

Section III: The nurse coping strategies during the end of life care of neonates

SA: Strong Agree A: Agree N: Neutral

D: Disagree SD: Strong disagree

	THE ITEM	SA (5)	A (4)	N (3)	D (2)	SD (1)
1	I cope with stress by work with other dying neonate very hard.					
2	I cope with stress by avoiding taking on more responsibility in end of life care situations.					
3	I cope with end of life care stress by talking about strong emotions to another person such as: my family, my best friend.					
4	I cope with end of life care stress by writing about negative events which precipitated the negative emotions.					
5	I cope with stress by keeping myself busy to take my mind off the issue to distract myself.					
6	I use praying for guidance to cope with End of Life care stress.					
7	I tend more to eat more to cope End of life care stress when I exposed to end of life care events.					
8	I tend to use drugs such as: analgesics and/or opioid When I exposed to end of life care events,					
9	I tend to use relaxation techniques, when I exposed to end of life care events.					
10	When I exposed to end of life care I take time for meditative practices to cope with the end of life car stress.					
11	I cope with End of life care stress by using social support from my family.					
12	I cope with End of life care stress by using social support from my friends.					
13	I cope with End of life care stress by using social support from my colleagues.					
14	I cope with End of Life care stress by shares these stressful events with the social media to relieve my stress.					
15	Stress experiences become less when I receive emotional support.					
16	I cope with End of Life care stress by using some exercise practices.					
17	I cope with End of Life care stress by using periodic recreational session.					
18	I cope to end of life care stress because I thought that the dying is predestination.					

Section IV: Psychological wellbeing of nurses:

SA: Strong Agree A: Agree N: Neutral

D: Disagree SD: Strong disagree

	THE ITEM	SA (5)	A (4)	N (3)	D (2)	SD (1)
1	I acknowledge and accept all aspects of myself (including good and bad).					
2	I able to take more risks without worrying about the consequences.					
3	I become less self-critique and more self-kindness with myself.					
4	I have a heightened sense of freedom with lesser degrees of fear of failure.					
5	I feel that I have ability of Building and renewing self-identity and confidence.					
6	I able to identify and improve the potential psychological effect on myself.					
7	I can identify to my passions and where I want to use my energy.					
8	I live my life according to my values.					
9	I set goals for my life that are in line with my overall purpose and in harmony with one another.					
10	I develop a new positive relationship with others and I learn to trust more.					
11	I'm listening to other people effectively and give people his/her own time.					
12	I have the experience of understanding another person's thoughts, feelings, and condition from his or her point of view.					
13	I am good to coordinate my time so that I can fit everything in that need to get done.					
14	I able to create a lifestyle for myself that is preferable to me.					
15	I have simply arranging my life in a way that is satisfying to me.					

العنوان: التوتر واستراتيجيات التأقلم والرفاهية النفسية الناتجة عن رعاية نهاية الحياة للأطفال حديثي الولادة بين الممرضين والممرضات العاملين في أقسام العناية المركزة لحديثي الولادة.

إعداد: محمد أحمد سلمان

إشراف: د. حمزة عبد الجواد

ملخص الدراسة

قد تسهم رعاية الممرضين والممرضات للأطفال حديثي الولادة في نهاية حياتهم في وحدات العناية المركزة لحديثي الولادة في التوتر وتستدعي لتطوير استراتيجيات التأقلم بين الممرضين والممرضات وكذلك قد يؤثر على الرفاهية النفسية للممرضين الذين يقدمون رعاية نهاية الحياة للأطفال. كان الهدف من هذه الدراسة هو تحديد مستوى التوتر في رعاية نهاية الحياة وتحديد استراتيجيات التأقلم والرفاه النفسي بين الممرضين والممرضات في وحدات العناية المركزة لحديثي الولادة، والتحقق من تأثير التوتر واستراتيجيات التأقلم على الرفاهية النفسية بين الممرضين والممرضات. اعتمدت هذه الدراسة على المنهاج الوصفي التحليلي وهي دراسة مقطعية، تم إجرائها على المستوى الثالث من وحدات العناية المركزة لحديثي الولادة في المستشفيات الحكومية في قطاع غزة. بدأت الدراسة في مارس 2019 وانتهت في نوفمبر 2019. استهدفت هذه الدراسة جميع الممرضين والممرضات العاملين في اقسام عناية الأطفال حديثي الولادة في القطاع الحكومي وهي مستشفى الشفاء ومستشفى النصر ومستشفى ناصر ومستشفى غزة الأوروبي.

تم جمع البيانات باستخدام استبيان تم تصميمه من قبل الباحث وقد تم فحص هذا الاستبيان وتدقيقه من قبل الخبراء، تم إدخال البيانات وتحليلها باستخدام برنامج التحليل الاحصائي " الحزمة الإحصائية للعلوم الاجتماعية "SPSS" وأظهرت الدراسة أن أكثر من نصف المشاركين من الذكور بنسبة 65%. فيما يتعلق بخبرات المشاركين 40.2% من المشاركين لديهم خبرة عملية 3 سنوات، 20.5% من لديهم خبرة عملية 4-6 سنوات، و 15.4% لديهم خبرة عملية 7-10 سنوات، بينما 23.9% لديهم خبرة اكثر من 10سنوات. كما أظهرت النتائج أن غالبية المشاركين من حملة شهادة البكالوريوس في التمريض بنسبة 76.9% بينما كانت نسبة المشاركين من حملة شهادة الدبلوم بنسبة 17.9% أيضا كان هناك نسبة 4.3% من المشاركين من حملة الشهادات العليا.

بلغت النسبة المئوية الإجمالية المتوسطة لمستوى التوتر لدى الممرضين والممرضات بسبب رعاية نهاية العمر69.95٪، والمصدر الأكثر شيوعًا للتوتر بين الممرضين و الممرضات كان نتيجة للموت الغيرمتوقع للأطفال حديثي الولادة. كانت النسبة المئوية لاستخدام استراتيجيات التأقلم للممرضين

والممرضات خلال رعاية نهاية العمر عند المواليد 64.34%. وكانت النسبة المئوية لمتوسط مستوى الرفاه النفسي لدى الممرضين و الممرضات 70.08%. أظهرت الدراسة أن 93.2%من المشاركين في الدراسة أقروا بضرورة تلقيهم محاضرات تعليمية ودورات تدريبية حو رعاية نهاية الحياة للمواليد. كما أظهرت الدراسة أنه لا يوجد فرق كبير في المستوى المتوسط للتوتر أو استراتيجيات التأقلم مع الممرضين والممرضات بسبب الرعاية في نهاية العمر فيما يتعلق بسنهم وجنسهم وحالتهم الزوجية والمستويات التعليمية والمستشفى العمل وعدد أطفالهم ومستوى الخبرة في العمل.

أظهرت نتائج الدراسة أن هناك زيادة في مستوى التوتر بين الممرضين والممرضات وهذا سيؤدي إلى زيادة كبيرة في استخدام استراتيجيات التأقلم، وزيادة استخدام استراتيجيات المواجهة والتأقلم يؤدي إلى زيادة ملحوظة في تحسين الرفاه النفسي.

توصي هذه الدارسة بإعطاء دروس تعليمية ودورات تدريبية لجميع الممرضين والممرضات العاملين في أقسام العناية المركزة لحديثي الولادة لتهيئتهم للتعامل مع حالات نهاية الحياة.