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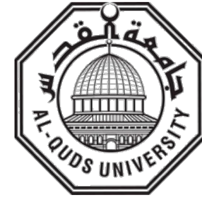

Do Not Resuscitate Status: Knowledge, Attitude and Practice of Critical Care Nurses in Palestine

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Do Not Resuscitate Status: Knowledge, Attitude and Practice of Critical Care Nurses in Palestine

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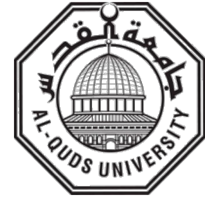

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Jerusalem – Palestine

1439 / 2018

Dedication

This thesis is dedicated to my parents, my wife and my daughter. Without their patience and support nothing would be done.

Nasser Dweib

Declaration:

I certify that this thesis submitted for the degree of Masters, is the result of my own research, except where otherwise acknowledged, and that this thesis (or any part of the same) has not been submitted for a higher degree to any other university or institution

Signed

Nasser Khalaf Ali Dweib

Date: 21/7/2018

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I would express my deep thanks and gratitude to all who were involved in and helped to complete my study, without their cooperation this would not have been possible.

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Abstract

Background:

Do not resuscitate (DNR) status is increasingly becoming a source of dilemma and moral stress for critical care nurses in intensive care because it takes them away from their aim which is health restoration. The study aimed to assess knowledge, attitude and practice of nurses about DNR status in critical care units in Palestine.

Methods:

The cross-sectional descriptive design was used in this study to explore knowledge, attitude and practice of critical care nurses about DNR status. The questionnaire was adopted from Thibault-Prevost (1997), it consisted of 190 items, and it was used to study the subject in 6 main hospitals out of 50 hospitals in the West Bank.

Findings:

A total of 205 out of 393 nurses who participated in the study (Response rate of 52%). Of the respondents, 51.4% were males and 48.6% were females, their mean age was 29 years, 76.8% had Bachelor degree and 85.9% held a staff nurse position. The mean practice period as registered nurses and in critical care were 7.1 and 6.1 years respectively. The majority practiced in medium size medical surgical ICUs and neonatal ICUs with percentage of 27.6% and 25.4% respectively.

Knowledge score about DNR was 6.23 on a scale 0-10; 95% CI [5.99, 6.47] which indicates moderate knowledge. Seventy seven percent of respondents correctly defined DNR by its legal intent. The majority of the respondents correctly didn't link DNR with no care (84%), 78.9% of participants correctly indicated that a consent form is required for DNR and 70.3% correctly indicated that they are legally obligated to initiate CPR in case of cardiopulmonary arrest unless DNR is ordered. Significant differences in knowledge were present between nurses who received post graduate course in critical care and who didn't; in favor of who received a course (p=0.002). Also significant differences were noted according to bed capacity in favor of larger ICU capacity (p=0.039) and in working overtime (p=0.043).

Most of respondents recognized that physicians, ethical committees, nurses and hospital administrations should be involved in ensuring the existence of DNR policy. Most of the respondents (75.1%) indicated that medical futility is the reason for DNR order. There were significant differences in attitude toward DNR status between nurses who received post graduate course in critical care and who didn't; in favor of who didn't received a course ($p=0.042$) and larger ICU capacity ($p=0.012$). Factors that influenced DNR decision making were categorized into three groups ordered by their influential effects as; family factors, institutional factors and patient factors.

Only 43% of respondents answered that they had DNR policies in their institutions. More than half of the them (54.6%) indicated that there was no change in the trends of DNR during the last year. Most of respondents indicated that physicians, families and patients are actually involved in decision making. Respondents reported that chronic neurological conditions and chronic renal failure are the most chronic diagnoses that influence DNR decision, they also indicated that life sustaining therapies following DNR order especially aggressive therapies like Extracorporeal Membrane Oxygenation, Intra-aortic Balloon Pump, surgery, pacemaker and hemodialysis are not frequently initiated. Respondents of this study reported that they felt depressed, indifferent, anxious, frustrated and powerless when DNR order is issued. They also indicated that patients with DNR died in intensive care unit or were transferred to another ward to die.

Attitude toward DNR status, involvement in DNR situations and initiation of life sustaining therapies following DNR order were found to be positively correlated to knowledge about DNR status. On the other hand, attitude toward discontinuing life sustaining therapies following DNR order was found to be negatively correlated to knowledge about DNR status.

Conclusion:

Based on findings of this study, nurses who work in critical care settings had moderate knowledge about DNR status. Consensus about the need for written policies was indicated; which, at national level, can regulate and facilitate nursing practice and reduce variations in nursing and medical care surrounding DNR status. Involvement of nurses in the decision making process regarding DNR status is a very important issue that should be addressed in the Palestinian hospitals.

حالة عدم الإنعاش: معرفة ومواقف وممارسات ممرضي/ات أقسام العناية المكثفة في فلسطين

إعداد: ناصر خلف اذويب

إشراف: د. اسمى الإمام

الملخص:

الخلفية:

حالة عدم الإنعاش أصبحت وبشكل كبير مصدرا لإحدى المعضلات والضغط الأخلاقي لممرضي وممرضات العناية المكثفة لأنها تأخذهم بعيدا عن الهدف الأساسي لهم وهو شفاء المريض وتحسين الحالة الصحية له. كان هدف الدراسة هو تحديد معرفة ومواقف وممارسات الممرضين والممرضات حول حالة عدم الإنعاش في اقسام العناية المكثفة في فلسطين.

المنهجية:

دراسة وصفية مقطعية، تم تطبيقها لدراسة معرفة ومواقف وممارسات ممرضي وممرضات اقسام العناية المكثفة حول حالة عدم الإنعاش. تم جمع معلومات البحث بواسطة استمارة تم اعتمادها وتعديلها من دراسة سابقة بعد أخذ الإذن من الباحث Thibault-Prevost (1997)، تكونت الاستمارة من 190 سؤال. شملت كافة الممرضين والممرضات الذين كانوا يعملون في أقسام العناية المكثفة في 6 مستشفيات رئيسية من أصل 50 مستشفى في الضفة الغربية.

النتائج:

بلغ عدد المشاركين بالدراسة 205 من أصل 393 بنسبة استجابة بلغت 52 بالمئة. بلغت نسبة الذكور منهم 51.4% ونسبة الإناث 46.8% بينما بلغ معدل العمر 29 عام. 76.8% منهم قد حصلوا على درجة البكالوريوس و85.9% يعملون كممرضين/ات قانونيين/ات. بلغ معدل المدة التي عملها المبحوثين كممرضين/ات قانونيين/ات 7.1 سنة بينما بلغ معدل مدة عملهم في أقسام العناية المكثفة 6.1 سنة. كان العدد الأكبر من المبحوثين يعملون في أقسام عناية مكثفة جراحية وباطنية (27.6%) وعناية مكثفة بالخدّج (25.4%) وهي أقسام متوسطة الحجم من حيث عدد الأسرّة.

بلغ معدل معرفة المبحوثين حول حالة عدم الإنعاش 6.23 / 10 بفترة ثقة عند المستوى 95% [5.99 , 6.47]، ويمثل ذلك معرفة متوسطة حول الموضوع. عرّف 77% من المبحوثين طلب عدم الانعاش تعريفًا قانونيًا صحيحًا، كما أقر غالبية المبحوثين (84%) بان طلب عدم الإنعاش لا يرتبط بعدم تقديم الرعاية الصحية والتمريضية. أجاب 78.9% من المبحوثين بان طلب عدم الإنعاش يحتاج الى نموذج موافقة خاص، كما أقر 70.3% من المبحوثين أنهم في حالة عدم وجود نموذج الموافقة على عدم الانعاش فانهم مجبرين قانونيًا على بدء عملية الانعاش القلبي والرئوي فورًا. لقد كانت

هناك فروقات ذات دلالة إحصائية عند مستوى الدلالة ($\alpha \leq 0.05$) في مستويات معرفة المبحوثين حول طلب عدم الإنعاش تعزى لمتغير حصول الممرض/ة على دورات في العناية المركزة او العناية المركزة بالأطفال او العناية المركزة بالخدج ($p=0.002$) حيث كانت المعرفة اكبر عند الذين حصلوا على هذه الدورات، كما وجدت فروقات ذات دلالة إحصائية تعزى لمتغيرات زيادة عدد أسرّة القسم ($p=0.039$) والعمل الاضافي بقسم او بمؤسسة أخرى ($p=0.043$).

أشار أغلب المبحوثين ان الأطباء واللجان الاخلاقية والممرضين وادارة المستشفيات يجب مشاركتهم في التأكيد على وجود سياسات عدم الانعاش. كما أشار 75.1% من المبحوثين ان عدم الجدوى من العلاج هو السبب الرئيسي لكتابة طلب عدم الانعاش. كانت الفروق ذات دلالة إحصائية عند مستوى الدلالة ($\alpha \leq 0.05$) بمواقف المبحوثين تجاه طلب عدم الإنعاش تعزى لمتغيرات حصول الممرض/ة على دورات في العناية المركزة او العناية المركزة بالأطفال او العناية المركزة بالخدج ($p=0.042$) حيث كانت مواقف الذين لم يحصلوا على دورات أكثر إيجابية، ومتغير زيادة عدد أسرّة القسم ($p=0.012$). تقسمت العوامل المؤثرة في قرار عدم الانعاش الى ثلاثة أقسام وكانت أعلى معدل للعوامل العائلية تليها العوامل المرتبطة بالمريض وأخيرا العوامل المرتبطة بالمؤسسة.

أجاب 43% من المبحوثين بان المؤسسات التي يعملون بها تتبنى سياسات لطلب عدم الانعاش، كما أشار 54.6% منهم بأنه لم تتغير معدلات طلب عدم الانعاش خلال السنة الاخيرة. أقرّ معظم المبحوثين بان الاطباء وعائلات المرضى والمرضى أنفسهم هم من يشاركون حقيقةً في قرار عدم الانعاش. وأشار المبحوثين بان الامراض العصبية المزمنة والفشل الكلوي المزمن هي أكثر الأمراض تأثيرًا بقرار عدم الإنعاش كما أشاروا ان بدء التدخلات العلاجية المتقدمة المساعدة على البقاء مثل جهاز الأكسجة الخارجي وتقنية البالون الأبهري والعمليات الجراحية وجهاز منظم ضربات القلب والغسيل الكلوي لا تجرى بشكل متكرر بعد طلب عدم الإنعاش. أجاب اغلبية المبحوثين أنهم شعروا بالاكتئاب وعدم الاكتراث والقلق والإحباط والعجز عند طلب عدم الانعاش للمرضى. أخيرا أشار المبحوثين ان المرضى الذين طلب لهم عدم الانعاش قد ماتوا في وحدة العناية المكثفة او تم نقلهم الى أقسام أخرى للموت بها.

ارتبطت المواقف حول حالة عدم الإنعاش والمشاركة في حالات عدم الإنعاش والبدء بالتدخلات العلاجية المتقدمة المساعدة على البقاء مع المعرفة حول حالة عدم الإنعاش بشكل ايجابي. من جهة أخرى، ارتبطت المواقف حول إيقاف التدخلات العلاجية المتقدمة المساعدة على البقاء بعد طلب عدم الإنعاش بشكل سلبي مع المعرفة حول حالة عدم الإنعاش. على اية حال، كانت هذه الارتباطات ضعيفة ويمكن اهمالها.

الملخص:

بناءً على نتائج هذه الدراسة فان معلومات ممرضي /ات اقسام العناية المكثفة حول موضوع طلب عدم الانعاش هي متوسطة، كما اتفق المبحوثين على ضرورة وجود سياسات مكتوبة على المستوى الوطني؛ لتنظيم وتسهيل ممارسة التمريض والتقليل من الفروقات في الرعاية التمريضية والطبية التي يتلقاها المريض بما يتعلق بطلب عدم الانعاش. تبين ان انخراط ومشاركة الممرضين/ات في القرارات المتعلقة بطلب عدم الانعاش هو في غاية الاهمية ويجب تَبَنيه في المستشفيات الفلسطينية.

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List of Abbreviations

ACLS	Advances Cardiac Life Support
ANOVA	Analysis of Variance
BLS	Basic Life Support
CPR	Cardiopulmonary Resuscitation
DNACPR	Do Not Attempt Cardiopulmonary Resuscitation
DNAR	Do Not Attempt Resuscitation
DNR	Do Not Resuscitate
ECPR	Extracorporeal Cardiopulmonary Resuscitation
ICU	Intensive Care Unit
KAP	Knowledge, Attitude and Practice
KASA	Knowledge, Attitude, Skills and Aspiration
NFR	Not For Resuscitation
OS	Operation System
RN	Registered Nurse
SUPPORT	Study to Understand Prognosis and Preferences for Outcome and Risk of Treatment

Chapter One

Introduction

1.1 Introduction

This chapter introduces the subject of do not resuscitate status by giving background of the subject. Also, in this chapter the study problem is identified and the significance of the study is discussed. Moreover, the aim and objectives of the study are stated.

1.2 Background

Severity of illness of hospitalized patients has progressively increased over the past decades while advanced techniques have allowed very sick patients to survive (Carlet et al., 2004). Advances in critical medicine have led to many ethical issues of profound concern to all intensive care professionals. One of the concerns that most of critically ill patients will die if a decision is taken to withhold specific aggressive treatments. (Amoudi, Albar, Bokhari, Yahya, & Merdad, 2016)

Do not resuscitate (DNR) status is increasingly becoming a source of dilemma and moral stress for critical care nurses in intensive care setting. It takes nurses away from their aim which is health restoration. Moral stress is always present in all phases of do not resuscitate

status starting from taking the decision which is done mainly by physicians and ending in nurses who implicate the decision. (Cheraghi, Bahramnezhad, & Mehrdad, 2016; Fallahi et al., 2016)

End of Life Decision indicates all decisions made by a physician, with the intention of shortening the patient's life, or knowing that this decision may have a potentially life-shortening effect. An example of end of life decision is DNR status, which is a decision by an individual regarding his/her end of life medical care to opt out of cardiopulmonary resuscitation (CPR) in the event of cardiac, or pulmonary arrest, or both (Al Sheef, Al Sharqi, Al Sharief, Takrouni, & Mian, 2017). End of life decision is a complex and multidisciplinary decision that should be taken under coverage of law and ethical policies of the country and institutions. However, lack of policies about such decisions can lead to major ethical and legal issues (Bellini & Damato, 2009; Saifan, Alrimawi, Abualruz, & Abdelkader, 2016). The term of "Do not resuscitate" is not clearly understood by health professionals in its legal definition as the decision to decline CPR only. However, DNR is sometimes expanded and misused to include activities which positively shorten lives (Bellini & Damato, 2009).

The American Medical Association for the first time in 1974 formally proposed the DNR order in patients' treatment process. The first hospital policies regarding the DNR order were published in 1976 (Assarroudi, Heshmati-Nabavi, Ebadi, & Esmaily, 2017).

1.3 Study Problem

"Do not resuscitate" status is ordered in cases in which completing aggressive life sustaining treatment is without benefit. Although critical care nurses are becoming increasingly involved in care and decision making in critical care settings, DNR status leaves them in the dilemma of the benefit of the intensive care environment to "Do not resuscitate" patients (Thibault-Prevost, 1997). Knowledge, attitude and practice of western critical care nurses were described and explored (Bellini & Damato, 2009; Giles & Moule, 2004; Huang et al., 2012; Khalaileh, 2014; O'Hanlon, O'Connor, Peters, & O'Connor, 2013; Sanderson, Zurakowski, & Wolfe, 2013; Taha, Asfour, & Attia, 2010; Thibault-Prevost, Jensen, & Hodgins, 2000). However, knowledge attitude and practice of the Palestinian critical care nurses still need to be explored and described.

1.4 Study Justification

"The gap between the availability and actual use of evidence-based treatments remains wide and persistent. This gap compromises the quality of care and threatens professionals' abilities to achieve their goals of reducing disparities in health, family well-being, and individual functioning in society" (Proctor, 2004). Besides, the first step of changing practice to achieve better outcomes is assessing knowledge, attitude, practice and desire to change (Shelby, 2014). Hence, exploring current practice, knowledge and attitude of critical care nurses toward DNR status can lead to improving care of critically ill patients in intensive care (Sanderson et al., 2013). Exploring current practice of critical care nurses of DNR ordering can improve policies, regulations and procedures of end of life decisions especially in institutions where no clear policies and procedures regarding DNR are present (Thibault-Prevost et al., 2000).

The results of this study can be used to direct educators in nursing schools to expand curriculums to include end of life care and ethical issues, on another hand, continuous education departments in hospitals can benefit from the assessment of knowledge results in directing educational programs toward ethical issues.

Exploring attitudes of critical care nurses will direct hospitals to meet their psychological and ethical needs which are generated from dealing with critical care patients and environment. Findings will help health care providers, such as physicians and nurses, developing specific interventions to address the potential needs within the target population.

1.5 Aim

The aim of this study was to assess knowledge, attitude and practice of critical care nurses about practices of "Do not resuscitate" status in critical care units in Palestine.

1.6 Objectives

The specific objectives of this study were:

a. To determine the relationships between critical care nurses' knowledge, attitude and their practice regarding DNR status in critical care units in Palestine.

b. To determine differences in attitudes, knowledge and practices of the respondents based on socio-demographic characteristics of critical care nurses and work environment factors.
c. To assess knowledge of the Palestinian critical care nurses about DNR status.
d. To assess attitudes of the Palestinian critical care nurses toward DNR status.
e. To determine practice of the Palestinian critical care nurses of DNR status.

Chapter Two

Literature Review

2.1 Introduction

This chapter provides an overview of literature about "Do not resuscitate" status in general and the specific subject of this research which is about knowledge, attitudes and practices of critical care nurses of DNR status.

Literature review included the following: meaning of DNR status, prevalence of DNR status, characteristics of DNR patients, rationale for DNR status, clinical implication and conflicts with DNR status. In addition, literature about attitudes and knowledge about DNR status was also reviewed. The reviewed studies were performed in various countries and cultures which will enhance comparison with similar researches in these cultures. Sources from which literature was retrieved are published theses, international journals and research databases.

2.2 Theoretical Background

2.2.1. Meaning of "Do not resuscitate"

The legal definition of "Do not resuscitate" is withholding cardiopulmonary resuscitation in case of cardiac, respiratory or cardiopulmonary arrest (Abdallah, Radaeda, Gaghama, & Salameh, 2016; Amoudi et al., 2016; Bellini & Damato, 2009; Bradford, 2016; Chang, Huang, & Lin, 2010; Gulacti & Lok, 2016; Khalaileh, 2014; Miceli, 2016; Thibault-Prevost et al., 2000). However, the legal definition of DNR is always inappropriately understood by the health professionals (Bellini & Damato, 2009).

Studies suggest that health professionals inappropriately use DNR orders as they expand it to withhold treatments and interventions other than cardiopulmonary resuscitations (Bradford, 2016). Interventions that may be involved in DNR orders may include more simple procedure such as intubation or more advanced procedures like Extracorporeal Membranous Oxygenation (J. Burns & Truog, 2016; Thibault-Prevost et al., 2000).

Thus, all reviewed studies didn't link DNR with no care or with withholding other treatments like nutrition, infection management, oxygenation and receiving intravenous fluids even that some of these interventions are considered part of resuscitation (J. Burns & Truog, 2016; Saifan et al., 2016).

Health professionals had developed and adapted terms other than DNR which mean "Do not resuscitate" terms like "no code", "slow code", "chemical code", "Hollywood code", "no CPR", "do not attempt resuscitation (DNAR)", "do not attempt cardiopulmonary resuscitation (DNACPR)", "allow natural death", "comfort care measures only" and "not for resuscitation (NFR)" and they are widely used in many countries. Furthermore, they had developed other methods to communicate the status by using symbols like purple dot on the patient's chart (Bradford, 2016; J. Burns & Truog, 2016; Gulacti & Lok, 2016).

2.2.2. Prevalence of DNR order:

Prevalence of DNR orders is increasing over time (Cherniack, 2002; De Gendt et al., 2007). This may be due to several reasons including the protection of patients' right in decision

making and advancements in medical technology (Salottolo et al., 2015). A retrospective cohort study was done by Silveira, Kim, & Langa (2010) to determine the prevalence and predictors of lost decision-making capacity and decision making at the end of life. The study examined 3,746 subjects of which 67.6% had advance directives. However, 92.7% of subjects wanted limited medical care and 96.2% of them wanted comfort care. As a result, 83.2% of subjects who wanted limited care and 97.1% of subjects who wanted comfort care in their advance directives received care consistent with their preferences.

Current literature focused on prevalence of DNR order in various settings including geriatric populations, trauma patients and oncology patients. A study done by Al Sheef et al. (2017) in Saudi Arabia aimed to explore awareness of outpatients, their preferences about DNR and their ethical standpoints. The study explored 307 participants from whom 62% heard about DNR status and 50% could define DNR correctly. Most respondents (90%) agreed that person should be asked about resuscitations wishes at diagnosis stage. However, according to “The study to understand prognosis and preferences for outcomes and risks of treatment” (SUPPORT) less than 25% of elderly who have severe illness had discussed CPR with healthcare providers (Youngner, Murphy, & Lynn, 1990).

DNR status is often issued in intensive care units for severely ill patients. On another hand, trauma patients who are admitted to hospitals as emergency cases are mainly well and have no chronic or severe diseases. Nevertheless, they also come with previously issued DNR status (Salottolo et al., 2015). A retrospective cohort study done by Salottolo et al. (2015) in a trauma center in USA. The study included 10,053 subjects aged more than 18 years who were admitted to the trauma center over six years period. Fifteen percent of the patients had DNR status of which 7% had pre-existing DNR status whereas 8% of orders were established within an average of 2 days, however, mortality was higher in subjects with DNR status (Salottolo et al., 2015).

Another prospective cohort study was done to study variations in DNR status after major trauma in 6,765 trauma patients in USA. Similar to Salottolo et al. (2018) results, 7% of patients were with DNR status of them 88% were died. However, there were large variations in DNR depending on the institution (0%-57%) (Nathens, Rivara, Wang, Mackenzie, & Jurkovich, 2008).

In elderly, it is more likely to have DNR status (Cherniack, 2002; Silveira et al., 2010). The prevalence of DNR was investigated by De Gendt et al. (2007)on 94 geriatric wards. The study involved 1925 patients of which 393 (20.3%) had DNR status.

2.2.3. Rationale for DNR order:

Originally, the purposes of DNR orders is to support patient autonomy, provide conditions for comfortable death and prevent non-beneficial interventions (Amoudi et al., 2016; Bradley et al., 2006; Cheraghi et al., 2016; Cherniack, 2002; Thibault-Prevost et al., 2000; Yuen, Reid, & Fetters, 2011).

Supporting patient autonomy is implemented by advanced directives which is signed by patients before being admitted to hospital, but studies showed limited percentage of patients with DNR status have advanced directives contains DNR order (Bradley et al., 2006; Chang et al., 2010). In addition, in countries like Saudi Arabia where DNR is regulated according to Islamic religion and Fatwa, the DNR decision is restricted to certain medical situations according to the decision of three specialized trustworthy physicians (Al Sheef et al., 2017; Amoudi et al., 2016).

Cardiopulmonary resuscitation is the only known way to resuscitate patients who have heart or/and respiratory arrest. All types of resuscitation which include Basic Life Support (BLS), Advanced Cardiac Life Support (ACLS) and Extracorporeal Membrane Oxygenation (ECPR) have poor outcomes which can be low to 10% survival to discharge in the elderly (Bradford, 2016; J. Burns & Truog, 2016; Gulacti & Lok, 2016). In addition, studies suggest that repetitive resuscitation attempts increase patient suffering (J. Burns & Truog, 2016). On one hand, physicians are not obligated to provide procedures they are not sure that it will benefit the patient through their best professional judgment. On the other hand, they cannot provide care which can cause harm to the patient as the principles of beneficence/ maleficence suggest (Miceli, 2016).

2.2.4. Patients who are mostly vulnerable to have DNR status:

Patients who have DNR orders are certainly unlikely to benefit from intensive care and CPR (Bradley et al., 2006; Thibault-Prevost et al., 2000). Those patients always have underlying

medical conditions such as heart failure, metastatic cancer, renal failure, brain injury, sepsis, severe lung disease and multi organ failure (Salottolo et al., 2015; Taha et al., 2010; Takrouri & Halwani, 2008; Thibault-Prevost et al., 2000).

In critical care settings a retrospective cohort study was conducted by Wang, Sen-Kuang, Wei-Fong, & Shin-Han (2016). was conducted on 274 patients who were admitted to emergency department intensive care units in Taipei Medical University Hospital in Taiwan. The characteristics and outcome of critical illness with DNR status admitted to intensive care unit were explored. The mean age of patients with DNR status was 79.6 years, the mean score of Acute Physiology and Chronic Health Evaluation-II (Apache II) was 25.7. The study revealed that 72% of patients were admitted due to sepsis. The other diagnoses were acute myocardial infarction, congestive heart failure, cardiac arrest, cerebral infarction and gastrointestinal bleeding. Of them, 29.5% requires mechanical ventilation and 43.6% requires vasopressors.

2.2.5. Policies of DNR:

The American Medical Association for the first time in 1974 formally proposed the DNR order in patients' treatment process. The first hospital policies with regard to the DNR order were published in 1976 (Assarroudi et al., 2017).Then, in 1988 DNR policies became a requirement to meet the accreditation standards of acute care hospitals in the USA (Khalaileh, 2014).

Absence of policies for transparent decision making about resuscitation prevents physicians from obtaining appropriate informed consent from the patient or the family, so that hospitals and health professionals were failing to provide sufficient rationale and failing to accept accountability for their decision (J. Burns & Truog, 2016). For example, in some countries like Poland, Belgium, Spain, and Hungary, DNR orders are official and vary across the country with different practices used in different regions of these countries. In contrast, there are no official instructions or policies regarding DNR in Denmark, Holland, France, Portugal, Austria, Croatia and Greece (Gulacti & Lok, 2016).

According to Yuen et al. (2011) study which studied reasons why DNR orders failed to achieve their purpose to support patient autonomy and prevent non-beneficial interventions,

inadequate hospital policies on DNR is considered an important reason for inadequate DNR discussions which we should overcome and fixed.

Although health care professionals are familiar with DNR term, most studies show lack of knowledge about the existence of a clear policy about DNR (Amoudi et al., 2016; Bellini & Damato, 2009). In Amoudi et al. (2016) study which studied perspectives of interns and residents about DNR order in Saudi Arabia, 64% of interns and 55% of residents were unsure about the existence of DNR policy in their hospital, furthermore, 65% of them were unsure about the existence of a Fatwa which regulates DNR designation. Similar results were found in Billini & Damato study (2009) which reported that nearly half of respondents (42.2%) were unsure if DNR policy existed in their institution (Amoudi et al., 2016; Bellini & Damato, 2009). On another hand, Khalaileh (2014) agreed that there is a need for a clear DNR policy in hospitals which in turn reduce dilemmas and regulate practice.

In contrast, the study of O'Hanlon et al. (2013)which was conducted to explore the opinions and experiences of nursing staff on DNR orders. One third of respondents reported the presence of a resuscitation policy in their ward, although no official policy existed in the hospital.

2.3 Knowledge about DNR status:

Many studies explored knowledge about DNR orders. A descriptive study was done by Bellini & Damato (2009) to describe the knowledge, attitudes/beliefs, and care practices of 66 neonatal intensive care unit nurses concerning do not resuscitate status for hospitalized neonates. Only 24.2% of respondents in the study were able to correctly define DNR as ''withholding CPR only''. Nearly half (49.2%) of the respondents correctly stated that DNR did not include additional therapeutic limits like withdrawal of support (Bellini & Damato, 2009).

Another descriptive study by Thibault-Prevost et al. (2000) was done to describe the perceptions of nurses regarding DNR decisions in critical care settings by assessing knowledge, attitudes, and practices concerning DNR status. The study involved 405 nurses working in intensive care units in Alberta – Canada. A 333 item questionnaire was used. Not similar to Bellini & Damato study, only 48.6% of respondents correctly defined DNR which

is considered a low percentage. Moreover, 52.6% of respondents of this study responded that DNR designation includes therapies other than CPR. However, respondents did not associate DNR with no care.

Some studies investigated nurses' and physicians' knowledge, attitudes and practice (Bellini & Damato, 2009; Saifan et al., 2016; Sanderson et al., 2013). For example, Sanderson et al. (2013) conducted a study on 159 nurses and 107 physicians to identify their attitudes regarding the meaning, implication, and timing of the DNR order for pediatric patients, using 148 items web-based survey instrument. Twenty two percent of the sample were ambiguous about the answer of the question "When a child has a Do Not Resuscitate (DNR) order in place, what does this mean to you?". However, of the respondents, 66.9% believed that a DNR order indicates limitation of resuscitative measures only on cardiopulmonary arrest, whereas 33.1% considered a DNR order to include limitation of treatments not specifically related to CPR. The study also assessed the training about DNR, most health professionals had received little to no structured or bedside training in resuscitation discussions during medical or nursing school and during postgraduate training (Sanderson et al., 2013).

Another study was conducted by Baumann, Killebrew, Zimnicki, & Balint (2017) to assess and improve nurses' knowledge about DNR as a part of quality improvement project. The study involved 244 nurses who work in postoperative area. The method involved providing nurses with educational fair preceded and followed by a survey measuring knowledge about DNR orders. Of respondents, 64% and 72% recognized the correct definition of DNR pre and post education respectively. Moreover, only 32% of the sample correctly answered that patients can undergo surgery with an active DNR status, and increased to 76% post education about DNR.

2.4 Attitudes toward DNR status:

Attitudes and beliefs of nurses can be studied in numerous aspects which depend on the area in which health professionals practice. In Bellini & Damato (2009) study, researchers concentrated on the actual scope of care and aggressiveness of treatment typically provided to patients following DNR designation. All respondents agreed that DNR patients should not receive less care than necessary, however, the majority of respondents (73%) indicated that neonates who have DNR status should not receive surgery while 64% of respondent

agreed that they should not receive diagnostic imaging. Furthermore, only one respondent disagreed with initiating analgesic therapy for a neonate following the DNR order, which was interpreted by author that more education should be done about pain management for terminally ill patients (Bellini & Damato, 2009).

In contrast to Bellini & Damato study, Thibault-Prevost et al. study expanded the scope for nursing attitude to include scope of care, aggressiveness of treatment provided, general nursing care, persons involved, link between DNR and Euthanasia, complexity of ordering and factors that lead to DNR order. Of respondents 72% thought that DNR order will block aggressive treatment whereas 60% believed that withdrawal of therapy occurred after DNR designation. However, 98% of sample responded that DNR patient should receive full nursing care till death, whereas 87% agreed that DNR patient should not receive healthcare less than necessary. Respondents linked DNR order with present or expected poor quality of life, they also mostly agreed that physicians, nurses and ethical committees should be involved in DNR designation. Only 16% of studied nurses linked DNR with euthanasia. Moreover, patient-specific factors such as patients' or families' desires and varied patient characteristics and circumstances received the highest agreement for factors perceived to complicate DNR decisions (Thibault-Prevost et al., 2000).

Khalaileh (2014) study used Thibault-Prevost et al. instrument after modification to explore critical care nurses' attitudes towards and experiences of DNR decisions in clinical practice in Jordan. The study concentrated on documentation, decision making and persons involved in DNR designation. About 60% of the sample responded that experience clinicians, physicians, families and nurses should be involved in DNR designation of patients. However, only 56% of the respondents agreed that it is important to first assess a competent patient's best interests when reviewing resuscitation status. Moreover, 81% of the sample preferred to use coding system other that "Do not Resuscitate" in communication and documentation of DNR status in the patient's file. In the same context, only 58% of the sample agreed that a standard DNR form including a statement that the patient is 'not for resuscitation' should be kept with the patient's medical notes (Khalaileh, 2014).

Huang et al. (2013) also conducted a cross-sectional study to describe the neonatal professionals' personal views and attitudes towards the neonatal end of life decisions. The study involved 104 neonatologists and neonatal nurses who were studied by a structured

questionnaire. The study concentrated on dealing with families of DNR patients and process of DNR designation. Most respondents (76%) agreed about the difficulty of talking with parents about DNR orders. Similarly, 94% of the sample agreed that DNR order should pass through ethical committees before suggestion of DNR to parents (Huang et al., 2012).

In O'Hanlon et al. (2013) study which concentrated on criteria of DNR designation and persons involved in DNR designations. Nurses' attitude about who is responsible for DNR order is consultants (91%), family (74), patients (64%) and nurses (22%) but in the same time some of respondents indicated that interns (3%) and senior house officer (11%) also had a role in DNR designation. Furthermore, 52% of respondents think that all hospital patients should be routinely asked if they would like to have a DNR status (O'Hanlon et al., 2013).

2.5 Practice of DNR order:

Two of the most important studies that described the practice of DNR order in critical care setting are Bellini & Damato (2009) and Thibault-Prevost et al. (2000) studies. Thibault-Prevost et al. (2000) study indicated that the most common medical requests used to order DNR are DNR, no CPR, do not intubate, medications only, comfort measures only, do not defibrillate, palliative care only and no code. Respondents of this study also pointed out that physician, patient, family, nurse, resident and legal guardian should participate in DNR decision making. However, they reported that only physician, family, patient and legal guardian were actually participating in DNR decision making. The study reported that multi-system failure and neurological failure are the medical diagnosis which influence DNR decision. Moreover, the study also showed that most of patients with DNR order died in the unit. Bellini & Damato (2009) in their study reported that most of Neonatal ICU nurses were unsure that their institutions had a DNR policy regardless of experience in practicing nursing in neonatal care units. The study also identified that conflicts were always happening during DNR decision making either between health professional themselves or between health professionals and families (Bellini & Damato, 2009; Thibault-Prevost et al., 2000).

Assarroudi et al. (2017) revealed that lack of hope to the patient's recovery after CPR was the main reason for the DNR order. The study also indicated that fear of legal prosecution had a major role in decision making for the DNR order, besides, hesitancy in performing the

DNR order was another challenge of their study. Furthermore, the result of their study revealed that DNR order lead to reduce motivation of CPR team due to their feelings of powerlessness.

Chang et al. (2010) conducted a study to compare the intensive care of DNR patients prior and after DNR order; and to explore for factors influencing DNR decisions. The study revealed that 87.2% of DNR patients had died in the ICU compared to 46.4% in non-DNR patients. The study also indicated that DNR patients were less likely to receive life support therapies, such as vasopressors, inotropes, CPR, pacemakers, cardiac defibrillation, and supplemental oxygen after DNR designation. Yet, no significant changes were observed in the likelihood of receiving blood transfusions, intravenous fluids, hemodialysis, mechanical ventilation, endotracheal intubation, total parenteral nutrition, and nasogastric tube feeding. Factors that were found to predict DNR status are age, being unmarried, having adult children as surrogate decision makers, being unable to survive to ultimate discharge from the ICU, and staying longer in the ICU.

O'Hanlon et al. (2013) study which aimed to explore the opinions and experiences of nursing staff on DNR orders reported that one third of respondents reported the existence of DNR policy while 2/3 specified that the institution had no policy. It also indicated that over one third of respondents had disagreement with DNR decision on some occasions.

2.6 Summary

Research about DNR and end of life care has a significant weight in the modern investigations, especially because it is directly related to quality of life of end stage patients and the increased focus on patients' rights like patient autonomy. Research reviewed involved recent and old studies about the broad subject (DNR) and specifically about knowledge, attitude and practices of DNR status. Unfortunately, very few studies were holistic and involved systemic assessment of nurses, other researches involved only one aspect of KAP (knowledge, attitude and practices) and involved a small number of questions.

In intensive care units, nurses are dealing with a diversity of patients with various diagnoses, plans and outcomes, one of these plans is DNR order. Although nurses are in continuous and close contact with patients, they are always not involved in DNR designation and always

nurses are left with the implementation of this ethically challenging order.

In Palestine, research is needed to evaluate knowledge, attitudes and practice regarding DNR. Also information is needed about other aspects of DNR status such as types of patients who have DNR status and deep exploration of knowledge attitude and practices of DNR. It is also noted that the literature about knowledge, attitude and practice of DNR is predominantly descriptive, as a result there was no linking between sociodemographic or work environment factors with knowledge, attitude and practice.

Chapter Three

Conceptual Framework

3.1 Introduction

In this chapter the conceptual framework was discussed, conceptual definitions were defined and the dependent and independent variables were defined.

3.2 Conceptual Framework

The conceptual framework addressed demographic, personal and professional characteristics and work environment factors’ contribution to their knowledge about DNR status, attitude toward DNR status and practice of DNR status. It also expected that knowledge will influence attitude and practice of critical care nurses about DNR status.

Illustration of application of this conceptual framework on this study is shown in the following figure:

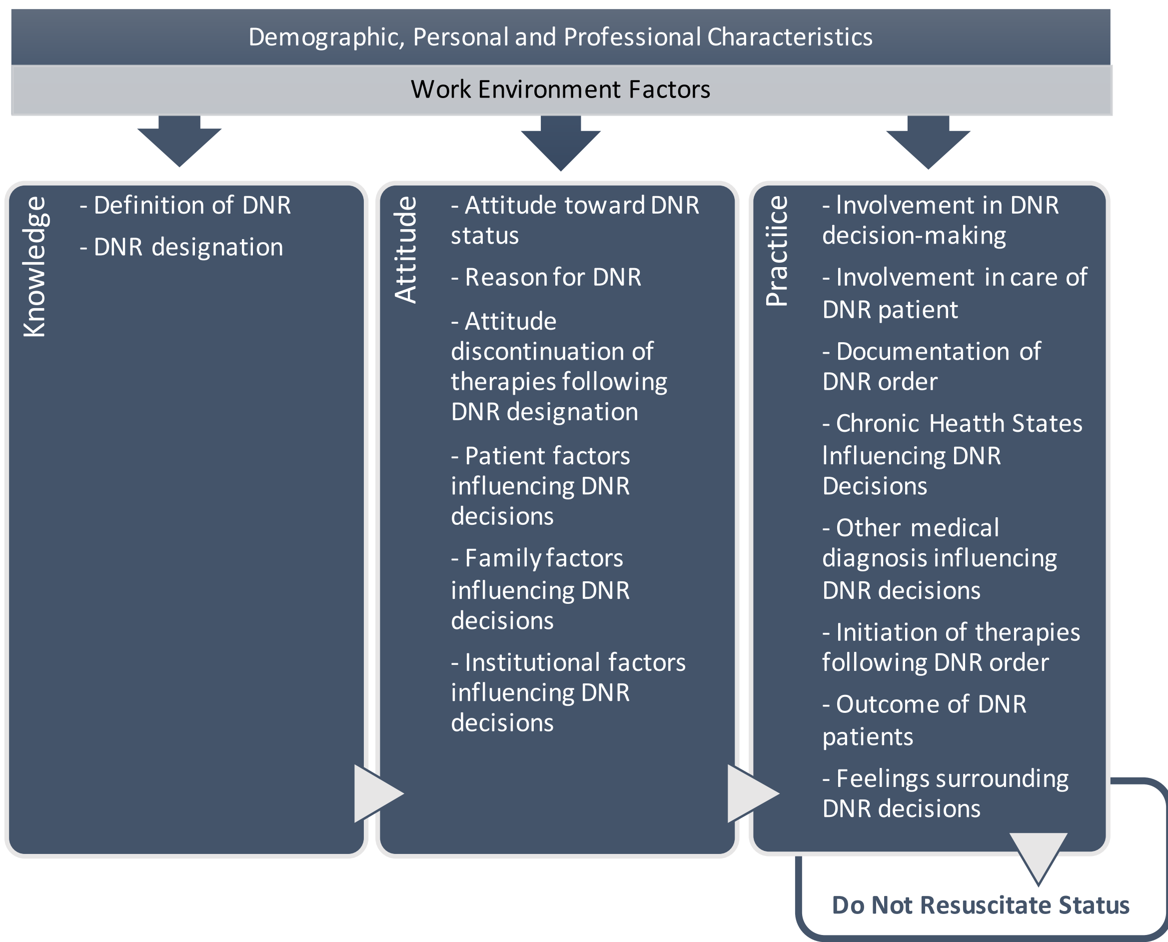

Figure 3.1: Illustration of the conceptual framework of knowledge, attitude and practice of DNR status

After reviewing the literature about knowledge, attitude and practice of DNR status the variables about socio-demographic characteristics and work environment were chosen. Variables are defined in the following sections of this chapter.

3.3 Conceptual Definitions

Do not resuscitate: "Do not resuscitate" is withholding cardiopulmonary resuscitation in case of cardiac, respiratory or cardiopulmonary arrest (Abdallah et al., 2016; Amoudi et al., 2016; Bellini & Damato, 2009; Bradford, 2016; Chang et al., 2010; Gulacti & Lok, 2016; Khalaileh, 2014; Miceli, 2016; Thibault-Prevost et al., 2000).

Cardiopulmonary resuscitation: In emergency cardiac care, the opening of the airway,

provision of artificial breathing, and assisting the circulation until definitive treatment can restore spontaneous cardiac, pulmonary, and cerebral function (Venes, 2013, p. 2032).

Intensive care unit: A unit in which care is done for critically ill patients by continuous monitoring of various body functions. It is also called critical care unit (Venes, 2013, p. 398).

End of life decision: End of Life Decision indicates all decisions made by a physician, with the intention of shortening the patient's life, or knowing that this decision may have a potentially life-shortening effect (Al Sheef et al., 2017).

Knowledge: Understanding of or information about a subject that you get by experience or study, either known by one person or by people generally (Cambridge Dictionary, 2017b).

Attitude: A feeling or opinion about something or someone, or a way of behaving that is caused by something (Cambridge Dictionary, 2017a).

Practice: Something that is usually or regularly done, often as a habit, tradition, or custom (Cambridge Advanced Learner's Dictionary & Thesaurus, 2017).

3.4 Operational Definitions

3.4.1. Dependent Variables

Dependent variables in this study are knowledge about DNR, attitude toward DNR and practice of DNR orders.

Knowledge about DNR: Awareness of critical care nurses about the legal definition of DNR, limits of order and designation of DNR status (statement B 1 to B 9). Knowledge was considered to be high if scored 80-100%, satisfactory if scored 60-79% and poor if scored less than 60%.

Attitude toward DNR: The way critical care nurses think about DNR status, reason for DNR order, discontinuing therapies after order and factors the affect DNR status (statement C 1 to C 5). Attitudes was considered positive if scored 80-100% (4.2-5), neutral if scored

60-79% (3.4-4.19) and negative if scored <60% (<3.4).

Practice of DNR: The way in which DNR designation is actually happen, diagnosis that influence DNR, therapies that are started after DNR order, DNR outcome and feelings after DNR order (statement D 1 to D 11). Practice was considered good if scored 80-100% (4.2-5), fair if scored 60-79% (3.4-4.19) and poor if scored <60% (<3.4).

3.4.2. Independent Variables

Gender: Either male or female (statement A 1).

Age: Age of nurse (statement A 2).

Religion: Either Muslim, Christian or other (statement A 3).

Religious beliefs strength: Nurses' self-evaluation of the strength of their religious beliefs on a scale from one to seven (statement A 4).

Level of education: The highest completed level of education (statement A 5).

Years practicing nursing: The completed period of practicing nursing after graduation for a college or a university (statement A 6).

Years practicing in critical care: The completed period of practicing in critical care settings, can be the same as the previous question or less (statement A 7).

Nursing position: The current nursing position held by respondent (statement A 8).

Post-graduate education: Receiving post-graduate education in critical care nursing, neonatal intensive care or pediatric intensive care (statement A 9).

Ethics training: Receiving any training or course in medical ethics (statement A 10).

Practice area: Critical care unit in which the nurse primarily works (statement A 11).

Patient population: Ages of patients who can be accepted to be admitted to the critical care unit that the nurse practice in (statement A 12).

Bed capacity: Number of critical care beds in the critical care unit that the nurse practice in (statement A 13).

Weekly duty: Number of hours that the nurse work in critical care setting (statement A 14).

Working overtime: Working overtime in other ward or institution. (statement A 15).

Duty rotation: Shifts that the nurse work in critical care unit and that are rotated over the week (statement A 16).

Chapter Four

Methodology

4.1 Introduction

In this chapter, the design of the research was explored. The study instrument, data collection process and ethical considerations were described. Settings in which the study was conducted and characteristics of the population were also discussed.

4.2 Design

The cross-sectional descriptive design was used in this study to explore knowledge, attitude and practice of critical care nurses about practices of "Do not resuscitate" status and to achieve aim and objectives using a self-filling questionnaire. This method was chosen as it describes the variables from nurses' point of view, besides, it is feasible and applicable to be used because of time limitation. According to Burns and Grove (2011), descriptive research "is designed to provide a picture of a situation as it naturally happens" (N. Burns & Grove, 2011, p. 256).

4.3 Setting

Setting of the study was six major hospitals in West Bank -Palestine which are Al-Makassed Islamic Charitable Hospital in Jerusalem, Palestine Medical Complex in Ramallah, Al-Najah University Hospital in Nablus, Beit Jala Governmental Hospital in Bethlehem, Bethlehem Arab Society for Rehabilitation in Bethlehem and Al-Ahli Hospital in Hebron. The six hospitals were chosen purposively as they are the main multidisciplinary hospitals located in the northern, middle and southern areas of West Bank. Additionally, the six hospitals represent governmental sector, non-governmental sector, private sector and university hospitals.

Al-Makassed Islamic Charitable Hospital is located in Jerusalem which contains 250 beds; from which 71 beds are intensive care beds distributed on 7 units, this hospital is considered the largest hospital in Palestine which contains multidisciplinary ICUs. Al-Najah National University Hospital is located in Nablus and contains 125 beds from which 22 beds are intensive care beds distributed on 4 units. This hospital is considered the main referral hospital in the northern West Bank. Palestine Medical Complex is a governmental hospital located in Ramallah; the hospital is considered the largest governmental hospital in Palestine and contains 238 beds from which 52 beds are intensive care beds. Al-Ahli Hospital is located in Hebron; it contains 250 beds from which 38 beds are intensive care beds distributed on 3 units. This hospital is considered the main referral hospital in the southern West Bank. Beit Jala Governmental Hospital is located in Bethlehem and contains 131 beds from which 9 beds are intensive care beds distributed on 2 units. This hospital is considered the main hospital in Bethlehem area. Arab Society for Rehabilitation Hospital is located in Bethlehem and contains 95 beds from which 5 beds are intensive care beds. This hospital is considered one of the main hospitals in Bethlehem.

4.4 Population and Sample

The target population of the study consists of critical care nurses who work in critical care setting in six Palestinian hospitals in West Bank. The number of critical care nurses in the selected hospitals was 393. The study included all nurses who were practicing in intensive care units in the selected hospital during data collection period. However, critical care nurses who worked in critical care setting for less than one year were excluded from the study.

4.5 Sample

All critical care nurses (393) in these hospitals were approached and given a questionnaire in closed envelope (Table 4.1).

Table 4.1: Number of critical care nurses in each setting

Hospital	No. of critical care nurses
Al-Ahli Hospital	82
Al-Najah University Hospital	54
Al-Makassed Islamic Charitable Hospital	154
Arab Society Hospital for Rehabilitation	11
Beit Jala Governmental Hospital	19
Palestine Medical Complex	73
Total	393

4.6 Instrument

A questionnaire was adopted from Thibault-Prevost et al. study (2000) was used to measure knowledge, attitude and practice of Palestinian intensive care nurses about DNR status. The original questionnaire which is invented by the author “Nurses' Perceptions Surrounding DNR Status in the Critical Care Setting” consists from five sections and involves 333 questions. A permission was taken from Mrs. Louise Jensen (the corresponding author) to use the questionnaire in the current study, Annex1 contains the correspondence with Mrs. Louise Jensen. Annex 2 contains the original questionnaire.

The adopted questionnaire (Annex3), a self-report measure, consists of 190 items in four sections. Section A involved 16 multiple choice questions about personal and professional background and work environment. Section B involved 9 multiple choice questions about knowledge about DNR status, the score of knowledge then calculated by calculating percentage of correctly answered questions. Section C involved 2 multiple choice questions and 5 likert scale questions which involved sub-items about attitude toward DNR status. Section D involved 3 multiple choice questions and 8 likert scale questions which involved sub-items about practice of DNR status. Sections of the questionnaire are sub-divided as

following:

Section A: Socio-demographic and work environment characteristics.

Section B: Knowledge about DNR status.

Section C: Attitude toward DNR status

- C 3: Attitude toward DNR status.
- C 4: Attitude toward discontinuing life sustaining therapies following DNR order.
- C 5: Factors influencing DNR decision
  - C 5.1: Institutional factors influencing DNR decision.
  - C 5.2: Family factors influencing DNR decision.
  - C 5.3: Patient's factors influencing DNR decision.

Section D: Practice of DNR status.

- D 4: Involvement in DNR situations.
- D 5: Documentation of DNR orders.
- D 7: Chronic diseases influence on DNR decision.
- D 8: Other health states influence on DNR decision.
- D 9: Initiation of life sustaining therapies following DNR order.
- D 10: Outcome of DNR patient.
- D 11: Feelings about DNR decisions.

Judgment on results of knowledge, attitude and practice depended on Bloom's original cut-off points which considered levels of 80-100% to be high, 60-79% to be moderate/satisfactory and levels less than 60% to be low (John, 2011; Wanyama, Marco, & Kariuki, 2015; Yimer, 2014).

4.7 Validity and Reliability

Content validity of the questionnaire was assured by reviewing the questionnaire by six experts in intensive care, public health research, statistics, nursing research and palliative care research (Annex 4). Experts confirmed suitability of the questionnaire items and questions to Palestinian nurses and that questions measure what they were intended to measure. However, minimal changes were made as advised by the experts.

Construct validity of this tool have been established by Giles & Moule (2004) and Bellini &

Damato (2009). Face validity was also assured by asking five nurses who have the same characteristics of the study population to read questions and try to answer them to assess questions' clarity, all the nurses provided positive feedback about the clarity of the questions.

Reliability; internal consistency was examined by Cronbach's alpha test which determines the internal consistency or average correlation of items in a survey instrument to gauge its reliability. The results of Cronbach's alpha are shown in Table (4.2) which shows excellent reliability for all questionnaire parts.

Table 4.2: Results of Cronbach's alpha of questionnaire items

Section	**No. of items**	**Cronbach's alpha**
Section C	71	0.9
Section D	108	0.95
Overall	179	0.94

4.8 Data Collection

Subjects were accessed face to face in the previously mentioned hospitals, a self-administered questionnaire was distributed in closed envelopes to ICU nurses and filled questionnaires were collected within four weeks by the researcher from ICU nursing station. Data collected in the mentioned hospitals in the period March 10th 2018 to May10th 2018.

4.9 Data Analysis

Data was analyzed using Statistical Package for Social Sciences version 23 for Mac OS and STATA version 13. Analysis of the retrieved data involved descriptive and inferential statistics. Frequencies and descriptive statistics of characteristics of the subjects and responses were calculated for each questionnaire item. Inferential statistics were conducted between sample characteristics and nurses' knowledge, attitudes, and practices. A cross tabulation of the data was used where appropriate, to analyze relationships between identified influencing variables.

Descriptive statistics included frequencies, means, modes, percentages, ranges and standard

deviation were calculated for all items of the questionnaire. Furthermore, correlations were used to determine relationships between variables. Also, Chi square, Fisher's exact test, t-Test and ANOVA were used to determine differences in variables according to independent variables. Before using ANOVA normal distribution was assumed because of large sample according to central tendency theorem, independency of observations was insured and homogeneity of variances was tested by Levene's test.

Data cleaning was done before analysis according to Van Den Broeck, Cunningham, Eeckels, & Herbst (2005) by screening the data for missing values, duplicated values, repeated values and outliers by examination of data tables. Then, diagnosis of missing and repeated values was done by going back to archived questionnaires for comparison. This was followed by treatment of the outliers by eliminating 20 questionnaires from the study. Before inferential statistics missing data was analyzed using Little's Missing Completely at Random (MCAR) test and treated using Expectation Maximization technique.

4.10 Ethical Consideration

Ethical approval to conduct the study was obtained from the Research Ethical Committee, Al-Quds University (Annex 5). Permission to access potential nursing respondents was obtained from the hospitals in which the study was conducted through sending permission letter from Al-Quds University to the hospitals and Palestinian Ministry of Health (Annex 6). The nature of the study and explanation of the participant's involvement was explained in the cover letter attached to the survey (Annex3). Study participation was voluntary and assumed upon receipt of a returned questionnaire.

Anonymity of respondents was maintained throughout the study so that only sample characteristics were used to differentiate the response data. No names were attached to the questionnaires. The benefits for individual respondents was minimal; however, the researcher believes that this study will provide insight into the nurses' perceptions about the practices of DNR orders in critical care setting. Finally, the collected information was used for study purpose only.

Chapter Five

Results

5.1 Introduction

In this chapter results of the analysis of the questionnaire are shown. Descriptive statistics of the nurses' socio-demographic characteristics, work environment related data, knowledge about DNR, attitude toward DNR and their practice of DNR are presented. Moreover, differences of knowledge, attitude and practice depending on demographic and work environment variables are also presented. In addition, relationships between knowledge, attitude and practice are also shown.

5.2 Sociodemographic Characteristics

The total number of sample who were surveyed was 393 critical care nurses. The returned questionnaires were 205 questionnaires representing a response rate of 52.2%. However, 20 questionnaires were eliminated from the study because they contained a lot of missing values and outliers. This yielded 185 questionnaires to be analyzed.

Missing values were analyzed using Little's Missing Completely at Random (MCAR) test, results showed that percentage of missing values ranged 0-4.3% and for one variable 7.6%,

however, Little's MCAR test result was (Little's MCAR test: Chi-Square = 7777.349, DF = 8148, Sig. = 0.998) which indicates that values were missing completely in random way. Missing data then was treated using Expectation Maximization technique.

Figure (5.1) shows the distribution of respondents according to settings in which they were surveyed (percentage from returned questionnaires). For comparison, it also shows the distribution of the sample according to settings. (percentage from distributed questionnaires).

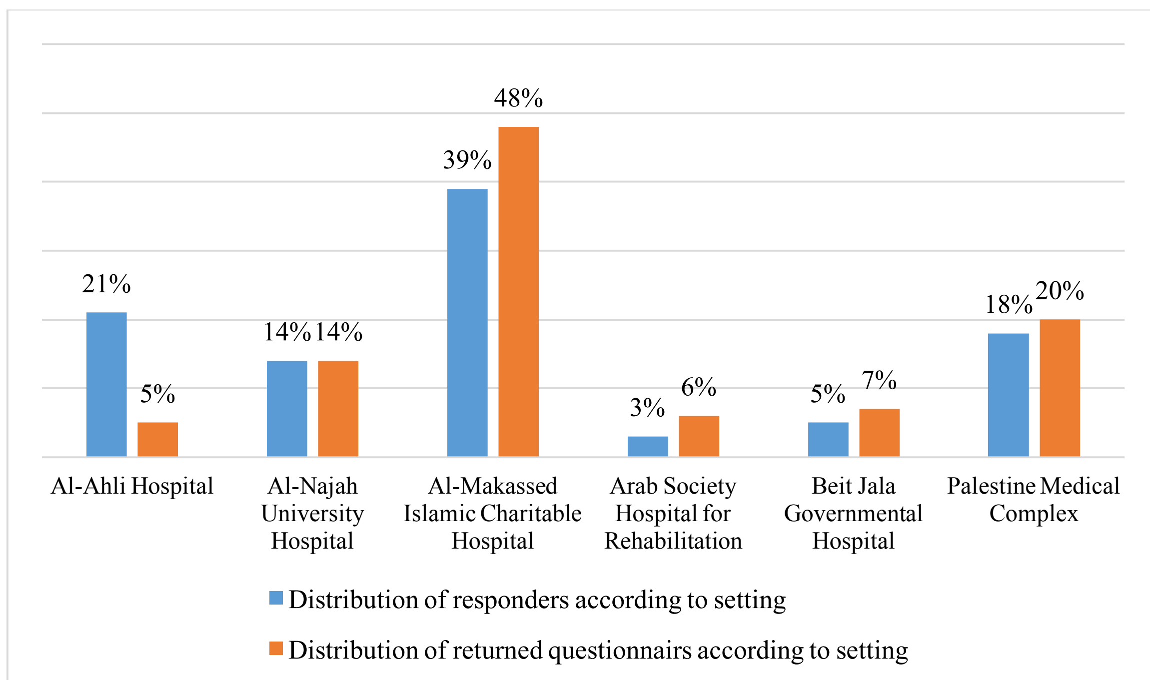

Figure 5.1: Distribution of respondents according to settings.

Sociodemographic characteristics of the sample are presented in Table (5.1 A) and Table (5.1 B). The tables show that 51.4% of the sample were males and 48.6% were females, the mean age was 29 years (SD=6.57). Table (5.1 A) shows that most of the sample were Muslims 182 (98.4%) while only 3 (1.6%) were Christians. While answers about strength of religious beliefs ranged from 1 to 7, the mean of their answers was 5.39 (SD=1.24). The highest completed level of education of the sample was Bachelor degree who represented 76.8% of the sample. It also shows that the majority held the position of staff nurse 159 (85.9%). Moreover, the mean period for which the sample practices as registered nurses was 7.1 years (SD=6.45, Range: 1-30), however, the mean period for which they practiced in critical care setting is 6.1 years (SD=6, Range: 1-30).

Of the total participants, around 60% received post graduate course in critical care nursing / neonate / pediatric intensive care and a course or training in ethics as shown in Table (5.1 B).

Table 5.1 A: Sociodemographic characteristics of respondents.

Variable	Categories	Frequency (N)	Percentage (%)
Gender	Male	95	51.4
	Female	90	48.6
Age	20-30	126	68.1
	31-40	41	22.2
	41-50	10	5.4
	51-60	2	1.1
	Missing	6	3.2
Religion	Muslim	182	98.4
	Christian	3	1.6
Strength of religious beliefs	1	2	1.1
	2	1	0.5
	3	10	5.4
	4	23	12.4
	5	58	31.4
	6	48	25.9
	7	38	20.5
	Missing	5	2.7
Educational level	Diploma	9	4.9
	Bachelor	142	76.8
	Master's	31	16.8
	High diploma	3	1.6
Years practicing as RN	1-5	100	54
	6-10	49	26.5
	11-15	16	8.6
	16 and more	20	10.8

Table 5.1 B: Sociodemographic characteristics of respondents.

Variable	Categories	Frequency (N)	Percentage (%)
Years practicing in critical care	1-5	114	61.6
	6-10	41	22.2
	11-15	13	7.0
	16 and more	17	9.2
Current nursing position	Staff nurse	159	85.9
	Nursing manager	12	6.5
	Nurse educator	9	4.9
	Practical nurse	5	2.7
Post-graduate course in critical care/neonate/ pediatric intensive care	Yes	105	56.8
	No	80	43.2
Course / Training in ethics	Yes	107	57.8
	No	78	42.2

5.3 Work Environment Characteristics

The majority of respondents practiced in medical and surgical ICUs; and neonatal ICUs 27.6% and 25.4% respectively (Table 5.2). However, the majority of respondents deal with neonate patients in their critical care settings. The mean bed capacity in which respondents practice was 10.38 beds (SD=7.79, Range: 3-30). In spite of that, the majority of intensive care units were medium size units that contain 7-12 beds.

The mean hours that the respondents practice in critical care was 39.7 hours (SD=6.8, Range: 20-80). Since the full time nursing job in Palestine ranges between 36-48 hours / week, the majority of respondents worked as full time job in critical care 159 (85.9%), moreover, 12.3% of the sample who work overtime in other institutions work in critical care unit as appears in Table (5.2) and Table (5.3). Table (5.2) also shows that the majority work in Days/ Evenings/ Nights rotation followed with Evenings/ Nights only 53% and 19.5% respectively.

Table 5.2: Work environment characteristics of respondents.

Variable	Categories	Frequency (N)	Percentage (%)
Practice area	Medical and Surgical ICU	51	27.6
	Medical ICU	15	8.1
	Surgical ICU	5	2.7
	Neurological ICU	13	7.0
	Coronary care unit	15	8.1
	Neonatal ICU	47	25.4
	Pediatric ICU	9	4.9
	Pediatric cardiac ICU	29	15.7
	Missing	1	0.5
Age of patient population	Neonates	49	26.5
	1-11 Months	2	1.1
	1-15 Years	18	9.7
	16 Years and above	47	25.4
	All ages except neonates	36	19.5
	All ages	33	17.8
Critical care bed capacity	1-6 Beds	62	33.5
	7-12 Beds	97	52.4
	13 Beds and above	26	14.1
Work hours / week	Less than 33 hours	14	7.6
	33-48 hours	159	85.9
	49 hours and above	12	6.5
Working overtime	Yes	65	35.1
	No	120	64.9
Shift rotation	Days	22	11.9
	Evenings	4	2.2
	Nights	4	2.2
	Days / Evenings	19	10.3
	Evenings / Nights	36	19.5
	Days / Evenings / Nights	98	52.9
	Missing	2	1

Table 5.3: Cross tabulation of working overtime with work hours/ week in critical care

		Work hours / week						Total	
		Less than 33 hours		33-48 hours		49 hours and above			
		N	%	N	%	N	%	N	%
Working overtime	Yes	1	0.5	56	30.2	8	4.3	65	35.1
	No	13	7	103	55.6	4	2.2	120	64.9
Total		14	7.5	159	85.8	12	6.5	185	100

5.4 Knowledge About DNR status

Section B that evaluate the knowledge of critical care nurses about DNR status contained nine multiple choice questions. The following are the results of this section.

The total score of knowledge was calculated by calculating percentage of questions that answered correctly according to Thibault-Prevost study (1997), however, two questions were eliminated from the equation (Question B. 4 and B. 5) because they are depending on hospital policies which are not available in most of hospitals. The mean knowledge level for the selected questions was 6.23 on a scale 0-10 (Range: 1.43-10, SD= 1.67) which indicates satisfactory knowledge according to Bloom's cut-off points.

Figure (5.2) shows that the majority of the sample 138 (74.6%) defined DNR correctly as "DNR is withholding cardiopulmonary resuscitation in case of cardiac, respiratory or cardiopulmonary arrest". Likewise, the majority of respondents 155 (83.8%) did not associate DNR with no care. However, of respondents only 79 (42.7%) agreed that DNR designation does not involve additional therapeutic limits like stay of treatment, decreasing inotropes or discontinuing ventilation.

Regarding DNR designation, figure (5.3) shows that most of sample 140 (76.2%) agreed that physicians legally can give a DNR consent and 120 (64.9%) agreed that family can give a consent, while only 92 (49.7%) of the sample agreed that patient can give DNR consent. However, most of the sample 146 (78.9%) agreed that a consent is required for DNR designation, additionally, the majority of respondents agreed that Physician is the person who is responsible for DNR designation 127 (68.6%).

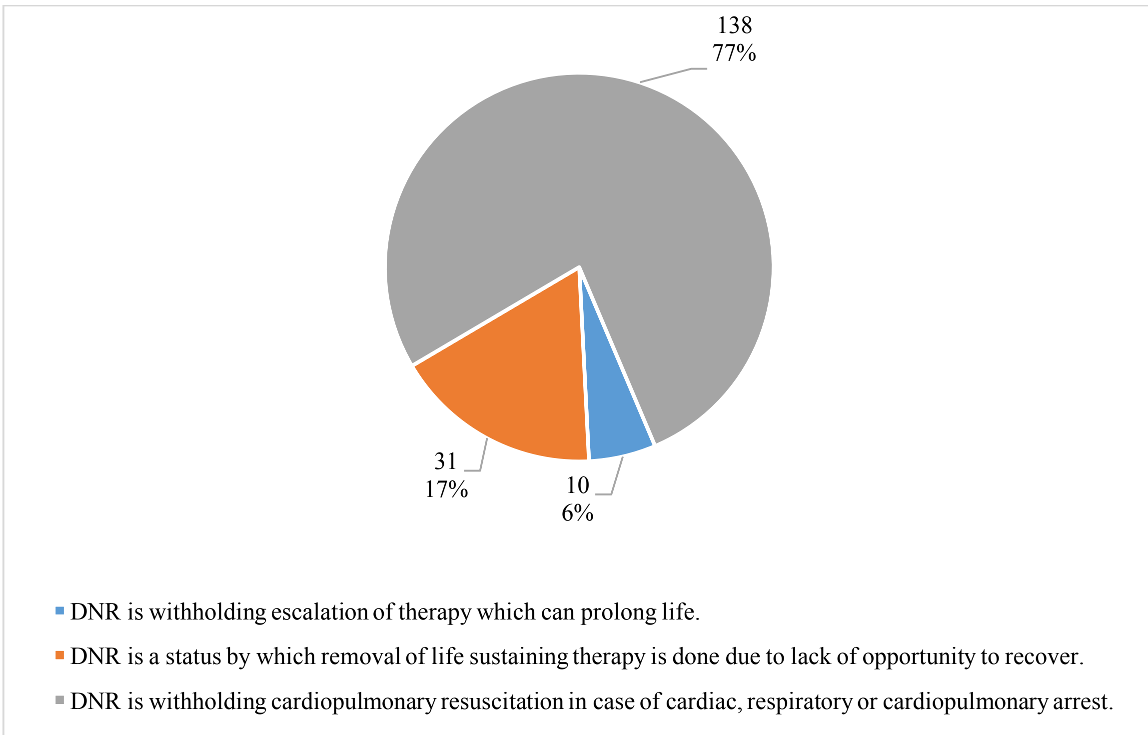

Figure 5.2: Distribution of sample answers about definition of DNR.

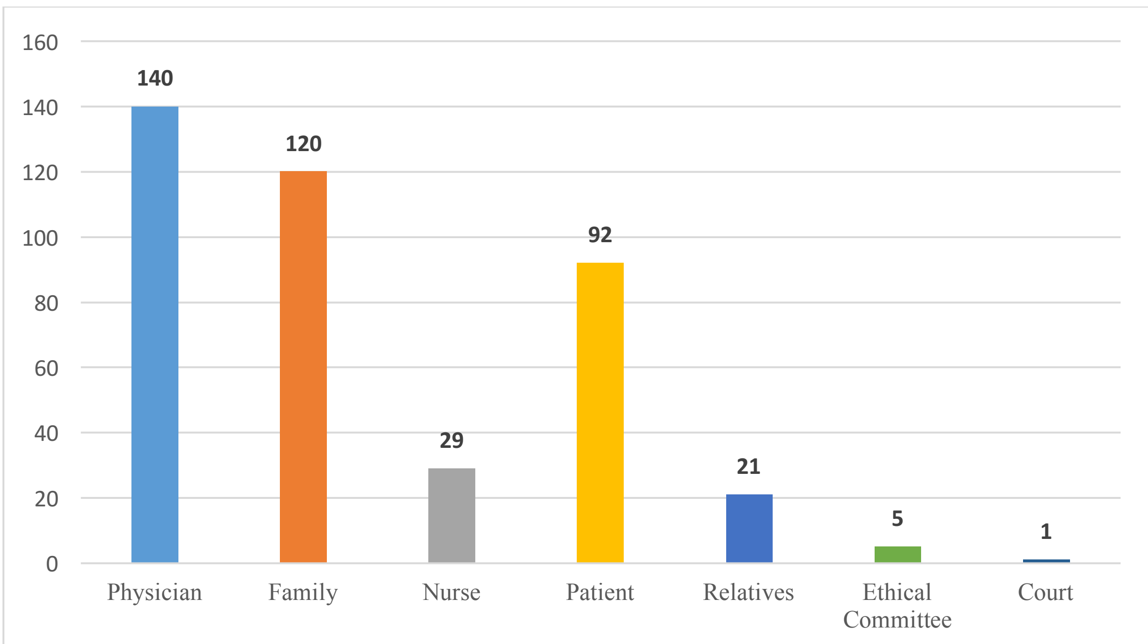

Figure 5.3: Answers about who can give a DNR consent.

Two thirds of the sample agree that a DNR order can be overruled by the health team; 116 (62.7%) answered yes while 64 (34.6%) answered no, also, the majority of respondents agree that physician and family can overrule the DNR order 146 (78.9%) and 147 (19.5%) respectively (Figure 5.4).

Nonetheless, the majority of the sample agree that they must legally attempt resuscitation for all patients unless there is a DNR order written 130 (70.3%), however, 32 (17.3%) won't start resuscitation and 23 (12.4%) were unsure that they must start resuscitation (Figure 5.5)

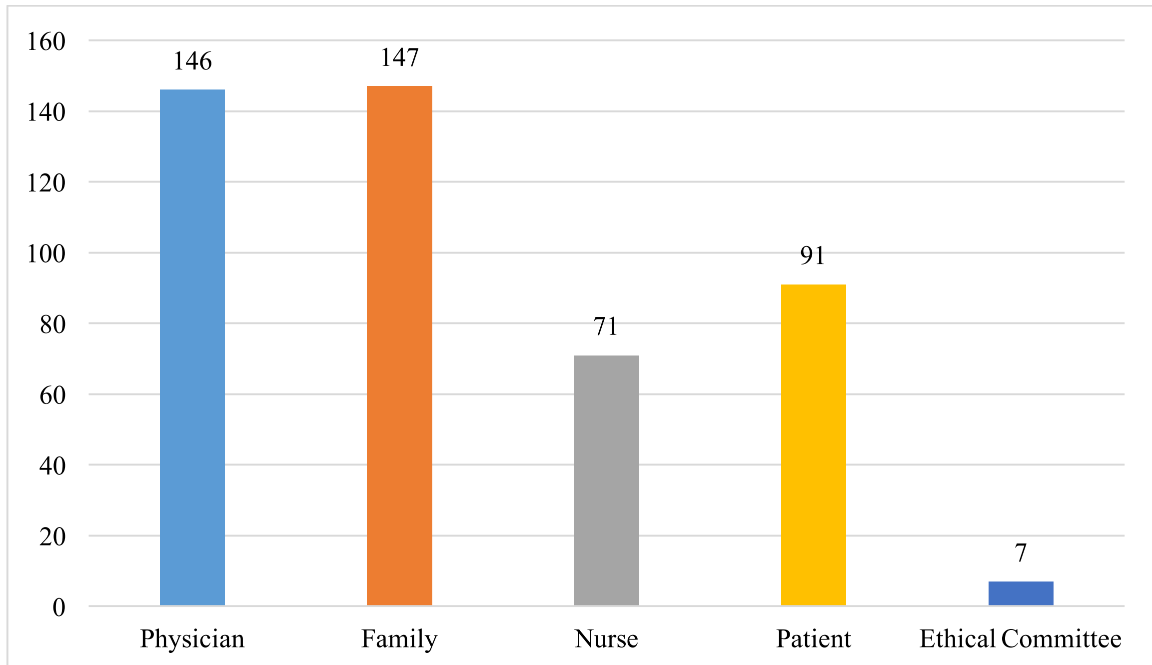

Figure 5.4: Distribution of responses about who can overrule a DNR order.

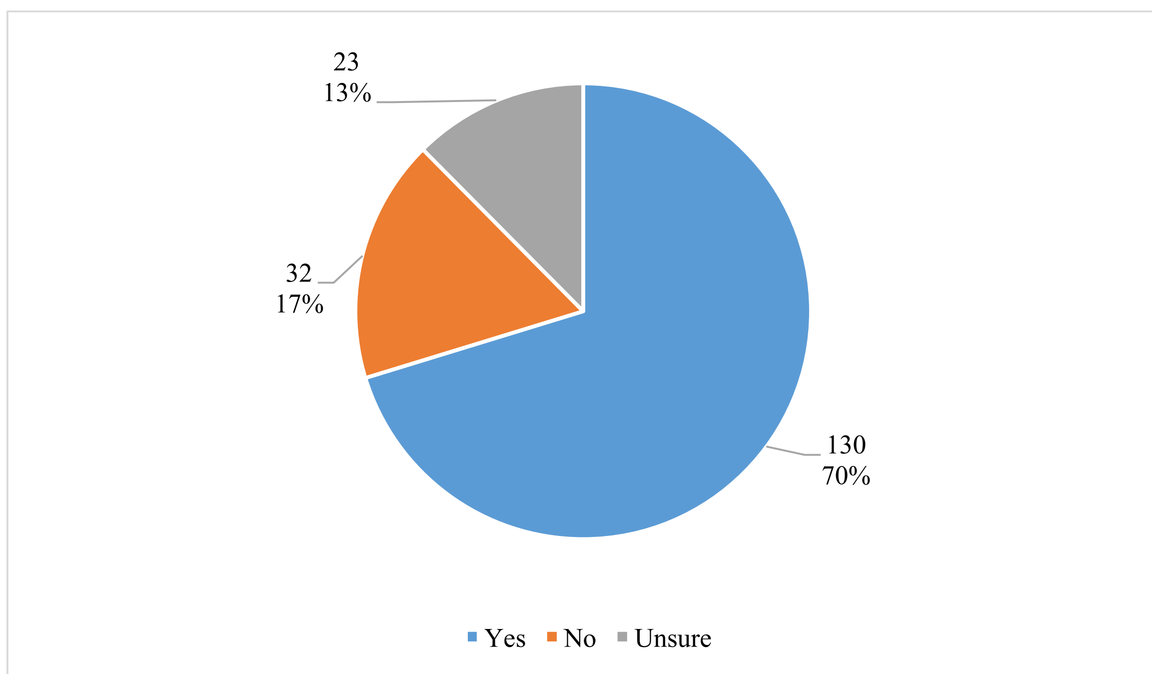

Figure 5.5: Distribution of responses about attempts to resuscitate all patients unless DNR is ordered.

5.5 Attitude Toward DNR Status

The following are the results of section C which involves two multiple choice questions and 71 Likert scale questions divided on three parts.

Figure (5.6) shows that 157 (84.9%) agree that Physicians should be involved in ensuring the existence of DNR policy, 100 (54.1%) agree that Nurses also should be involved, 67 (36.2%) agree that Administration should be involved and 143 (77.3%) think that ethical committee should be involved in ensuring the existence of DNR policy. Moreover, respondents added that Government and Public should be involved 3 (1.6%) and 3 (1.6%).

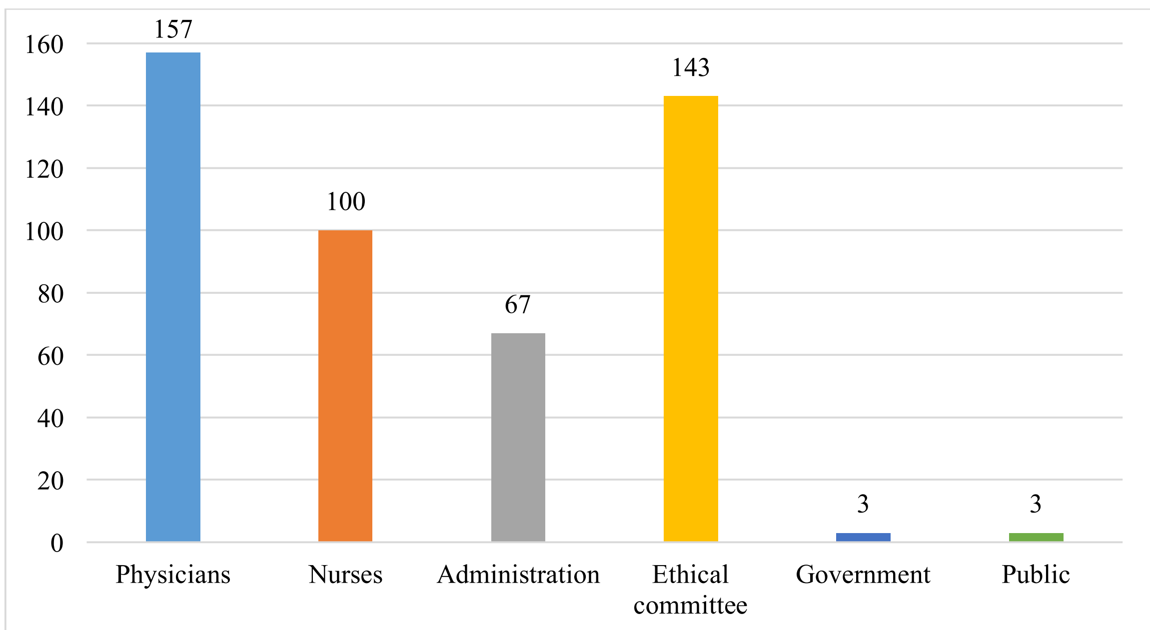

Figure 5.6: Distribution of answers about who should be involved in ensuring existence of DNR policy.

Answers of reason for which DNR order is written are shown in Figure (5.7), respondents predominantly agree that medical futility is the reason for writing DNR order 139 (75.1), however, 23 (12.5%) were unsure about the reason for DNR status.

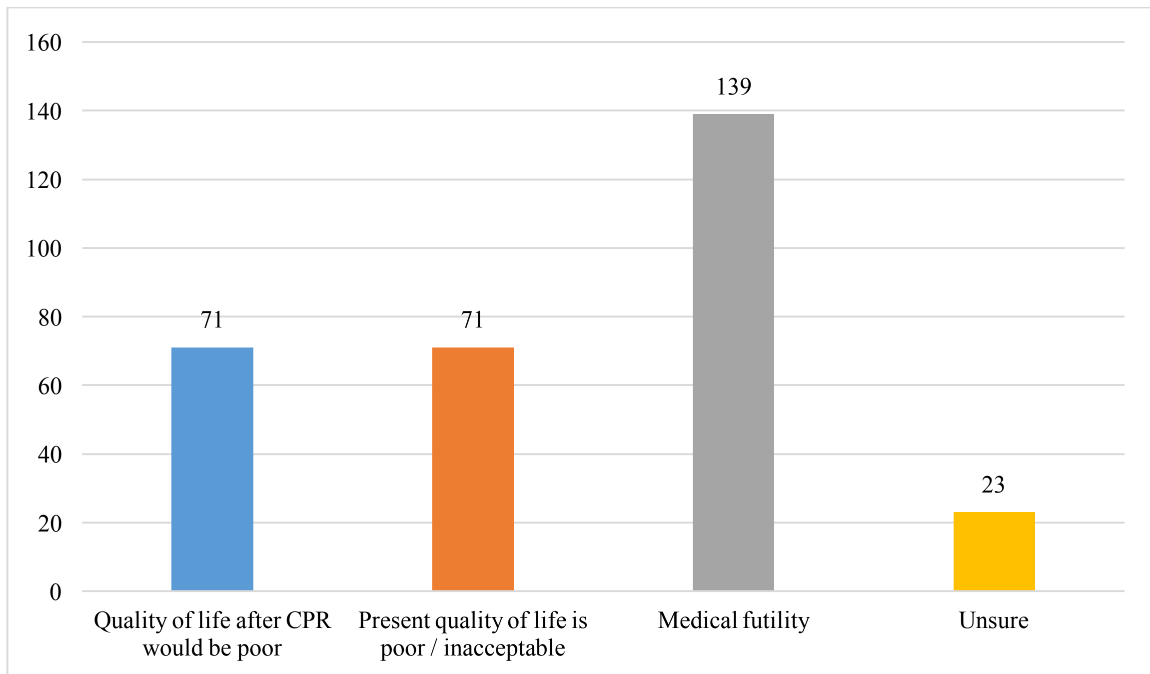

Figure 5.7: Distribution of answers of reason for which DNR order is written.

The means for attitude toward DNR status (Section C3) were calculated after inverting negative questions. The mean score for all questions was 3.40 (SD=0.3) which indicates neutral attitude toward DNR. Table (5.4) shows answers and means of part C.3 questions. The statement "Even though requested by patient and/or family a DNR order does not have to be ordered" got the lost mean 2.87, SD=1, then statement "DNR designation indicates that the patient has a potentially reversible condition as long as they do not arrest" with mean= 2.89, SD=0.9 .

The mean score of respondents' attitude toward removal of life sustaining treatments for DNR patients (Section C4) was 2.8 (SD=0.71) which indicates negative attitude toward removal of those treatments. Table (5.5) shows answers and means of part C.4 questions, it shows that the highest means were for aggressive treatments; ECMO 3.08 (SD=1.24), Surgery 3.28 (SD=1.15) and Intracranial pressure monitoring 3.11 (SD=1.12). On the other hand, least scores were for the following treatments Mechanical ventilation 2.41 (SD=1.15), Fluid therapy 2.42 (SD=1.07) and ECG monitoring 2.43 (SD=1.18).

Table 5.4 A: Distribution of sample responses about their attitude toward DNR status.

	Question	Strongly Disagree		Disagree		Unsure		Agree		Strongly Agree		Mean	SD
		N	%	N	%	N	%	N	%	N	%		
a.	DNR is closely linked to Euthanasia	17	9.2	60	32.4	21	11.4	72	38.9	15	8.1	3.04	1.19
b.	DNR suggests that any form of resuscitation should not be administered	4	2.2	53	28.6	18	9.7	98	53	12	6.5	3.33	1.03
c.	DNR designation indicates that the patient has a potentially reversible condition as long as they do not arrest.	10	5.4	57	30.8	61	33	55	29.7	183	98.9	2.89	0.90
d.	DNR status should be well documented in patient charts.	3	1.6	9	4.9	26	14.1	77	41.6	70	37.8	4.09	0.93
e.	An institutional and/or unit specific DNR policy is necessary to facilitate nursing practice	3	1.6	7	3.8	39	21.1	93	50.3	43	23.2	3.90	0.86
f.	A DNR policy limits flexibility in considering individual circumstances surrounding DNR decisions.	3	1.6	34	18.4	56	30.3	76	41.1	16	8.6	3.37	0.94
g.	Patient input is important in the DNR decision	2	1.1	11	5.9	36	19.5	95	51.4	41	22.2	3.88	0.86
h.	Family input is important in the DNR decision	5	2.7	10	5.4	22	11.9	104	56.2	44	23.8	3.93	0.90
I.	Even though requested by patient and/or family a DNR order does not have to be ordered.	15	8.1	56	30.3	57	30.8	52	28.1	5	2.7	2.87	1.00
j.	Physicians are hesitant about writing DNR orders.	4	2.2	31	16.8	29	15.7	94	50.8	27	14.6	3.59	1.00
k.	Admission to a critical care unit is inappropriate for DNR patient.	16	8.6	50	27	38	20.5	61	33	18	9.7	3.09	1.16
l.	Withdrawal of ventilatory support is a late decision for DNR patients.	17	9.2	26	14.1	35	18.9	97	52.4	8	4.3	3.28	1.07
m.	DNR patients should have al1 therapy maintained until they die.	4	2.2	30	16.2	36	19.5	75	40.5	38	20.5	3.61	1.06
n.	DNR patients should have nursing care maintained until they die.	2	1.1	4	2.2	25	13.5	71	38.4	83	44.9	4.24	0.85

Table 5.4 B: Distribution of sample responses about their attitude toward DNR status.

	Question	Strongly Disagree		Disagree		Unsure		Agree		Strongly Agree		Mean	SD
		N	%	N	%	N	%	N	%	N	%		
o.	DNR orders should be followed by withdrawal of aggressive therapeutic interventions.	7	3.8	33	17.8	36	19.5	82	44.3	27	14.6	3.48	1.06
p.	Use of narcotics and/or anxiolytics (i.e.; Morphine, Assail) increases for the DNR patient	5	2.7	31	16.8	47	25.4	70	37.8	32	17.3	3.50	1.05
q.	There is support for coping with situations involving DNR status	1	0.5	25	13.5	49	26.5	91	49.2	18	9.7	3.54	0.86
r.	DNR patients require higher levels of nursing care than all other patients.	5	2.7	42	22.7	45	24.3	84	45.4	8	4.3	3.27	0.96
s.	Abnormal laboratory values/disorders will not be treated in the DNR patient.	18	9.7	72	38.9	34	18.4	54	29.2	7	3.8	2.78	1.09
t.	If there is no written DNR order, you immediately initiate CPR when the patient arrests, even when survival of the patient is unlikely.	3	1.6	11	5.9	27	14.6	98	53	46	24.9	3.94	0.88
u.	Previous exposure to patients who were expected to die but survived influences a person's attitude towards DNR status	3	1.6	20	10.8	60	32.4	83	44.9	11	5.9	3.44	0.85
v.	Nurses perceive DNR designation different from other health care professionals.	1	0.5	24	13	60	32.4	84	45.4	12	6.5	3.46	0.82
w.	Timing of DNR discussions is critical.	1	0.5	8	4.3	32	17.3	105	56.8	35	18.9	3.92	0.76

Table 5.5: Distribution of sample answers about discontinuing life sustaining therapies after DNR order

	Questions	Strongly Disagree		Disagree		Unsure		Agree		Strongly Agree		Mean	SD
		N	%	N	%	N	%	N	%	N	%		
a.	Arterial line	23	12.4	81	43.8	16	8.6	61	33	4	2.2	2.69	1.12
b.	Mechanical ventilation	46	24.9	68	36.8	23	12.4	45	24.3	3	1.6	2.41	1.15
c.	Central venous monitoring line	23	12.4	75	40.5	22	11.9	58	31.4	6	3.2	2.73	1.13
d.	Capnography	22	11.9	67	36.2	35	18.9	51	27.6	7	3.8	2.75	1.10
e.	Inotropic or vasopressor agent	20	10.8	49	26.5	46	24.9	59	31.9	9	4.9	2.94	1.10
f.	Frequency of vital signs monitoring	25	13.5	83	44.9	27	14.6	43	23.2	7	3.8	2.59	1.10
g.	ECG monitoring	39	21.1	82	44.3	19	10.3	34	18.4	10	5.4	2.43	1.18
h.	Surgery	10	5.4	49	26.5	29	15.7	71	38.4	25	13.5	3.28	1.15
i.	Antibiotics	22	11.9	87	47	22	11.9	42	22.7	11	5.9	2.64	1.14
j.	Pulmonary artery catheter	12	6.5	58	31.4	36	19.5	60	32.4	19	10.3	3.09	1.14
k.	Intracranial pressure monitoring	11	5.9	55	29.7	40	21.6	60	32.4	19	10.3	3.11	1.12
l.	Pacemaker	29	15.7	71	38.4	33	17.8	45	24.3	7	3.8	2.62	1.13
m.	Specimen collection	14	7.6	74	40	27	14.6	59	31.9	11	5.9	2.89	1.12
n.	Blood products	17	9.2	69	37.3	35	18.9	54	29.2	10	5.4	2.84	1.11
o.	Total parenteral nutrition (TPN)	29	15.7	64	34.6	25	13.5	53	28.6	14	7.6	2.78	1.23
p.	Physiotherapy / Occupational therapy	22	11.9	58	31.4	29	15.7	64	34.6	12	6.5	2.92	1.18
q.	Hemodialysis / Hemofiltration	20	10.8	65	35.1	29	15.7	56	30.3	15	8.1	2.90	1.19
r.	Extracorporeal membrane oxygenation (ECMO)	25	13.5	40	21.6	36	19.5	62	33.5	20	10.8	3.08	1.24
s.	Fluid therapy	31	16.8	93	50.3	18	9.7	37	20	5	2.7	2.42	1.07
t.	Intra-aortic balloon pump (IABP)	21	11.4	43	23.2	45	24.3	61	33	15	8.1	3.03	1.16
u.	Analgesics	57	30.8	58	31.4	24	13	36	19.5	8	4.3	2.37	1.25
v.	Diagnostic imaging	19	10.3	47	25.4	41	22.2	67	36.2	11	5.9	3.02	1.13

Factors that the respondents agree that they can influence DNR decision were categorized in three groups institutional factors, family factors and patient factors. Mean scores were highest for family factors 3.4 (SD=0.82), followed with means for institutional factors 3.36 (SD=0.85) and the lowest were for patient factors 3.33 (SD=0.63), Tables (5.6), Table (5.7) and Table (5.8) show means and percentages of sample answers about this part.

Table 5.6: Distribution of sample responses about patient factors influencing DNR decision

	Questions	**Strongly Disagree**		**Disagree**		**Unsure**		**Agree**		**Strongly Agree**		**Mean**	**SD**
		N	**%**	**N**	**%**	**N**	**%**	**N**	**%**	**N**	**%**		
a.	Patient requests DNR	3	1.6	34	18.4	24	13	102	55.1	22	11.9	3.57	0.98
b.	Patient's medical diagnosis	1	0.5	21	11.4	28	15.1	121	65.4	13	7	3.67	0.79
c.	Quality of life	6	3.2	26	14.1	24	13	108	58.4	21	11.4	3.61	0.97
d.	Functional status	8	4.3	31	16.8	38	20.5	94	50.8	14	7.6	3.41	1.00
e.	Benefit of treatment	3	1.6	13	7	38	20.5	114	61.6	17	9.2	3.70	0.80
f.	Discomfort	14	7.6	48	25.9	36	19.5	75	40.5	10	5.4	3.11	1.09
g.	Mental status	18	9.7	48	25.9	33	17.8	67	36.2	18	9.7	3.10	1.18
h.	Chronic health status	4	2.2	37	20	46	24.9	91	49.2	6	3.2	3.31	0.90
i.	Severity of illness	2	1.1	26	14.1	44	23.8	96	51.9	17	9.2	3.54	0.88
j.	Poor prognosis	2	1.1	25	13.5	28	15.1	109	58.9	21	11.4	3.66	0.89
k.	Length of hospital stay	14	7.6	37	20	37	20	85	45.9	7	3.8	3.16	1.07
l.	Substance abuse	13	7	55	29.7	46	24.9	67	36.2	3	1.6	2.95	1.01
m.	Religious conviction	15	8.1	33	17.8	38	20.5	83	44.9	15	8.1	3.28	1.10
n.	Socioeconomic status	21	11.4	41	22.2	47	25.4	57	30.8	16	8.6	3.04	1.16
o.	Compliance with medical care	5	2.7	37	20	41	22.2	96	51.9	6	3.2	3.33	0.92
p.	Level of consciousness	8	4.3	43	23.2	35	18.9	83	44.9	16	8.6	3.30	1.06
q.	Age	12	6.5	51	27.6	29	15.7	79	42.7	14	7.6	3.17	1.11
r.	Lifestyle	25	13.5	47	25.4	38	20.5	60	32.4	15	8.1	2.96	1.20

Table 5.7: Distribution of sample responses about institutional factors influencing DNR decisions

	Questions	Strongly Disagree		Disagree		Unsure		Agree		Strongly Agree		Mea	SD
		N	%	N	%	N	%	N	%	N	%		
a.	Length of stay in hospital	12	6.5	44	23.8	31	16.8	83	44.9	15	8.1	3.24	1.10
b.	Risk of legal complications	9	4.9	32	17.3	33	17.8	87	47	24	13	3.46	1.07
c.	Hospital policy	9	4.9	29	15.7	38	20.5	93	50.3	15	8.1	3.41	1.01
d.	Cost	13	7	43	23.2	30	16.2	80	43.2	19	10.3	3.26	1.14
e.	Need for ICU bed	12	6.5	36	19.5	27	14.6	84	45.4	26	14.1	3.41	1.14

Table 5.8: Distribution of sample responses about family factors influencing DNR decisions

	Questions	Strongly Disagree		Disagree		Unsure		Agree		Strongly Agree		Mean	SD
		N	%	N	%	N	%	N	%	N	%		
a.	Family requests DNR	10	5.4	21	11.4	27	14.6	113	61.1	14	7.6	3.54	0.98
b.	Religious conviction	4	2.2	23	12.4	51	27.6	89	48.1	18	9.7	3.51	0.91
c.	Socioeconomic status	18	9.7	38	20.5	45	24.3	69	37.3	15	8.1	3.14	1.13

5.6 Practice of DNR order

The questions about DNR practice involved three multiple choice questions and 108 Likert scale questions which are categorized into eight parts.

The majority of respondents 71 (38.4%) affirmatively answered that their institution has a DNR policy while 33 (17.8%) were unsure about the existence of DNR policy (Figure 5.9).

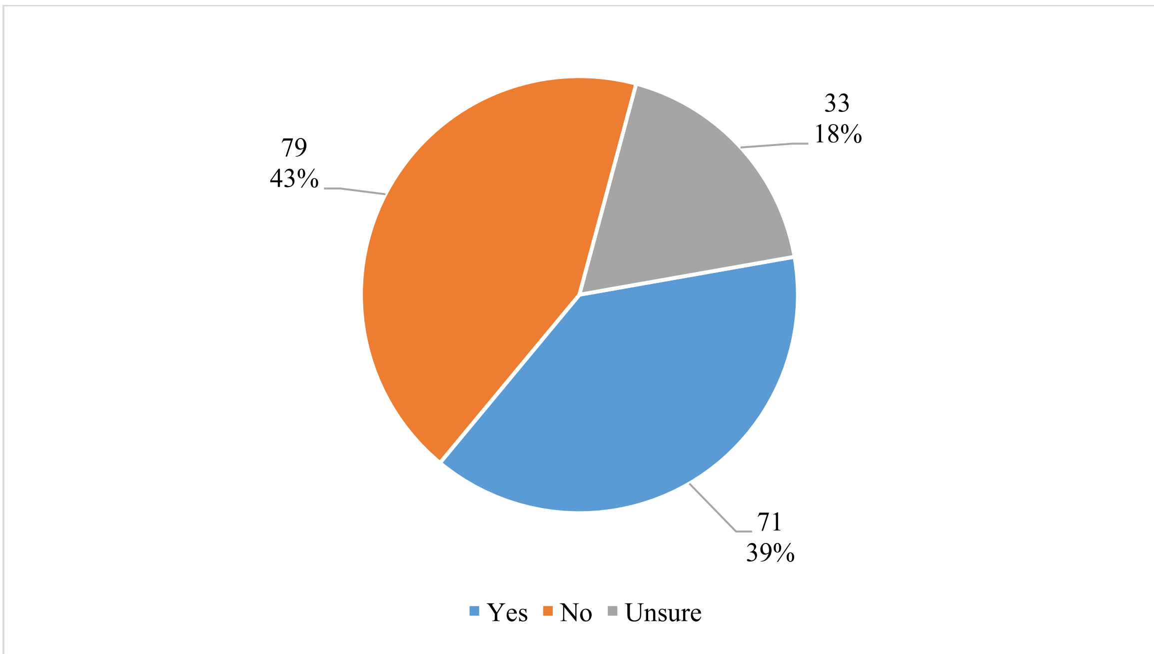

Figure 5.9: Distribution of answers about existence of DNR policy

The majority of respondents were unsure about the length of stay in their units after DNR order 101 (54.6%) results are shown in Table (5.9). Moreover, most of the sample reported that no change in trends with DNR ordering in the last year 101 (54.6%) while 54 (29.2%) of respondents noticed an increase in trends with DNR order (Table 5.4).

Table 5.9: Distribution of sample responses about length of stay after DNR order and changing in trend of DNR order

Variable	Categories	Frequency (N)	Percentage (%)
Length of stay after DNR order	0-5 Days	34	18.4
	6-10 Days	25	13.5
	11-30 Days	9	4.9
	30 Days and more	11	5.9
	Unsure	101	54.6
Changing in trends of DNR ordering last year	Large increase	9	4.9
	Small increase	45	24.3
	No change	101	54.6
	Small decrease	13	7
	Large decrease	3	1.6

Of the respondents, when asked about who was actually involved in decision making for DNR status, many respondents 175 (94.6%) identified the physicians while 148 (80%) acknowledged patients' family, 119 (64.3%) recognized the patients, 84 (45.4%) noted the residents and 81 (43.8%) reported the religion leaders to be involved in decision making of DNR status. Unexpectedly, only 72 (38.9%) of the sample reported that nurses are actually involved in DNR decision making (Table 5.10).

Table 5.10: Distribution of sample responses about involvement in DNR decision making.

	Variable	Yes		No		Unsure	
		N	%	N	%	N	%
a.	Nurses	72	38.9	91	49.2	22	11.9
b.	Physicians	175	94.6	9	4.9	1	0.5
c.	Resident	84	45.4	69	37.3	32	17.3
d.	Religion leader	81	43.8	76	41.1	27	14.6
e.	Patient	119	64.3	53	28.6	12	6.5
f.	Family	148	80	23	12.4	13	7

When asked about involvement in situations with DNR patient (Table 5.11), the total mean score was 2.45 (SD=0.88) which indicates poor involvement, however, the highest mean was for involvement in direct care for DNR patient 3.47 (SD=1.16). On the other hand, lowest means was for involvement in DNR decision 2.17 (SD=1.15) and input in DNR decision making 2.36 (SD=1.18).

Table 5.11: Distribution of sample responses about involvement in DNR situations

	Questions	Never		Rarely		Sometimes		Often		Always		Mean	SD
		N	%	N	%	N	%	N	%	N	%		
a.	Direct care for DNR patient	7	3.8	35	18.9	52	28.1	46	24.9	45	24.3	3.47	1.16
b.	DNR decision	67	36.2	50	27	44	23.8	14	7.6	9	4.9	2.17	1.15
c.	Input in DNR decision making	54	29.2	50	27	45	24.3	23	12.4	10	5.4	2.36	1.18
d.	Initiating DNR discussion with team	51	27.6	51	27.6	51	27.6	26	14.1	3	1.6	2.38	1.12
e.	Witness disagreement between patient/family and physician in regards to DNR status	62	33.5	27	14.6	60	32.4	30	16.2	4	2.2	2.38	1.17
f.	Inform the physician of patient & family readiness to discuss DNR	54	29.2	38	20.5	50	27	33	17.8	10	5.4	2.50	1.23

Once the DNR status is ordered for the patient, the following orders were documented (Table 5.12). The most common order was DNR (Mean = 2.9, SD= 1.25) followed with “no cardiopulmonary resuscitation” (Mean =2.48, SD=1.11) while the least used orders were Electrical code only (Mean= 1.53, SD= 0.93) and no code (Mean= 1.55, SD= 0.83). Additionally, the respondents added other orders which were not mentioned in the questionnaire such as “Do not escalate therapy” 2 times, Discontinue medications 1 time and Minimum support 1 time.

Table 5.12: Distribution of sample responses about most common orders for DNR status

	Questions	Never		Rarely		Sometimes		Often		Always		Mean	SD
		N	%	N	%	N	%	N	%	N	%		
a.	DNR (do not resuscitate)	28	15.1	47	25.4	47	25.4	41	22.2	22	11.9	2.90	1.25
b.	comfort measures only	31	16.8	77	41.6	41	22.2	22	11.9	13	7	2.51	1.12
c.	do not intubate	42	22.7	53	28.6	58	31.4	24	13	8	4.3	2.48	1.11
d.	no cardiopulmonary resuscitation	48	25.9	36	19.5	43	23.2	34	18.4	21	11.4	2.71	1.34
e.	treat with medications only	53	28.6	52	28.1	39	21.1	32	17.3	9	4.9	2.42	1.21
f.	Code 1	97	52.4	41	22.2	29	15.7	13	7	3	1.6	1.84	1.07
g.	do not resuscitate from spontaneous arrest	86	46.5	37	20	24	13	25	13.5	13	7	2.15	1.33
h.	no code	83	44.9	42	22.7	27	14.6	22	11.9	9	4.9	2.07	1.23
i.	no ventilator	95	51.4	36	19.5	29	15.7	21	11.4	3	1.6	1.92	1.13
j.	do not defibrillate	87	47	37	20	19	10.3	23	12.4	16	8.6	2.16	1.38
k.	no code blue	74	40	36	19.5	27	14.6	28	15.1	18	9.7	2.31	1.41
l.	no code but treat aggressively	102	55.1	41	22.2	26	14.1	15	8.1	1	0.5	1.77	1.01
m.	Slow code	96	51.9	50	27	31	16.8	5	2.7	1	0.5	1.71	0.88
n.	Partial code	117	63.2	39	21.1	21	11.4	6	3.2	0	0	1.55	0.83
o.	Chemical code only	121	65.4	35	18.9	21	11.4	6	3.2	1	0.5	1.59	1.11
p.	Electrical code only	126	68.1	34	18.4	14	7.6	8	4.3	3	1.6	1.53	0.93
q.	Do not add new therapy	84	45.4	31	16.8	46	24.9	17	9.2	7	3.8	2.09	1.19
r.	withdraw life-sustaining therapy	90	48.6	47	25.4	26	14.1	21	11.4	1	0.5	1.90	1.06
s.	no antibiotics	92	49.7	42	22.7	29	15.7	18	9.7	4	2.2	1.92	1.11
t.	Palliative care only	67	36.2	37	20	31	16.8	30	16.2	17	9.2	2.39	1.38

Respondents indicated that chronic health states less influence DNR decision than other medical diseases (mean = 2.37, SD= 0.89) and (mean= 2.47, SD= 0.77) respectively. The distribution and mean scores of each chronic and other medical diseases are shown in Table (5.13), Table (5.14). Table (5.13) shows that lowest means for influence of chronic diseases on DNR decision were for diabetes and arthritis while highest means were for chronic neurological conditions and chronic renal failure.

Table 5.13: Distribution of frequencies and percentages of sample's responses regarding influence of chronic diseases on DNR decision

	Questions	**Never**		**Rarely**		**Sometimes**		**Often**		**Always**		**Mean**	**SD**
		N	**%**	**N**	**%**	**N**	**%**	**N**	**%**	**N**	**%**		
a.	Diabetes	88	47.6	38	20.5	38	20.5	18	9.7	2	1.1	1.96	1.08
b.	Hypertension	84	45.4	39	21.1	36	19.5	21	11.4	4	2.2	2.03	1.14
c.	Angina	82	44.3	36	19.5	40	21.6	15	8.1	9	4.9	2.06	1.22
d.	COPD	75	40.5	33	17.8	41	22.2	30	16.2	5	2.7	2.22	1.22
e.	CVA	37	20	35	18.9	57	30.8	49	26.5	6	3.2	2.74	1.15
f.	Chronic neurological condition	36	19.5	24	13	60	32.4	53	28.6	10	5.4	2.87	1.19
g.	Chronic renal failure	33	17.8	27	14.6	64	34.6	55	29.7	4	2.2	2.85	1.12
h.	Cirrhosis	38	20.5	31	16.8	57	30.8	50	27	8	4.3	2.78	1.18
i.	Mental illness	58	31.4	54	29.2	40	21.6	30	16.2	1	0.5	2.25	1.09
j.	Arthritis	82	44.3	45	24.3	40	21.6	13	7	4	2.2	1.98	1.07
k.	Muscular degenerative disease	65	35.1	34	18.4	48	25.9	31	16.8	6	3.2	2.34	1.21

Table (5.14) and shows that lowest means for influence of medical diagnoses on DNR decision were for low birth-weight and low ABGAR score, while highest means were for multi-organ failure and neurological failure.

Table 5.14 A: Distribution of frequencies and percentages of sample's responses regarding influence of medical diseases on DNR decision

	Questions	Never		Rarely		Sometimes		Often		Always		Mean	SD
		N	%	N	%	N	%	N	%	N	%		
a.	Congenital heart disease	30	16.2	41	22.2	65	35.1	40	21.6	6	3.2	2.74	1.08
b.	Post-cardiac arrest	19	10.3	36	19.5	58	31.4	59	31.9	12	6.5	3.05	1.09
c.	Respiratory failure	16	8.6	31	16.8	61	33	64	34.6	10	5.4	3.10	1.05
d.	Respiratory infection	43	23.2	53	28.6	64	34.6	19	10.3	3	1.6	2.36	1.01
e.	Multiple trauma	42	22.7	47	25.4	60	32.4	24	13	9	4.9	2.50	1.13
f.	Gastrointestinal failure	53	28.6	46	24.9	57	30.8	22	11.9	4	2.2	2.32	1.09
g.	Peripheral vascular disease	55	29.7	68	36.8	52	28.1	7	3.8	182	98.4	2.05	0.86
h.	Pulmonary edema	45	24.3	63	34.1	48	25.9	23	12.4	3	1.6	2.30	1.04
i.	COPD	50	27	59	31.9	43	23.2	25	13.5	4	2.2	2.30	1.09
j.	Multi-organ failure	17	9.2	25	13.5	40	21.6	65	35.1	35	18.9	3.40	1.22
k.	Neurologic failure	21	11.4	34	18.4	44	23.8	64	34.6	19	10.3	3.12	1.19
l.	GI bleeding	52	28.1	60	32.4	46	24.9	19	10.3	4	2.2	2.22	1.06
m.	Thoracic neoplasm	44	23.8	46	24.9	53	28.6	31	16.8	6	3.2	2.50	1.16
n.	Metabolic disease	38	20.5	41	22.2	68	36.8	29	15.7	6	3.2	2.57	1.09
o.	Arrhythmia	51	27.5	61	33	37	20	27	14.6	5	2.7	2.34	1.29
p.	GI obstruction	58	31.4	61	33	42	22.7	16	8.6	4	2.2	2.13	1.05
q.	Renal failure	39	21.1	40	21.6	45	24.3	51	27.6	5	2.7	2.67	1.18
r.	Sepsis	44	23.7	43	23.2	39	21.1	45	24.3	11	5.9	2.69	1.47
s.	Seizures	57	30.8	57	30.8	40	21.6	22	11.9	6	3.2	2.23	1.12
t.	Hematologic disease	50	27	49	26.5	50	27	29	15.7	2	1.1	2.34	1.09
u.	Aspiration	52	28.1	63	34.1	39	21.1	24	13	4	2.2	2.25	1.08
v.	Overdose	58	31.4	56	30.3	41	22.2	22	11.9	4	2.2	2.21	1.09
w.	Lethal birth abnormalities	45	24.3	49	26.5	37	20	40	21.6	11	5.9	2.57	1.24
x.	Pulmonary hypoplasia	51	27.6	57	30.8	38	20.5	28	15.1	8	4.3	2.36	1.16
y.	Lethal trisomy	57	30.8	49	26.5	37	20	23	12.4	11	5.9	2.30	1.21
z.	ARDS	51	27.6	45	24.3	38	20.5	42	22.7	6	3.2	2.47	1.22
a*.	Low-birth weight	74	40	51	27.6	42	22.7	7	3.8	6	3.2	1.99	1.04
b*.	Low APGAR score	74	40	61	33	26	14.1	15	8.1	6	3.2	1.99	1.08
c*.	Encephalopathy	46	24.9	49	26.5	46	24.9	31	16.8	10	5.4	2.50	1.19
d*.	Intraventricular hemorrhage	43	23.2	41	22.2	44	23.8	39	21.1	13	7	2.64	1.26

Many respondents stated that the following medical therapies were never initiated for patients following DNR orders; Extracorporeal membrane oxygenation ECMO (mean=1.75, SD=0.97), Capnography (mean=1.99, SD=0.98) and Intra-aortic balloon pump (mean=1.99, SD=1.06) which represent the most aggressive therapies (Except Capnography). Distribution of frequencies, percentages and means of initiation of therapies following DNR order is shown in Table (5.15). However, the mean score of initiation of life sustaining therapies was 2.5 (SD=0.69) which is considered poor practice.

Table 5.15: Distribution of responses about initiation of therapies following DNR order

	Questions	**Never**		**Rarely**		**Sometimes**		**Often**		**Always**		**Mean**	**SD**
		N	**%**	**N**	**%**	**N**	**%**	**N**	**%**	**N**	**%**		
a.	Arterial line	47	25.4	72	38.9	30	16.2	28	15.1	3	1.6	2.27	1.05
b.	Mechanical ventilation	36	19.5	47	25.4	49	26.5	36	19.5	12	6.5	2.65	1.18
c.	Central venous monitoring line	48	25.9	53	28.6	52	28.1	23	12.4	2	1.1	2.56	2.21
d.	Capnography	65	35.1	65	35.1	31	16.8	15	8.1	2	1.1	1.99	0.98
e.	Inotropic or vasopressor agent	46	24.9	63	34.1	43	23.2	27	14.6	1	0.5	2.27	1.03
f.	Frequency of vital signs monitoring	24	13	38	20.5	38	20.5	49	26.5	31	16.8	3.13	1.29
g.	ECG monitoring	23	12.5	38	20.5	41	22.2	47	25.4	29	15.7	3.24	1.48
h.	Surgery	68	36.7	64	34.6	30	16.2	12	6.5	6	3.2	2.28	3.14
i.	Antibiotics	24	13	48	25.9	50	27	33	17.8	25	13.5	2.90	1.24
j.	Pulmonary artery catheter	75	40.5	50	27	36	19.5	17	9.2	2	1.1	2.00	1.04
k.	Intracranial pressure monitoring	75	40.5	53	28.6	27	14.6	19	10.3	6	3.2	2.05	1.12
l.	Pacemaker	68	36.8	49	26.5	33	17.8	26	14.1	4	2.2	2.13	1.15
m.	Specimen collection	48	25.9	49	26.5	40	21.6	31	16.8	10	5.4	2.47	1.21
n.	Blood products	45	24.3	42	22.7	50	27	30	16.2	13	7	2.55	1.24
o.	Total parenteral nutrition (TPN)	35	18.9	40	21.6	51	27.6	37	20	17	9.2	2.77	1.23
p.	Physiotherapy / Occupational therapy	43	23.2	55	29.7	37	20	33	17.8	12	6.5	2.53	1.21
q.	Hemodialysis / Hemofiltration	52	28.1	56	30.3	47	25.4	18	9.7	7	3.8	2.26	1.11
r.	Extracorporeal membrane oxygenation (ECMO)	99	53.5	43	23.2	25	13.5	12	6.5	1	0.5	1.75	0.97
s.	Fluid therapy	12	6.5	29	15.7	38	20.5	66	35.7	35	18.9	3.44	1.17
t.	Intra-aortic balloon pump (IABP)	75	40.5	57	30.8	27	14.6	15	8.1	5	2.7	1.99	1.06
u.	Analgesics	23	12.4	32	17.3	35	18.9	55	29.7	35	18.9	3.23	1.31
v.	Diagnostic imaging	40	21.6	54	29.2	53	28.6	21	11.4	12	6.5	2.48	1.15

Most of respondents identified that DNR patients stay until death in critical care units (mean=3.98, SD=0.93), also they stated that sometimes the DNR patient is transferred to other ward to die in (mean=2.34, SD=2.42), while 58.9% of respondents stated that DNR patients were never discharged from hospital alive (mean=1.57, SD=0.83). Distribution of frequencies, percentages and means of outcomes of DNR order is shown in Table (5.16).

Table 5.16: Distribution of sample responses about outcomes of patients with DNR order

	Questions	**Never**		**Rarely**		**Sometimes**		**Often**		**Always**		**Mean**	**SD**
		N	**%**	**N**	**%**	**N**	**%**	**N**	**%**	**N**	**%**		
a.	Death in ICU	4	2.2	7	3.8	34	18.4	83	44.9	52	28.1	3.98	0.92
b.	Transfer to other ward to die	50	27	73	39.5	42	22.7	13	7	1	0.5	2.34	2.42
c.	Transfer for prolonged rehabilitation	59	31.9	52	28.1	51	27.6	15	8.1	3	1.6	2.15	1.04
d.	Discharge from hospital	109	58.9	49	26.5	15	8.1	6	3.2	1	0.5	1.57	0.83

Most of respondents stated that they experience the feeling of depression regarding DNR order (mean=3.1, SD=1.14). Also many respondents stated that they feel indifferent regarding DNR order (mean=3.03, SD=4.02). Distribution of frequencies, percentages and means of feelings experienced regarding DNR order is shown in Table (5.17). Besides, score of negative feelings associated with DNR was calculated (mean=2.93, SD=1).

Table 5.17: Distribution of sample responses about feeling experienced regarding DNR decision

	Questions	**Never**		**Rarely**		**Sometimes**		**Often**		**Always**		**Mean**	**SD**
		N	**%**	**N**	**%**	**N**	**%**	**N**	**%**	**N**	**%**		
a.	Relief	34	18.4	32	17.3	61	33	40	21.6	13	7	2.84	1.19
b.	Frustration	18	9.7	42	22.7	61	33	49	26.5	9	4.9	2.95	1.05
c.	Anger	22	11.9	44	23.8	62	33.5	42	22.7	10	5.4	2.87	1.08
d.	Depression	18	9.7	35	18.9	59	31.9	50	27	18	9.7	3.10	1.14
e.	Indifferent	27	14.6	51	27.6	52	28.1	43	23.2	4	2.2	3.03	4.02
f.	Anxiety	22	11.9	41	22.2	44	23.8	59	31.9	13	7	2.99	1.18
g.	Confusion	25	13.5	51	27.6	49	26.5	43	23.2	12	6.5	2.82	1.14
h.	Guilt	22	11.9	44	23.8	56	30.3	44	23.8	14	7.6	2.91	1.12
i.	Powerless	16	8.6	54	29.2	50	27	35	18.9	22	11.9	2.95	1.19

5.7 Inferential statistics

Inferential statistics was done between knowledge, attitude, practice, sociodemographic characteristics and work environment characteristics to find relationships among these variables.

5.7.1. Relationships between sociodemographic characteristics and knowledge, attitude and practice

Differences in knowledge, attitude and practice variables related to sociodemographic variables (Gender, Religion, Post-graduate education and Ethics education) were examined using Independent Sample t-Test. Also, differences in knowledge, attitude and practice variables attributed to sociodemographic variables (Educational level, Experience variables, Nursing position) were examined using ANOVA test. Additionally, Relationship between sociodemographic variables (Age and Strength of religious beliefs) and Knowledge, Attitude variables and Practice variables were examined using Pearson correlation test. Results of ANOVA and t-Test are summarized in Table (5.18), Table (5.20) and Table (5.22).

5.7.1.1. Relationship between sociodemographic characteristics and knowledge

Table (5.18) shows that there were significant differences at the level of ($\alpha \leq 0.05$) in knowledge about DNR status between Post-graduate course in critical care, neonatal care or pediatric intensive care; the mean knowledge of those who received post-graduate course were significantly higher than those who didn’t.

Table 5.18: Respondents' knowledge about DNR status according to their sociodemographic characteristics

Variable		Knowledge about DNR		
		Mean	**T/F**	**P**
Gender	Male	6.21	-0.2	0.842
	Female	6.26		
Religion	Muslim	6.24	0.294	0.588
	Christian	5.71		
Educational level	Diploma	7.30	1.442	0.232
	Bachelor	6.13		
	Master's	6.35		
	Doctorate	6.19		
Years practicing as RN	1-5	6.09	0.971	0.408
	6-10	6.47		
	11-15	5.98		
	16 and more	6.57		
Years practicing in critical care	1-5	6.08	0.847	0.47
	6-10	6.45		
	11-15	6.59		
	16 and more	6.47		
Current nursing position	Staff nurse	6.16	1.567	0.199
	Nursing manager	6.43		
	Nurse educator	6.51		
	Practical nurse	7.71		
Post-graduate course	Yes	6.57	3.215	0.002*
	No	5.80		
Training in ethics	Yes	6.21	-0.201	0.839
	No	6.26		

5.7.1.2. Relationship between sociodemographic characteristics and attitude

Table (5.19) shows that there were several significant differences at the level of ($\alpha \leq 0.05$); significant negative correlation was observed between age and attitude toward effect of institutional factors on DNR decision ($r=-0.24$, $p=0.001$), also the results indicate that statistically significant differences between males and females were present regarding effect of institutional factors on DNR decision, means for females were higher than for males.

Furthermore, Table (5.19) shows significant differences were present between religion groups in their attitude toward discontinuing life sustaining therapies, effect of institutional factors on decision making and effect of family factors on decision making. Muslims agree more about discontinuing life sustaining treatments and they have higher means for effect of family factors, while Christians have higher means for effect of institutional factors.

In addition, strength of religious beliefs was significantly correlated to attitude toward discontinuing life sustaining therapies (r=0.28, p=<0.005), also, it is significantly correlated to influence of chronic diseases on DNR decision (r=-0.155, p=0.038).

Table (5.19) indicates that statistically significant differences between years practicing as RN groups are present regarding discontinuing life sustaining therapies, results indicates that the higher the experience as RN the higher the means toward discontinuing life sustaining therapies, however, Tukey test shows that the differences were between those who practiced for 6-10 years and those who practice for 16 years and more as RN.

Table (5.19) shows that significant differences were between current position groups regarding attitude toward discontinuing life sustaining therapies and effect of institutional and patient factors on decision making. Nursing managers had higher means for discontinuing therapies than others, however, Tukey test shows that the significant differences were between Nursing managers and staff nurses. Nursing educators had higher means for effect of institutional factors on DNR decision, still, Tukey test shows that the significant differences were between nursing educators and practical nurses. Effect of patient factors were lower in practical nurses group, nevertheless, Tukey test shows that significant differences were between practical nurses group; and staff nurses and nursing managers group.

Table (5.19) indicates that statistically significant differences between years practicing in critical care groups are present regarding effect of institutional factors on DNR decision, results indicates that the higher the experience in critical care the lower the means of effect of institutional factors, however, Tukey test shows that the differences were between those who practiced for 6-10 years and those who practice for 16 years and more.

Table (5.19) also identifies statistically significant differences were present between who

received post-graduate course in critical care, neonatal care or pediatric intensive care and who didn't receive any course regarding attitude towards DNR and effect of family factors in favor of those who didn't receive courses.

Table 5.19 A: Respondents' attitude toward DNR orders according to their sociodemographic characteristics

Variable		Attitude toward DNR			Attitude toward discontinuing therapies		
		Mean	**T/F**	**P**	**Mean**	**T/F**	**P**
Gender	Male	3.38	-0.866	0.388	2.75	-0.836	0.404
	Female	3.41			2.84		
Religion	Muslim	3.39	-1.823	0.07	2.80	9.111	0.0001*
	Christian	3.43			2.32		
Educational level	Diploma	3.39	0.025	0.995	3.31	3.204	0.025
	Bachelor	3.40			2.82		
	Master's	3.40			2.58		
	Doctorate	3.35			2.26		
Years practicing as RN	1-5	3.38	0.993	0.389	2.81	3.141	0.027*
	6-10	3.44			2.60		
	11-15	3.31			2.88		
	16 and more	3.42			3.16		
Years practicing in critical care	1-5	3.38	0.974	0.406	2.82	2.573	0.056
	6-10	3.46			2.56		
	11-15	3.34			2.98		
	16 and more	3.40			3.05		
Current nursing position	Staff nurse	3.39	2.204	0.089	2.76	2.996	0.032*
	Nursing manager	3.58			3.39		
	Nurse educator	3.41			2.74		
	Practical nurse	3.22			2.81		
Post-graduate course	Yes	3.36	-2.048	0.042*	2.84	1.007	0.315
	No	3.45			2.74		
Training in ethics	Yes	3.38	-1.005	0.316	2.85	1.171	0.243
	No	3.42			2.72		

Table 5.19 B: Respondents' attitude toward DNR orders according to their sociodemographic characteristics

Variable		Institutional factors			Family factors			Patient factors		
		Mean	T/F	P	Mean	T/F	P	Mean	T/F	P
Gender	Male	3.19	-2.742	0.007*	3.36	-0.566	0.572	3.36	0.784	0.434
	Female	3.53			3.43			3.29		
Religion	Muslim	3.33	-27.13	<0.05*	3.40	6.545	<0.05*	3.32	-1.371	0.172
	Christian	5.00			3.00			3.39		
Educational level	Diploma	3.09	3.016	0.031	3.07	1.107	0.347	2.85	2.085	0.104
	Bachelor	3.30			3.39			3.33		
	Master's	3.57			3.56			3.44		
	Doctorate	4.49			3.00			3.23		
Years practicing as RN	1-5	3.42	2.589	0.054	3.34	1.424	0.237	3.39	1.68	0.173
	6-10	3.47			3.59			3.31		
	11-15	3.19			3.35			3.03		
	16 and more	2.91			3.22			3.24		
Years practicing in critical care	1-5	3.41	2.919	0.035*	3.38	1.026	0.383	3.38	0.892	0.446
	6-10	3.45			3.53			3.26		
	11-15	3.28			3.44			3.27		
	16 and more	2.80			3.12			3.16		
Current nursing position	Staff nurse	3.35	3.096	0.028*	3.40	0.891	0.447	3.37	4.975	0.002*
	Nursing manager	3.13			3.56			3.34		
	Nurse educator	4.05			3.30			3.11		
	Practical nurse	2.80			2.87			2.33		
Post-graduate course	Yes	3.34	-0.409	0.683	3.27	-2.459	0.015*	3.29	-0.86	0.391
	No	3.39			3.56			3.37		
Training in ethics	Yes	3.41	1.005	0.316	3.33	-1.311	0.191	3.31	-0.445	0.657
	No	3.28			3.49			3.35		

5.7.1.3. Relationship between sociodemographic characteristics and practice

Age was found to have significant negative correlation to (negative feelings) following DNR order ($r=-0.15$, $p=0.01$). Table (5.20) shows higher means for the Muslims regarding involvement in DNR situations. Furthermore, statistical significant differences in (influence of chronic diseases on DNR decision) between who received training in ethics and who didn't receive training in favor of those who received training.

Table (5.20) indicates that statistically significant differences between males and females were present regarding influence of chronic diseases on DNR decision in favor of males. Besides, Table (5.20) shows that differences were significant regarding involvement in care for DNR patient, influence of chronic diseases and influence on other medical diagnosis on DNR decision in favor of Muslims. On the other hand, Christians had higher means for negative feelings following DNR order.

Table (5.20) indicates that statistically significant differences between nurses who received post graduate course in critical care and who didn't receive any course were present regarding involvement in DNR situations in favor of those who received courses. Also, the table shows that statistically significant differences between who received course or training in ethics and who didn't regarding effect of chronic diseases in DNR decision in favor of those who didn't receive course in ethics.

Table 5.20: Respondents' practice of DNR orders according to their sociodemographic characteristics

Variable		Involvement in DNR situations			Chronic diseases influence DNR			Medical diagnosis influence DNR			Initiation of life sustaining therapies			Negative feelings caused by DNR order		
		Mean	**T/F**	**P**	**Mean**	**T/F**	**P**	**Mean**	**T/F**	**P**	**Mean**	**T/F**	**P**	**Mean**	**T/F**	**P**
Gender	Male	2.63	1.37	0.172	2.51	2.2	0.029*	2.57	1.796	0.074	2.51	0.335	0.738	2.78	-2.216	0.028*
	Female	2.45			2.22			2.37			2.48			3.10		
Religion	Muslim	2.55	3.253	0.001*	2.38	4.268	<0.005*	2.48	11.355	<0.005*	2.50	1.736	0.084	2.92	-2.064	0.04*
	Christian	2.33			2.09			1.83			2.41			4.11		
Educational level	Diploma	2.57	0.168	0.918	2.23	0.44	0.725	2.36	0.532	0.661	2.39	0.235	0.872	3.65	2.407	0.069
	Bachelor	2.56			2.34			2.46			2.49			2.92		
	Master's	2.44			2.53			2.59			2.57			2.76		
	Doctorate	2.61			2.45			2.11			2.36			3.63		
Years practicing as RN	1-5	2.47	1.856	0.139	2.37	0.013	0.998	2.51	0.189	0.904	2.54	1.66	0.177	2.99	1.949	0.123
	6-10	2.65			2.38			2.43			2.51			2.88		
	11-15	2.93			2.40			2.38			2.13			3.29		
	16 and more	2.36			2.35			2.47			2.54			2.53		
Years practicing in critical care	1-5	2.49	2.6	0.054	2.38	0.112	0.953	2.51	0.87	0.458	2.52	0.651	0.584	2.96	1.507	0.214
	6-10	2.57			2.33			2.32			2.46			3.11		
	11-15	3.15			2.46			2.65			2.27			2.69		
	16 and more	2.34			2.30			2.44			2.58			2.56		
Current nursing position	Staff nurse	2.54	0.316	0.814	2.37	0.569	0.636	2.48	0.232	0.874	2.53	1.025	0.383	2.93	0.654	0.581
	Nursing manager	2.41			2.56			2.55			2.23			3.08		
	Nurse educator	2.52			2.42			2.34			2.53			3.23		
	Practical nurse	2.87			1.95			2.28			2.18			2.51		
Post-graduate course	Yes	2.77	4.229	<0.005*	2.77	0.663	0.508	2.54	1.296	0.197	2.57	1.693	0.092	2.93	-0.199	0.842
	No	2.24			2.24			2.39			2.40			2.96		
Training in ethics	Yes	2.58	0.641	0.523	2.26	-1.985	0.049*	2.41	-1.424	0.156	2.46	-0.78	0.436	2.94	0.037	0.97
	No	2.49			2.52			2.57			2.54			2.94		

5.7.2. Relationship between work environment characteristics and knowledge, attitude and practice

Differences in Knowledge, Attitude variables and Practice related to work environment variable “Working overtime” were examined using Independent sample t-Test. Also, differences in Knowledge, Attitude variables and Practice attributed to work environment variables (Practice area, Age of patient population, Critical care capacity, Work hours per week and Shift rotations) were examined using ANOVA. Results of ANOVA and t-Test are summarized in Table (5.21), Table (5.22) and Table (5.23).

5.7.2.1. Relationship between work environment characteristics and knowledge

Tables (5.21) indicates that there were statistically significant differences according to ICU size regarding knowledge about DNR. Table (5.21) shows that the larger the ICU the higher the knowledge score, however, Fisher’s Least Significant Differences (LSD) Post Hoc tests resulted that significant differences were between small ICUs (1-6 beds) in one side, and medium ICUs (7-12 beds) and large ICUs (more than 12 beds) in the other side.

Tables (5.21) indicate that there were statistically significant differences in knowledge between those who work overtime and who don’t. Table (5.21) shows higher knowledge results for nurses who work overtime.

Table 5.21: Respondents' knowledge about DNR status according to their work environment characteristics

Variable		Knowledge about DNR		
		Mean	**T/F**	**P**
Practice area	Medical and Surgical ICU	5.66	1.515	0.165
	Medical ICU	6.38		
	Surgical ICU	6.29		
	Neurological ICU	6.19		
	Coronary care unit	6.57		
	Neonatal ICU	6.57		
	Pediatric ICU	5.87		
	Pediatric cardiac ICU	6.60		
Age of patient population	Neonates	6.53	1.937	0.09
	1-11 Months	3.57		
	1-15 Years	6.11		
	16 Years and above	5.93		
	All except neonates	6.16		
	All ages	6.54		
Critical care bed capacity (Size of ICU)	1-6 Beds	5.81	3.292	0.039*
	7-12 Beds	6.39		
	13 Beds and above	6.65		
Work hours / week	Less than 36 hours	6.12	0.445	0.642
	36-48 hours	6.21		
	49 hours and above	6.67		
Working overtime	Yes	6.57	2.038	0.043*
	No	6.05		
Shift rotation	Days	6.69	0.472	0.797
	Evenings	6.43		
	Nights	6.43		
	Days / Evenings	5.94		
	Evenings / Nights	6.24		
	Days / Evenings / Nights	6.18		

5.7.2.2. Relationship between work environment characteristics and attitude

Table (5.22) indicates that there were statistically significant differences according to ICU size regarding attitude toward DNR and effect of institutional factors on DNR decision.

Table (5.22) shows that the larger the ICU the more positive attitude toward DNR, however, Tukey test showed that the significant differences were between small and large ICUs in favor of large ICUs. Also, the same table shows that larger the ICU the less the effect of institutional factors on DNR decision, Tukey test also showed that the significant differences were between small and large ICUs in favor of small ICUs.

In addition, statistically significant differences in effect of family factors and patient factors on DNR decision according to nurses' work load per week, means for those who work as part timers were lower than others, however, Tukey test revealed that statistically significant differences were between those who work less than 33 hours and those who work 49 hours and above for family factors, and between those who work less than 33 hours and those who work 34-48 hours for patient factors.

Table (5.22) indicates that statistically significant differences were present between shift rotation groups in attitude toward DNR status and attitude toward discontinuing life sustaining therapies and effect of family factors on DNR decision making. Nurses who work day shifts had less positive attitude toward DNR than other shifts. Tukey test showed that significant differences were between nurses who work evenings, days and days/evenings/nights. Nurses who work night shifts had less attitude toward discontinuing life sustaining therapies, Tukey test showed that significant differences were between nurses who work days and who work days/evenings/nights; and between nurses who work days and who work evenings/nights. In contrast nurses who work nights had higher means of effect of family factors on DNR decision making, however, Tukey test showed that days and evenings differed significantly, evening and nights, and evenings and days/evening/nights also differed significantly.

Table 5.22 A: Respondents' attitude toward DNR orders according to their work environment characteristics

Variable		Attitude toward DNR			Attitude toward discontinuing therapies		
		Mean	T/F	P	Mean	T/F	P
Practice area	Medical and Surgical ICU	3.34	1.468	0.182	2.89	0.893	0.513
	Medical ICU	3.43			2.69		
	Surgical ICU	3.35			2.31		
	Neurological ICU	3.32			2.91		
	Coronary care unit	3.39			2.82		
	Neonatal ICU	3.44			2.67		
	Pediatric ICU	3.22			3.01		
	Pediatric cardiac ICU	3.49			2.81		
Age of patient population	Neonates	3.43	0.35	0.881	2.69	0.518	0.763
	1-11 Months	3.35			2.98		
	1-15 Years	3.33			2.69		
	16 Years and above	3.40			2.84		
	All except neonates	3.37			2.82		
	All ages	3.41			2.92		
Critical care bed capacity	1-6 Beds	3.33	4.57	0.012*	2.91	1.546	0.216
	7-12 Beds	3.40			2.77		
	13 Beds and above	3.54			2.63		
Work hours / week	Less than 36 hours	3.40	0.044	0.957	2.70	0.987	0.375
	36-48 hours	3.40			2.79		
	49 hours and above	3.37			3.06		
Working overtime	Yes	3.42	0.879	0.38	2.75	-0.671	0.503
	No	3.38			2.82		
Shift rotation	Days	3.35	3.083	0.011*	3.20	3.07	0.011*
	Evenings	3.83			2.43		
	Nights	3.68			2.07		
	Days / Evenings	3.44			2.95		
	Evenings / Nights	3.43			2.64		
	Days / Evenings / Nights	3.36			2.78		

Table 5.22 B: Respondents' attitude toward DNR orders according to their work environment characteristics

Variable		Institutional factors			Family factors			Patient factors		
		Mean	**T/F**	**P**	**Mean**	**T/F**	**P**	**Mean**	**T/F**	**P**
Practice area	Medical and Surgical ICU	3.37	1.24	0.283	3.44	1.977	0.061	3.40	1.649	0.125
	Medical ICU	3.20			3.22			2.99		
	Surgical ICU	3.56			3.33			3.66		
	Neurological ICU	3.49			3.23			3.31		
	Coronary care unit	3.41			4.00			3.53		
	Neonatal ICU	3.14			3.18			3.21		
	Pediatric ICU	3.89			3.48			3.61		
	Pediatric cardiac ICU	3.50			3.51			3.31		
Age of patient population	Neonates	3.16	1.199	0.311	3.21	1.806	0.114	3.22	0.833	0.528
	1-11 Months	3.80			3.00			3.83		
	1-15 Years	3.62			3.76			3.46		
	16 Years and above	3.31			3.34			3.28		
	All except neonates	3.46			3.59			3.37		
	All ages	3.44			3.35			3.39		
Critical care bed capacity	1-6 Beds	3.49	3.731	0.026*	3.33	2.958	0.054	3.32	0.667	0.515
	7-12 Beds	3.38			3.52			3.36		
	13 Beds and above	2.96			3.10			3.20		
Work hours / week	Less than 36 hours	3.01	1.288	0.278	2.93	5.163	0.007*	2.93	3.209	0.043*
	36-48 hours	3.39			3.39			3.35		
	49 hours and above	3.32			3.94			3.48		
Working overtime	Yes	3.39	0.321	0.748	3.38	-0.184	0.855	3.36	0.528	0.598
	No	3.34			3.40			3.31		
Shift rotation	Days	3.40	1.151	0.335	3.53	2.303	0.047*	3.27	0.253	0.938
	Evenings	2.80			2.17			3.33		
	Nights	3.35			3.92			3.64		
	Days / Evenings	3.73			3.42			3.35		
	Evenings / Nights	3.39			3.37			3.35		
	Days / Evenings / Nights	3.31			3.40			3.31		

5.7.2.3. Relationship between work environment characteristics and practice

Table (5.23) indicates that there were statistically significant differences in initiation of life sustaining treatments between those who work overtime and who don't. Table (5.23) shows that those who work overtime initiate life sustaining treatments more than who don't work overtime.

Table (5.23) indicates that statistically significant differences between nurses who work in different area regarding Initiation of life sustaining treatments for DNR patients, results showed that those who work in pediatric ICUs and pediatric cardiac ICUs had higher means. Tukey test showed that differences were significant between those who work in pediatric cardiac ICU and who work in medical ICUs.

Table (5.23) shows statistically significant differences between age of patient population groups regarding Initiation of life sustaining treatments for DNR patients. Tukey test indicated that differences were significant between those who work with neonates and those who work with patients from all ages.

Table 5.23: Respondents' practice of DNR orders according to their work environment characteristics

Variable		Involvement in DNR situations			Chronic diseases influence DNR			Medical diagnosis influence DNR			Initiation of life sustaining therapies			Negative feelings caused by DNR order		
		Mean	**T/F**	**P**	**Mean**	**T/F**	**P**	**Mean**	**T/F**	**P**	**Mean**	**T/F**	**P**	**Mean**	**T/F**	**P**
Practice area	Medical and Surgical ICU	2.63	1.91	0.07	2.44	0.965	0.459	2.47	0.722	0.653	2.66	2.672	0.012*	2.80	0.415	0.892
	Medical ICU	2.47			2.26			2.36			2.00			2.90		
	Surgical ICU	2.10			2.27			2.37			2.20			2.62		
	Neurological ICU	2.54			2.67			2.66			2.35			3.11		
	Coronary care unit	2.73			2.70			2.60			2.61			2.97		
	Neonatal ICU	2.58			2.16			2.37			2.37			3.06		
	Pediatric ICU	3.20			2.46			2.89			2.80			3.14		
	Pediatric cardiac ICU	2.17			2.32			2.45			2.67			2.94		
Age of patient population	Neonates	2.63	0.507	0.771	2.13	1.391	0.23	2.37	0.55	0.738	2.34	3.137	0.01*	3.09	1.116	0.353
	1-11 Months	2.83			2.92			2.70			1.93			2.83		
	1-15 Years	2.69			2.46			2.60			2.76			3.31		
	16 Years and above	2.48			2.33			2.41			2.49			2.78		
	All except neonates	2.39			2.51			2.51			2.34			2.80		
	All ages	2.57			2.55			2.60			2.81			2.90		
Critical care bed capacity	1-6 Beds	2.51	1.002	0.369	2.50	2.664	0.072	2.53	0.228	0.797	2.51	0.064	0.938	2.99	1.288	0.278
	7-12 Beds	2.50			2.38			2.45			2.48			2.99		
	13 Beds and above	2.77			2.03			2.44			2.53			2.65		
Work hours / week	Less than 36 hours	2.75	0.705	0.495	2.29	1.335	0.266	2.49	2.22	0.111	2.51	0.766	0.466	2.81	0.943	0.391
	36-48 hours	2.51			2.35			2.44			2.51			2.92		
	49 hours and above	2.71			2.77			2.92			2.26			3.31		
Working overtime	Yes	2.55	0.076	0.939	2.52	1.691	0.093	2.57	1.268	0.207	2.67	2.523	0.012*	2.87	-0.736	0.463
	No	2.54			2.29			2.42			2.40			2.98		
Shift rotation	Days	2.64	1.403	0.225	2.74	1.568	0.171	2.79	1.818	0.112	2.57	1.826	0.11	3.44	1.874	0.101
	Evenings	3.42			2.27			2.15			3.36			2.06		
	Nights	2.75			2.86			2.08			2.73			2.60		
	Days / Evenings	2.25			2.12			2.14			2.64			2.91		
	Evenings / Nights	2.49			2.48			2.49			2.43			2.91		
	Days / Evenings / Nights	2.58			2.29			2.48			2.43			2.91		

5.7.3. Relationship between knowledge, attitude and practice

Relationships between knowledge about DNR, and attitude and practice of DNR were examined using Pearson correlations. Results of Pearson correlation coefficient of knowledge scores were negligible with all attitude and practice scores; correlation is considered negligible when correlation coefficient is less than 0.3 (Mukaka, 2012).

Table 5.24: Correlation between knowledge score and attitude and practice scores

Domain	Pearson correlation	P
Attitude Score	0.152	.040*
Attitude toward discontinuing life sustaining therapies	-0.149	.043*
Institutional factors	-0.059	.422
Family factors	-0.006	.931
Patient score	-0.062	.401
Involvement in DNR situations	0.155	.035*
Chronic diseases	0.100	.176
Other health statuses	0.140	.058
Initiation of life sustaining therapies after DNR order	0.162	.028*
Negative feelings	-0.040	.586

5.7.4. Other statistics

Other statistics were done to compare with similar research, Cross tabulation, Chi square, Fisher's exact and correlations were done to examine some relationships between study variables.

Of the study respondents 62% of those who identified that consent is needed for DNR status had received training / course in ethics (Table 5.25), this result was statistically significant (X^2=6.44, p=0.009).

Table 5.25: Cross tabulation between need for DNR consent and having training / course in ethics

	Consent for DNR				Total	
	Yes		No			
Received training / course in ethics	**N**	**%**	**N**	**%**	**N**	**%**
Yes	91	49.4	15	8.1	106	57.6
No	55	29.9	23	12.5	78	42.4
Total	146	79.3	38	20.7	184	100

Of the respondents, nurses who received post graduate course in critical care defined DNR more correctly (Table 5.26). This relationship was statistically significant (Fisher's exact = 0.004).

Table 5.26: Cross tabulation between definition of DNR and having post graduate course in critical care

	Post-graduate course				Total	
	Yes		No			
Definition of DNR	**N**	**%**	**N**	**%**	**N**	**%**
Definition 1 (Wrong)	4	2.2	6	3.3	10	5.6
Definition 2 (Wrong)	10	5.6	21	11.7	31	17.3
Definition 3 (Correct)	87	48.6	51	28.5	138	77.1
Total	101	56.4	78	43.6	179	100

Of the study sample, critical care nurses who have more experience in critical care setting defined DNR more correctly (Table 5.27) except those who practiced more than 16 years, however, this relationship was significant (Fisher's exact = 0.014).

Table 5.27: Cross tabulation between definition of DNR and experience in critical care

	Years practicing in critical care setting								Total	
	1-5		6-10		11-15		16 and more			
Definition of DNR	**N**	**%**	**N**	**%**	**N**	**%**	**N**	**%**	**N**	**%**
Definition 1 (Wrong)	3	2	3	2	0	0	4	2	10	6
Definition 2 (Wrong)	25	14	3	2	2	1	1	1	31	17
Definition 3 (Correct)	82	46	34	19	10	6	12	7	138	77
Total	110	62	40	22	12	7	17	9	179	100

Table (5.28) shows that 60% of the sample answered that they are legally obligated to initiate resuscitation unless DNR is ordered and they agreed with the statement “If there is no written DNR order, you immediately initiate CPR when the patient arrests, even when survival of the patient is unlikely”, this relationship was statistically significant (Fisher's exact =0.000).

Table 5.28: Cross tabulation between statement of attitude toward DNR and CPR unless DNR order is present

	Statement: “If there is no written DNR order, you immediately initiate CPR when the patient arrests, even when survival of the patient is unlikely”										**Total**	
	Strongly disagree		**Disagree**		**Unsure**		**Agree**		**Strongly agree**			
CPR unless DNR order is present	**N**	**%**	**N**	**%**	**N**	**%**	**N**	**%**	**N**	**%**	**N**	**%**
Yes	3	1.6	7	3.8	9	4.9	76	41.1	35	18.9	130	70.3
No	0	0.0	4	2.2	14	7.6	8	4.3	6	3.2	32	17.3
Unsure	0	0.0	0	0.0	4	2.2	14	7.6	5	2.7	23	12.4
Total	3	1.6	11	5.9	27	14.6	98	53.0	46	24.9	185	100

5.8 Summary

Statistical analysis of this study involved descriptive and inferential statistics of 185 questionnaires filled by nurses who work in critical care setting in Palestine. The analysis involved sociodemographic characteristics, work environment characteristics, attitude toward DNR status, knowledge about DNR status and practice of DNR order.

The analysis revealed several statistically significant relationships between sociodemographic and work environment characteristics; and knowledge, attitude and practice of DNR order.

Chapter Six

Discussion

6.1 Introduction

This study provided an assessment of knowledge, attitude and practice of critical care nurses in Palestine, this was done using a self-reported questionnaire which was distributed on 393 critical care nurses who work in critical care setting in six hospitals in Palestine.

In this chapter the results of descriptive and inferential statistics were discussed. Moreover, the results of this study was compared with results of similar studies in the region and western countries.

6.2 Respondents of the study

The response rate of the study was 52%, this low response rate is may be related to several reasons; the length of the questionnaire which is consisted from 43 items and 147 sub-items, besides, the busy nature of critical care setting and the work overload is critical factor that lead to this low response rate. However, this response rate is similar to response rate in similar researches (Thibault-Prevost, 1997).

The respondents are divided almost equally according to their sex which make the sample representative for both sexes. The majority of respondents (90%) aged 20-40 years which represents middle-age sample, the advantage is that people usually hold beliefs and values

common to the era in which they were grown up. Results showed that 95.1% of the respondents hold at least Bachelor degree, which indicates that hospitals' administrations are interested in providing high quality of care in ICUs.

The majority of the respondents were experienced staff nurses which gives the advantage of studying nurses who are directly involved in care for patients. Surprisingly, more than the half of respondents had received post graduate course in critical care, neonatal care or pediatric intensive care, similarly, more than half of respondents had course or training in ethics. Half of respondents in this study were practicing in adult units and the other half were practicing in pediatric units which gives the advantage of studying DNR status for adults and pediatrics. Moreover, about two thirds of the respondents work full time in moderate and large size units which give them the exposure to DNR status.

6.3 Knowledge about DNR status

Knowledge about DNR order score was 62.3% which indicate satisfactory knowledge. Knowledge about DNR is found to be associated with receiving post graduate course in critical care, neonatal care or pediatric intensive care; critical care capacity and working overtime in other ward or institute. Moreover, significant relationship was found between receiving course or training in ethics and answering that consent is needed for DNR status, this relationship was not significant in Thibault-Prevost (1997) study. Additionally, a significant relationship was present in knowledge in favor of respondents who received post-graduate critical care course. However, lack of knowledge had been reported in previous studies including Bellini & Damato, (2009) and J Thibault-Prevost et al., (2000). Association of receiving post graduate course and ethics course with higher knowledge highlights the importance of post graduate nursing specialization and ethics education in improving knowledge of critical care nurses. Although receiving post graduate courses or ethics education were not associated with positive attitude or better practice, significant positive relationships were found between knowledge and attitude toward DNR, involvement in DNR situations and initiating of life sustaining therapies following DNR order. Nurses who worked in ICUs with larger bed capacity and those who worked overtime had significantly better knowledge about DNR status this may be explained by higher exposure to patients who had DNR status.

In the current study, 77% of respondents correctly defined DNR by its legal intent as "withholding resuscitation in case of cardiac and/or respiratory arrest", this result is consistent with result of a study by Taha, Asfour and Attia (2010) who reported that 79% of sample defined DNR correctly and a study by Baumann (2017) and Sanderson et al. (2013) in which two thirds of sample correctly defined DNR. On the other hand, this result is not consistent with other previous research which reported that nurses often can't define DNR in its legal definition. Respondents who received post-graduate course in critical care defined DNR more correctly than who did not receive any post-graduate course, this relationship was found statistically significant in Baumann et al.,(2017); Bellini & Damato,(2009); Sanderson et al., (2013); Taha, Asfour, & Attia, (2010) and J Thibault-Prevost et al., (2000).

The majority of respondents didn't link DNR with no care which is consistence with other research by Saifan et al. (2016), Taha et al. (2010) and J Thibault-Prevost et al. (2000). Additionally, 47% of respondents of the current study agreed that DNR does not involved additional therapeutic limits which is similar to previous research by Bellini & Damato (2009) and Thibault-Prevost et al. (2000). Moreover, in Taha et al. (2010) study, 74% of sample agreed that DNR doesn't involve other therapies.

Of the respondents, 78.9% of the sample indicated that a consent form is required for DNR status, in addition, a significant relationship was found between receiving course or training in ethics and recognizing the need for consent for DNR, this relationship was not statistically significant in Thibault-Prevost et al. (2010) study. However, only half of Thibault et al. study sample and 96% of Bellini & Damato (2009) study sample recognized the need for a consent. Likewise, the qualitative study of Cheraghi et al. (2016) indicated that consent is required for DNR order. Therefore, this study assumed that training in ethics is a very critical point that should be addressed in Palestinian hospitals.

Although the majority of respondents agree that physician can give consent for DNR, a majority also indicated that patient and family can give consent which is consistent with results of Thibault-Prevost et al. (2000). In contrast, 15.7% of the sample of current study indicated that the nurse can give DNR consent while only 1% of Thibault et al. (2000) study agreed that nurse can give consent. Similarly, 68.6% of sample agreed that the physician is the responsible for the designation of DNR order, this results is supported by other research (Bradley et al., 2006; Giles & Moule, 2004; Khalaileh, 2014; O'Hanlon et al., 2013; Saifan

et al., 2016; Taha et al., 2010).

The majority of respondents 62.7% responded that DNR order can be overruled by physician and family. This results are similar to results from Thibault-Prevost et al. (2000) study and Bellini & Damato (2009) study. However, the ability to overrule and who can overrule DNR order need to be included in the hospital policies which is not available even in hospitals which have DNR policies in Palestine.

Not surprisingly, 70.3% indicated that they are legally obligated to initiate CPR in case of cardiopulmonary arrest unless DNR is ordered. This result is in tune with results of other researches by Thibault-Prevost et al. (2000), Cheraghi et al. (2013) and O'Hanlon et al. (2013).

The effect of knowledge of attitude and practice was examined. Significant positive relationships were found between knowledge and attitude toward DNR, involvement in DNR situations and initiating of life sustaining therapies following DNR order. Also, a significant negative relationship between knowledge and discontinuing life sustaining therapies was also found. Although, all the mentioned relationships were very weak, all these relationships suggest that knowledge positively affects attitude and practice which rise the assumption that knowledge should be ensured in education and clinical practice levels. This result was opposite to Taha et al. (2010) who found that no statistically significant relationship between knowledge and attitude.

6.4 Attitude toward DNR status

Most of respondents recognized that physicians, ethical committees, nurses and hospital administrations should be involved in ensuring the existence of DNR policy which is accordant with results of Thibault-Prevost et al. (2000), nonetheless, respondents added government and public should be involved to ensure the existence of such policies.

When asked for reasons for DNR order, the majority of sample (75.1%) indicated that medical futility is the reason for DNR order, also about half of respondents linked the reason with poor quality of life either before or after order. Almost similar results were in Thibault-Prevost et al. (2000) study in which 61% indicated that medical futility is the reason for

DNR, 65% current quality of life is poor and 71% that quality of life would be poor. Also, results of other researches indicated that lack of hope of recovery, low chance of successful CPR and medical futility are the rationale for DNR order. Of respondents, 12.5% were unsure about the reason for DNR status this might be explained by poor involvement in DNR decision making (Assarroudi et al., 2017; Cheraghi et al., 2016; Thibault-Prevost et al., 2000).

Attitude toward DNR status was examined through three domains which are attitude toward DNR order, attitude toward discontinuing life sustaining therapies and factors influencing DNR decision (Institutional, family and patient factors).

6.4.1. Attitude toward DNR status

Mean score for attitude toward DNR status was 3.4 (SD=0.3) which indicates neutral attitude. However, statistically significant differences were found in attitude toward DNR status according to receiving post-graduate course in critical care, size of ICU (bed capacity) and shift rotation. Also a significant weak positive correlation was found between knowledge about DNR and attitude toward DNR status. Also, results showed that respondents had high percentage of neutral answers which may related to their level of knowledge. Respondents who worked in large ICUs tended to have more positive attitude toward DNR status which may be explained by being more exposed to patients with DNR status. In contrast nurses who work days had more negative attitude.

While 47% of the study sample agreed that DNR is linked to Euthanasia, only 16% linked it in Thibault-Prevost (2000) study, additionally, 65% reported hesitancy of physicians to write DNR order and 52% agreed that nurses perceive DNR differently than other health professionals, these results are consistent with Thibault-Prevost et al. (2000) study. Of the study sample, 75% indicated that patient and family input are important in DNR decision, this result is in line with Giles & Moule (2004) an Thibault-Prevost et al. (2000) study. In the current study, 43% of sample deemed that admission of DNR patient to an ICU is inappropriate, also, 59% agreed that DNR orders should be followed by withdrawal of aggressive therapeutic interventions, both results are consistent with Thibault-Prevost (2000) study (Giles & Moule, 2004; Thibault-Prevost et al., 2000). While 31% of respondents were unsure if they can refuse family and patient request of DNR, 30 % agreed

and 39% disagreed. This indicated that ethical dilemma about DNR decision making was still present. However, this result was consistent with Saifan et al. (2016) who indicated that 60% of nurses and physicians reported that prolonging life should be the goal of healthcare team regardless of patient and family wishes about DNR.

Of respondents, 78% agreed that if there is no DNR order they would start CPR even if survival is unlikely, this result was found significantly connected to their answer that they are legally obligated to start CPR if there is no DNR order. This result was consistent with results of Cheraghi et al. (2016) and Thibault-Prevost et al. (2000) results.

Finally, 83% of respondents indicated that DNR patient should have nursing care maintained until they die, while 50% of the sample also indicated that DNR patients require higher levels of nursing care than other patients which is in line with Bellini & Damato (2009) result in which 95% of sample disagreed that DNR patients received less care than is necessary. This result in congruent with Thibault-Prevost et al. (2000) in which 67.7% of the respondents did not believe that DNR patients required higher levels of nursing care than other patients. Moreover, the result of Taha et al. (2010) indicated that only 44.3% were of opinion that DNR patients require higher levels of nursing care.

6.4.2. Attitude toward discontinuing life sustaining therapies

Attitude mean score of respondents' answers toward removal of life sustaining treatments for DNR patients, was 2.8 (SD=0.71) which indicates negative attitude toward discontinuing life sustaining therapies. However, means for withholding some items that represent aggressive therapies were high; ECMO 3.08 (SD=1.24), Surgery 3.28 (SD=1.15) and Intracranial pressure monitoring 3.11 (SD=1.12). These results were close to results of Taha et al. (2010). In contrast, Hunag et al. (2012) reported that neonatal nurses agreed withholding emergency treatment and not adding treatments to patient and disagreed withholding of life-saving drugs, mechanical ventilation and analgesic drugs. Hence, the respondents agree that life sustaining treatment and normal care should not be discontinued for DNR patients.

Attitude toward discontinuing life sustaining therapies was significantly associated with religion, years practiced as RN, nursing position and shift rotation. Nurses who have

experience for more than 16 years, nursing managers and those who work days were significantly having higher scores for attitude toward discontinuing therapies. Also, strength of religious beliefs was positively correlated to attitude toward discontinuing therapies. This domain is considered negative domain in which low scores means positive attitude toward DNR status. However, Saifan et al. (2016) reported that 67% of nurses and physicians agreed that their religious beliefs greatly influence their view of DNR, while Huang et al. (2014) indicated that no differences were found in attitude score among different religious beliefs. Having higher scores by nursing managers had higher scores is expected because they have less contact with patients and less empathic about patients.

6.4.3. Factors influencing DNR decision making

Factors that influencing DNR decision making are categorized into three parts; institutional factors, family factors and patient factors. Means were calculated for each category; family factors 3.4 (SD=0.82), followed with score of institutional factors 3.36 (SD=0.85) and the lowest were for patient factors 3.33 (SD=0.63). Specifically, 70% of sample agreed that family request of DNR influence DNR decision while 50% agreed that religious convection also influence. This results are consistent with Khalaileh (2014), Thibault-Prevost et al. (2000), Saifan et al. (2016) O'Hanlon et al. (2013) and Bellini & Damato (2009). In contrast, opposite results reported by Taha et al. (2010) which revealed that 70% of sample disagreed that family request influence DNR decision and 75% also disagreed that socioeconomic status influence DNR decision. Having family factors as the most affecting DNR decision making was expected because the strong family bonds that present in the Palestinian society. Respondents were consistent in their attitudes about family involvement in decision making for DNR as 80% of them agreed that family input is important in DNR decision. Also, 80% of respondents reported that family are actually involved in DNR decision making, while 50% of them witnessed disagreement between family and physician about DNR decision.

Of patient factors, respondents agreed that benefit of treatment, patient's medical diagnosis, poor prognosis, quality of life and patient requests DNR are the most important factors influencing DNR decision. This result is consistent with result of Thibault-Prevost et al. (2000) study in which patient request, medical diagnosis, quality of life, severity of illness and benefit of treatment are the most important patient related factors. Likewise, Taha et al.

(2010) reported that medical diagnosis, functionality, benefit of treatment and severity of illness are the most important patient factors. However, Chang et al. (2010) study revealed that age and being unable to survive to ultimate discharge from the ICU are predictors for DNR order.

Concerning institutional factors, 60% indicated that risk of legal complications, hospital policy and need for ICU bed are the most important institutional factors influencing DNR decision making, while this result is in line with Chang et al. (2010) result that length of stay affects DNR decision, it is contrast to results of Taha et al. (2010) in which 70% of sample disagreed that legal complications, cost and need for ICU bed are influencing DNR decision making. In addition, Thibault-Prevost et al. (2000) reported that shortage of critical care beds, length of hospital stay, cost containment of health care dollars, and risk of legal complications were not perceived by respondents to influence DNR decisions. A statistically significant differences was found in institutional factors according to ICU bed capacity, that the larger the capacity, the lower the institutional factors influencing DNR decision making, this result can be explained that large ICUs have less shortage of beds. Also, this can lead to the conclusion that shortage of ICU beds is present in most of Palestinian hospitals which might increase risk on patients' lives.

6.5 Practice of DNR order (DNR in practice)

While 43% of the sample answered that their institutions had DNR policies, 39% reported that their institutions didn't have DNR policies and 18 were unsure about the existence of policies. However, 39.5% of those who reported that they did have DNR policy, didn't have in reality -according to data from the selected hospitals- which is similar to O'Hanlon et al. (2013). Unexpectedly, only 44.3% of respondents who work in institutions that had DNR policy recognized the availability of the policies. Since 73.5% of sample agreed in the attitude section that an institutional and/or unit specific DNR policy is necessary to facilitate nursing practice, becoming informed of existence of DNR policy is important to improve patient care and improve nurses' role in DNR decision making. The results about existence of DNR policy were in line with results of Bellini et al. (2009) in which 45.5% of respondents recognized the existence of DNR policies, on the other hand, the results contradicted with Thibault-Prevost et al. (2000), Giles & Moule (2004) and Taha et al. (2010) which reported that respondents knew the existence of DNR policies.

Despite that the literature reported that DNR prevalence is increasing (De Gendt et al., 2007; Nathens et al., 2008; Salottolo et al., 2015; Youngner et al., 1990), the majority of the respondents (54.6%) indicated that no change in the trends of DNR in their institutions during the last year. This result is consistent Thibault-Prevost et al. (2000) that respondents reported no change in trends of DNR orders.

Most of respondents of the current study indicated that physicians, families and surprisingly patients are actually involved in decision making. Similarly, Thibault-Prevost et al. (2000) reported that respondents recognized that physician, family, patient, and legal guardian actually participated. Moreover, Bellini & Damato (2009) also reported that physicians and families who are actually most frequently involved in DNR decision making.

Practice of DNR status was also examined through five domains which are involvement in DNR decision making, influence of chronic diseases and medical diagnosis of DNR decision, initiation of life sustaining therapies following DNR order, output of patients with DNR status and negative feelings following DNR order.

6.5.1. Involvement in DNR situations

Involvement of nurses in DNR situations mean was 2.45 (SD=0.88) which indicated that critical care nurses are not always involved in DNR situations. However, the mean for involvement in direct care for DNR patient was 3.47 (SD=1.16) while the mean for involvement in DNR decision was 2.17 (SD=1.15). This result indicates that critical care nurses are always involved in direct care rather than decision making. This result is consistent with Kalaileh (2014), Bellini & Damato (2009) and Thibault-Prevost et al. (2000) study which reported that most of respondents identified themselves as being infrequently involved in DNR decisions. Significant differences in involvement in DNR situations were found related to religion and receiving post graduate course in critical care. Those who received post graduate course in critical care had been more involved in DNR situations. This might be explained by that having ICU nursing specialization increases the power in practice and consequently the ability to discuss such issues with other health professionals.

6.5.2. Influence of chronic diseases and other medical diagnoses on DNR decision

Of the study respondents, the majority observed that chronic diseases are less influencing DNR decision. However, the respondents reported that chronic neurological conditions and chronic renal failure are the most chronic diagnoses that influence DNR decision. On the other hand, respondents recognized multi-organ failure, respiratory failure, neurological failure and post cardiac arrest were medical diagnoses which frequently influenced a DNR decision. This results are exactly consistent with Thibault-Prevost et al. (2000) study and in line with Taha et al. (2010) study which revealed that multi-organ dysfunction, cancer and respiratory failure are frequently influenced DNR decision.

6.5.3. DNR documentation

Respondents of the study reported that DNR is the most commonly used term to document DNR followed with "no cardiopulmonary resuscitation". However, the use of variety of orders and terms is also indicated. This fact is also reported by other studies indicating that hospital policy should standardize and regulate documentation of DNR status (Giles & Moule, 2004; Khalaileh, 2014; Thibault-Prevost et al., 2000).

6.5.4. Initiation of life sustaining therapies following DNR

Participants of the study indicated that life sustaining therapies following DNR order especially aggressive therapies such as Extracorporeal membrane oxygenation ECMO, Intra-aortic balloon pump, Surgery, Pacemaker and Hemodialysis are not frequently initiated. On the other hand, participants agreed that ECG monitoring, vital signs monitoring, fluid therapy and analgesics are initiated following DNR order. Results are consistent with Bellini & Damato (2009) study in which respondents disagreed initiation of mechanical ventilation and surgery while they agreed initiation of analgesics. Results are also consistent with O'Hanlon et al. (2013) in which sample recognized oxygen, fluid therapy, antibiotics and feedings as appropriate therapies, they also recognized defibrillation and intubation as inappropriate for DNR patient. Initiation of life sustaining therapies were found statistically significant higher for nurses who worked in neonatal and pediatric intensive care unit which leads to the assumption that better practice was available in these units. This practice might

be related to longer potential life span of the patient population they deal with.

6.5.5. Negative feelings following DNR order

Exposure to situations that include ethical dilemma can make nurses experience negative feelings as reported by many studies (Bellini & Damato, 2009; Taha et al., 2010; Thibault-Prevost et al., 2000). Respondents of this study reported that they feel depressed, indifferent, anxious, frustrated and powerless when DNR order is issued. This result is consistent with Taha et al. (2010) result which revealed that 35% of the study participants reported frustration, anxiety and powerlessness after DNR order. This emphasized the need for psychological support for critical care nurses that face many ethical issues during practice especially for female nurses who had more negative feelings following DNR order.

6.5.6. Outcome of patients with DNR status

Literature suggests that DNR status is associated with mortality of hospitalized patients (Aziz et al., 2015; Hemphill, 2004; Walkey, Weinberg, Wiener, Cooke, & Lindenauer, 2016). Respondents of the study indicated that patients with DNR were most frequently died in intensive care unit in which they practice (Mean=3.98) or transferred to other ward to die (Mean=2.34). This result is in line with Thibaut-Prevost et al. (2000) results in which majority of respondents identified that DNR patients remained in their unit to die there or were transferred to other floor to die. This may explain the ethical stress of nurses which is accompanied with negative feelings of frustration and powerlessness experienced by critical care nurses. This explanation was supported by the result of Taha et al. (2010) who indicated that exposure to death of ICU patient especially DNR patients resulted in increasing stress and negative feelings of critical care nurses.

6.6 Summary

The results of this study are of high value because of the large amount of significant relationships and comparability of the results with other similar studies. In spite of the fact that most of Palestinian hospitals lack the policies that regulate DNR, nurses had satisfactory amount of knowledge and relatively similar attitudes about DNR status. The revealed results

will be very important to produce beneficial conclusion and recommendations.

Chapter Seven

Conclusion and Recommendations

7.1 Conclusion

The aim of this study was to assess knowledge, attitude and practice of critical care nurses about practices of DNR order in intensive care units in Palestine. The study involved six main hospitals in West Bank. Aggregate findings of this study generally support the previous literature about knowledge, attitude and practice of DNR status.

Based on finding of this study, nurses who work in critical care setting had satisfactory knowledge about DNR status; respondents were aware about DNR definition, care limits and order designation. However, more educational efforts are needed in university education level and institutional continuous education level since many domains of knowledge, attitude and practice were associated with having courses or training in ethics and having post graduate courses in critical care nursing, neonatal nursing or pediatric intensive care nursing.

Agreement about the need for written policies was indicated in this study; the presence of written policy about DNR order on national level can regulate and facilitate nursing practice and reduce variations in nursing and medical care surrounding DNR status. In addition, awareness of nurses about the existence of DNR policy is important to improve patient care and improve nurses' role in DNR decision making.

Involvement of nursing in decision making regarding DNR status is very important issue that should be addressed in Palestinian hospitals. Since DNR is multidisciplinary ethically-sensitive status, critical care nurses should be involved more in DNR decision making which would complete the chain of nursing care in critical care setting. This involvement can be by nursing presence in ethical committees that discuss end of life decisions. Involvement of patients is a critical step forward in patient autonomy principle that should be addressed on research, policy and practice level. Patients should be considered as a candidate in DNR discussion and decision making after increasing awareness about DNR and other ethical issues among them. On another hand, families had significant role in decision making because of the nature of the Palestinian culture, so that, families and public should be addressed in the education and awareness about various ethical issues.

Based on results of results of this study nurses who work in critical care setting experience many negative feelings surrounding DNR as one of the ethical dilemmas which nurses face in practice. This supports the need of hospital administrations to meet their ethical and psychological needs that are generated from dealing with critical care patients and environment.

7.2 Limitations

Using questionnaire as a tool is very useful and save money, time and effort. Yet, results can be misleading when used instead of observing practices directly. The use of long questionnaire has led to low response rate. Moreover, using an English language questionnaire led to missing data in some questionnaires, using dual language questionnaire can help solving this issue.

Using hospitals to distribute questionnaires and choosing study sample can also lead to low response rate especially in critical care units because of lack of time and ICU stress.

7.3 Recommendations

7.3.1 Recommendations for policy makers and hospitals' administrations

a. To develop clear policies on national level about DNR that are consistent with laws and regulations.
b. To include DNR status and policies in educational programs for nurses and physicians.
c. To provide psychological support for nurses who work in critical care units who experience many negative feelings and ethical dilemmas.
d. To provide continuous education activities for nurses and physician on DNR and other ethical issues.
e. To provide post graduate nursing specializations in adult critical care nursing, neonatal critical care nursing, cardiac critical care nursing and pediatric critical care nursing.
f. To increase national intensive care bed capacity in all specializations.
g. To support, educate and regulate the role of families in decision making.

7.3.2 Recommendation for universities

To include DNR and other ethical issues in nursing and medical curriculum.

7.3.3 Recommendations for researchers

The following research topics are recommended for future studies:

a. The actual nurses and physicians' practices surrounding DNR patients by examining files and documentation of DNR order.
b. Patients' and families' perspectives surrounding DNR order.
c. The effect of DNR order on mortality of hospitalized patients.
d. Awareness of patients and public about DNR and end of life decisions.
e. Do Not Resuscitate Status: Knowledge, Attitude and Practice of all Critical Care Nurses in Palestine

f. Relationships between religious beliefs and ethical issues especially DNR status.
g. Relationship between work environment and ethical issues especially DNR status.

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Annexes

Annex 1: Correspondence with Mrs. Louise Jensen to use the questionnaire

From: **Louise A Jensen** lajensen@ualberta.ca
Subject: Re: Request
Date: September 28, 2017 at 12:18 AM
To: Nasser Dweib nadweib@yahoo.com

LJ

Nasser:

Yes, providing you give appropriate recognition/citation to our questionnaire.

Dr. Jensen

On Wed, Sep 27, 2017 at 11:19 AM, Nasser Dweib <nadweib@yahoo.com> wrote:

> Dear Dr. Jensen;
>
> Your thesis is published on a Canadian governmental website called: Library and Archives Canada, the following is the link:
> http://www.collectionscanada.gc.ca/obj/s4/f2/dsk2/ftp04/mq22749.pdf
>
> I only want your permission to use **the form** of the questionnaire which is attached to this email.
>
> Thanks in advance,
>
> **Nasser K. Dweib RN, BSN**
> **ECMO Specialist**
> **Staff Nurse - PCICU - Makassed Islamic Charitable Hospital - Jerusalem**
> **Bethlehem - Palestine**
> **+970 598 750 11 8 | +972 54 27 21 26 3**
>
>> On Sep 27, 2017, at 8:07 PM, Louise A Jensen <lajensen@ualberta.ca> wrote:
>>
>> Nasser:
>>
>> I have retired and no longer have an electronic or paper copy of the 2000 adult questionnaire.
>>
>> I wish you the best with your research..
>> Dr. Jensen
>>
>> On Wed, Sep 27, 2017 at 9:19 AM, Nasser Dweib <nadweib@yahoo.com> wrote:
>>
>>> Dear Dr. Jensen;
>>>
>>> I would like your permission to use your questionnaire "Nurses' perceptions surrounding DNR status in critical care setting" in my study. I would like to choose some questions (Modify according to the Palestinian culture and research objectives).
>>>
>>> I would like to use your questionnaire only for my research study and include the copyright statement in my thesis.
>>>
>>> Best regards,
>>>
>>> **Nasser K. Dweib RN, BSN**
>>> **ECMO Specialist**
>>> **Staff Nurse - PCICU - Makassed Islamic Charitable Hospital - Jerusalem**
>>> **Bethlehem - Palestine**
>>> **+970 598 750 11 8 | +972 54 27 21 26 3**

On Sep 27, 2017, at 6:07 PM, Louise A Jensen <lajensen@ualberta.ca> wrote:

Nasser:

Thank you for your interest in the 2000 study.

Could you clarify what you mean by "Use" the study.
Certainly you can cite the article in your review, otherwise I do not know what you are requesting..

____

Louise Jensen BScN, MN, PhD
Professor Emeritus
Faculty of Nursing
5-388B Edmonton Clinic Health Academy
University of Alberta, T6G 1C9

Annex 2: The original questionnaire by Thibault-Prevost et al

NURSES' PERCEPTIONS SURROUNDING DO NOT RESUSCITATE (DNR)

STATUS IN THE CRITICAL CARE SETTING QUESTIONNAIRE

SECTION I

1. How would you define "do not resuscitate" (DNR)?

____

____

____

2. Do you associate DNR with no care?

   Yes *1*

   No *2*

   Unsure *3*

   Please explain your response:

____

____

____

3. Do you think others associate DNR with no care?

   Yes .... *1* *{IF YES, GO TO QUESTION #4}*

   No .... *2* *{IF NO, GO TO QUESTION #5}*

4. Who is more likely to associate DNR with no care?	NOT AT ALL	NOT VERY LIKELY	LIKELY	VERY LIKELY
Physician	1	2	3	4
Family	1	2	3	4
Nurse	1	2	3	4
Patient	1	2	3	4
Other	1	2	3	4

5. Who is responsible for the designation of DNR status?
(Please circle ALL responses that apply)

Physician *1*

Nurse *2*

Patient *3*

Family *4*

Other (please specify) ______________________________

6. Can a DNR order be overruled?

Yes .... *1* *{IF YES, GO TO QUESTION #7}*

No .... *2* *{IF NO, GO TO QUESTION #8}*

Unsure *3*

7. Who can overrule a DNR order?
(Please circle ALL responses that apply)

Physician *1*

Family *2*

Nurse *3*

Patient *4*

Other (please specify) ______________________________

8. Is informed consent required for a DNR designation?

Yes *1*

No *2*

Unsure *3*

9. Who of the following can legally give DNR consent?
(Please circle ALL responses that apply)

Physician *1*

Family (regardless of patient competency) *2*

Family (only if patient is incompetent) *3*

Next of kin *4*

Legal guardian *5*

Nurse *6*

Patient *7*

Other (please specify) ______________________________

10. Does a DNR designation involve additional therapeutic limits (eg: stay of treatment, decreasing inotropes, discontinuing ventilation)?

Yes *1*

No *2*

Unsure *3*

11. Legally, should attempts be made to resuscitate all patients unless there is a DNR order written?

Yes *1*

No *2*

Unsure *3*

SECTION II

1. Who ought to be involved in ensuring that a DNR policy exists?
(Please circle ALL responses that apply)

   Physicians *1*

   Nurses *2*

   Administration *3*

   Ethical Review Boards *4*

   Other (please specify) ______________________________

2. Indicate whether you agree or disagree with the following statements concerning DNR status by circling the appropriate response for each item.

		Strongly Disagree	Disagree	Unsure	Agree	Strongly Agree
i.	*DNR is closely linked with euthanasia.*	1	2	3	4	5
ii.	*DNR suggests that any form of resuscitation should be administered.*	1	2	3	4	5
iii.	*Once a patient is designated DNR death is inevitable.*	1	2	3	4	5
iv.	*DNR designation indicates that the patient has a potentially reversible condition as long as they do not arrest.*	1	2	3	4	5
v.	*DNR status is well documented in patient charts.*	1	2	3	4	5
vi.	*An institutional and/or unit specific DNR policy is necessary to facilitate nursing practice*	1	2	3	4	5
vii.	*A DNR policy limits flexibility in considering individual circumstances surrounding DNR decisions.*	1	2	3	4	5
viii	*Patient input is important in the DNR decision.*	1	2	3	4	5
ix.	*Family input is important in the DNR decision.*	1	2	3	4	5
x.	*Even though requested by patient and/or family a DNR order does not have to be ordered.*	1	2	3	4	5
xi.	*Physicians are hesitant about writing DNR orders.*	1	2	3	4	5

		Strongly Disagree	Disagree	Unsure	Agree	Strongly Agree
xii.	*Physicians think DNR patients receive less quality of nursing care than other patients.*	1	2	3	4	5
xiii.	*Admission to a critical care unit is appropriate for DNR patients.*	1	2	3	4	5
xiv.	*DNR patients receiving ventilatory support have more interventions withdrawn than the DNR patients without ventilatory support.*	1	2	3	4	5
xv.	*Withdrawal of ventilatory support is a late decision for DNR patients.*	1	2	3	4	5
xvi.	*DNR patients should have all therapy maintained until they die.*	1	2	3	4	5
xvii.	*DNR patients should have nursing care maintained until they die.*	1	2	3	4	5
xviii.	*DNR orders should be followed by withdrawal of aggressive therapeutic interventions.*	1	2	3	4	5
xix.	*A DNR order should be a deterrent to initiating aggressive therapy.*	1	2	3	4	5
xx.	*Use of narcotics and/or anxiolytics (eg; morphine, valium) increases for the DNR patient.*	1	2	3	4	5
xxi.	*Less care than necessary is given to DNR patients.*	1	2	3	4	5
xxii.	*A DNR patient, when one of a multiple assignment becomes a lower priority for nursing care.*	1	2	3	4	5
xxiii.	*There is support for coping with situations involving DNR status.*	1	2	3	4	5
xxiv.	*DNR patients require higher levels of nursing care than all other patients.*	1	2	3	4	5
xxv.	*Abnormal laboratory values/disorders found by means of monitoring will not be treated in the DNR patient.*	1	2	3	4	5
xxvi.	*DNR orders are not written due to the attending physician wanting to confirm a true arrest rather than an iatrogenic arrest.*	1	2	3	4	5
xxvii.	*If there is no written DNR order, you immediately initiate CPR when the patient arrests, even when survival of the patient is unlikely.*	1	2	3	4	5

		Strongly Disagree	Disagree	Unsure	Agree	Strongly Agree
xxviii.	*Previous exposure to patients who were expected to die but survived influences a person's attitude towards DNR status.*	1	2	3	4	5
xxix.	*Nurses perceive DNR designation different from other health care professionals.*	1	2	3	4	5
xxx.	*Timing of DNR discussions is critical.*	1	2	3	4	5

3. Indicate whether you agree or disagree with the following factors contributing to the complexity of the DNR designation.

		Strongly Disagree	Disagree	Unsure	Agree	Strongly Agree
i.	*Turnover of medical staff*	1	2	3	4	5
ii.	*Level of medical staff expertise*	1	2	3	4	5
iii.	*Varied patient characteristics and circumstances*	1	2	3	4	5
iv.	*Patient care being provided in a critical care setting where the major goal is to preserve life*	1	2	3	4	5
v.	*Levels of nursing expertise*	1	2	3	4	5
vi.	*Turnover of nursing staff*	1	2	3	4	5
vii.	*Who is involved in decision-making*	1	2	3	4	5
viii.	*Perspectives/ philosophies of disciplines involved with DNR status*	1	2	3	4	5
ix.	*Patient or family wishes*	1	2	3	4	5
x.	*Clarity of medical orders*	1	2	3	4	5
xi.	*Differing definitions for DNR*	1	2	3	4	5
xii.	*Poor communication among health care professionals*	1	2	3	4	5
xiii.	*Difficulty for physicians to deal with death*	1	2	3	4	5
xiv.	*Difficulty for critical care nurses to deal with death*	1	2	3	4	5

4. Indicate whether you **agree** or **disagree** with discontinuing any of the following, once a patient is designated DNR.

		STRONGLY DISAGREE	DISAGREE	UNSURE	AGREE	STRONGLY AGREE
i.	*Arterial lines*	1	2	3	4	5
ii	*Ventilatory support*	1	2	3	4	5
iii.	*Central venous pressure monitoring*	1	2	3	4	5
iv.	*Capnography*	1	2	3	4	5
v.	*Inotropic or vasopressor agents (eg; dopamine, epinephrine)*	1	2	3	4	5
vi.	*Frequency of vital signs monitoring*	1	2	3	4	5
vii.	*Electrocardiographic monitoring*	1	2	3	4	5
viii.	*Surgery*	1	2	3	4	5
ix.	*Antibiotics*	1	2	3	4	5
x.	*Pulmonary artery catheters*	1	2	3	4	5
xi.	*Intracranial pressure monitoring*	1	2	3	4	5
xii.	*Transcutaneous or transvenous pacemaker*	1	2	3	4	5
xiii.	*Specimen collection (eg; blood, urine, sputum)*	1	2	3	4	5
xiv.	*Blood products*	1	2	3	4	5
xv.	*Total parenteral nutrition*	1	2	3	4	5
xvi.	*Physiotherapy/Occupational therapy*	1	2	3	4	5
xvii.	*Hemodialysis*	1	2	3	4	5
xviii.	*Continuous arteriovenous hemofiltration dialysis (CAVH/D)*	1	2	3	4	5
xviv.	*Extracorporeal membrane oxygenation (ECMO)*	1	2	3	4	5
xx.	*Fluid therapy*	1	2	3	4	5
xxi.	*Intraortic balloon pump (IABP)*	1	2	3	4	5
xxii.	*Analgesics*	1	2	3	4	5
xxiii.	*Diagnostic imaging (DI)*	1	2	3	4	5

5. Indicate whether you **agree** or **disagree** with the following factors influencing DNR decisions

		Strongly Disagree	Disagree	Unsure	Agree	Strongly Agree
a)	Patient Factors					
i.	*Patient requests DNR*	1	2	3	4	5
ii.	*Patient's medical diagnosis*	1	2	3	4	5
iii.	*Quality of life*	1	2	3	4	5
iv.	*Functional status*	1	2	3	4	5
v.	*Benefit of treatment*	1	2	3	4	5
vi.	*Discomfort*	1	2	3	4	5
vii.	*Mental status*	1	2	3	4	5
viii.	*Origin of admission (from OR, PARR, ER, nursing unit, etc)*	1	2	3	4	5
ix.	*Chronic health status*	1	2	3	4	5
x.	*Work status prior to admission*	1	2	3	4	5
xi.	*Emergency surgery*	1	2	3	4	5
xii.	*Elective surgery*	1	2	3	4	5
xiii.	*Severity of illness*	1	2	3	4	5
xiv.	*Poor admission prognosis*	1	2	3	4	5
xv.	*Length of hospital stay*	1	2	3	4	5
xvi.	*Likelihood of long term survival*	1	2	3	4	5
xvii.	*Premorbid cognitive functioning*	1	2	3	4	5
xviii.	*Substance abuse*	1	2	3	4	5
xix.	*Religious conviction*	1	2	3	4	5
xx.	*Socioeconomic status*	1	2	3	4	5
xxi.	*Compliance with medical care*	1	2	3	4	5
xxii.	*Level of consciousness*	1	2	3	4	5
xxiii.	*Age*	1	2	3	4	5
xxiv.	*Premorbid lifestyle*	1	2	3	4	5

b) Family Factors

		Strongly Disagree	Disagree	Unsure	Agree	Strongly Agree
i.	Family/legal guardian requests DNR	1	2	3	4	5
ii.	Religious Conviction	1	2	3	4	5
iii.	Socioeconomic status	1	2	3	4	5
c)	Institutional Factors					
i.	Length of hospital stay	1	2	3	4	5
ii.	Risk of legal complications	1	2	3	4	5
iii.	Hospital policy	1	2	3	4	5
iv.	Cost containment of health care dollars	1	2	3	4	5
v.	Need for critical care bed	1	2	3	4	5

6. Which are the three most important factors to consider in a DNR

a. ______________________________

b. ______________________________

c. ______________________________

7. Why are DNR orders written?
(Please circle ALL responses that apply)

Medical futility.. 1

Quality of life after CPR would be poor................ 2

Present quality of life is inacceptable 3

Unsure... ... 4

SECTION III

1. Does your institution have a DNR policy?

   Yes *1*

   No *2*

   Unsure *3*

2. Who **should** be involved in decision-making for DNR status?

	YES	NO	UNSURE
Attending physician	1	2	3
Nurse	1	2	3
Resident	1	2	3
Chaplain	1	2	3
Ethicists	1	2	3
Patient	1	2	3
Family	1	2	3
Legal guardian	1	2	3
Other (please specify) ______________________			

3. Who is actually involved in decision-making of DNR status?

	YES	NO	UNSURE
Attending physician	1	2	3
Nurse	1	2	3
Resident	1	2	3
Chaplain	1	2	3
Ethicists	1	2	3
Patient	1	2	3
Family	1	2	3
Legal guardian	1	2	3
Other (please specify) ______________________			

4. When do DNR decisions most likely occur during a patient's stay?

In less than 24 hours	*1*
Between 24-47 hours	*2*
Between 2-7 days	*3*
Between 8-14 days	*4*
Between 15-30 days	*5*
Over 30 days	*6*
Other (please specify) ____________________	

5. The length of stay in your unit for patients after being designated as DNR is:

0-5 days	*1*
6-10 days	*2*
11-30 days	*3*
> 30 days	*4*
Unsure.......................	*5*

6. How often are you involved in each of the following situations?

		NEVER	RARELY	SOME TIMES	OFTEN	ALWAYS
xi.	*Direct care for DNR patients*	1	2	3	4	5
ii.	*DNR decisions*	1	2	3	4	5
iii.	*Input with DNR decision-making*	1	2	3	4	5
iv.	*Initiate DNR discussions with patients and family*	1	2	3	4	5
v.	*Initiate DNR discussions with the physician*	1	2	3	4	5
vi.	*Inform the physician of patient/family's readiness to discuss DNR*	1	2	3	4	5
vii.	*A DNR patient is part of your multiple assignment*	1	2	3	4	5
viii.	*Agree with decisions made surrounding DNR or non-DNR orders*	1	2	3	4	5
ix.	*Family requests conflict with the patient's treatment plan*	1	2	3	4	5

		Never	Rarely	Some Times	Often	Always
x.	*Witness disagreement between patient/family and physician in regards to DNR status*	1	2	3	4	5
xi.	*Your view regarding the patient's DNR designation is different from the family/patient's view*	1	2	3	4	5

7. When a patient is designated as DNR status, how often do you see the following orders?

		Never	Rarely	Some Times	Often	Always
i.	*DNR (do not resuscitate)*	1	2	3	4	5
ii.	*comfort measures only*	1	2	3	4	5
iii.	*treat arrhythmias only*	1	2	3	4	5
iv.	*treat ventricular tachycardia*	1	2	3	4	5
v.	*do not intubate*	1	2	3	4	5
vi.	*no cardiopulmonary resuscitation*	1	2	3	4	5
vii.	*treat with medications only*	1	2	3	4	5
viii.	*code 1*	1	2	3	4	5
ix.	*do not resuscitate from spontaneous arrest*	1	2	3	4	5
x.	*treat rhythm disturbance except asystole*	1	2	3	4	5
xi.	*no code*	1	2	3	4	5
xii.	*no ventilator*	1	2	3	4	5
xiii.	*do not defibrillate*	1	2	3	4	5
xiv.	*no code blue*	1	2	3	4	5
xv.	*comfort measures only in case of cardiac arrest*	1	2	3	4	5
xvi.	*no resuscitative medications*	1	2	3	4	5
xvii.	*no cardiopulmonary resuscitation but may countershock and may use medications*	1	2	3	4	5
xviii.	*no code but treat aggressively*	1	2	3	4	5
xviv.	*slow code*	1	2	3	4	5

		NEVER	RARELY	SOME TIMES	OFTEN	ALWAYS
xv.	*partial code*	1	2	3	4	5
xvi.	*chemical code only*	1	2	3	4	5
xvii.	*electrical code only*	1	2	3	4	5
xviii.	*all but cardiopulmonary resuscitation*	1	2	3	4	5
xix.	*do not institute heroic therapy*	1	2	3	4	5
xx.	*do not add new therapy*	1	2	3	4	5
xxi.	*withdraw life-sustaining therapy*	1	2	3	4	5
xxii.	*no transfusions*	1	2	3	4	5
xxiii.	*no antibiotics*	1	2	3	4	5
xxiv.	*Palliative care only*	1	2	3	4	5
xxiv.	*others (please specify) ______________*					

8. Have you noticed a change in trend with DNR orders in the last year?

Large increase	*1*
Moderate increase...................	*2*
Small increase	*3*
No change	*4*
Small decrease	*5*
Moderate decrease	*6*
Large decrease	*7*

9. How often are the following factors included in the documentation?

		NEVER	RARELY	SOME TIMES	OFTEN	ALWAYS
i.	*Why DNR is proposed*	1	2	3	4	5
ii.	*Who ordered the DNR status*	1	2	3	4	5
iii.	*Time frame of DNR order*	1	2	3	4	5
iv.	*Individual(s) involved in the decision-making*	1	2	3	4	5
v.	*Individual(s) giving consent*	1	2	3	4	5
vi.	*Pathophysiological events encompassed by the DNR order*	1	2	3	4	5

10. How often have you observed the following medical diagnoses to influence a DNR decision?

		NEVER	RARELY	SOME TIMES	OFTEN	ALWAYS
i.	*Congestive heart failure*	1	2	3	4	5
ii.	*Post-cardiac arrest*	1	2	3	4	5
iii.	*Respiratory failure*	1	2	3	4	5
iv.	*Respiratory infection*	1	2	3	4	5
v.	*Multiple trauma*	1	2	3	4	5
vi.	*Gastrointestinal failure*	1	2	3	4	5
vii.	*Peripheral vascular disease*	1	2	3	4	5

		Never	Rarely	Some times	Often	Always
viii.	*Pulmonary edema*	1	2	3	4	5
vix.	*Chronic obstructive pulmonary disease*	1	2	3	4	5
x.	*Multi-system failure*	1	2	3	4	5
xi.	*Neurologic failure*	1	2	3	4	5
xii.	*Gastrointestinal bleeding*	1	2	3	4	5
xiii.	*Thoracic neoplasm*	1	2	3	4	5
xiv.	*Metabolic failure*	1	2	3	4	5
xv.	*Rhythm disturbance*	1	2	3	4	5
xvi.	*Gastrointestinal perforation*	1	2	3	4	5
xvii.	*Gastrointestinal obstruction*	1	2	3	4	5
xviii.	*Post respiratory arrest*	1	2	3	4	5
xix.	*Renal failure*	1	2	3	4	5
xx.	*Sepsis*	1	2	3	4	5
xxi.	*Seizures*	1	2	3	4	5
xxii.	*Hematologic failure*	1	2	3	4	5
xxiii.	*Aspiration*	1	2	3	4	5
xxiv.	*Overdose*	1	2	3	4	5
xxv.	*Congenital heart defects*	1	2	3	4	5
xxvi.	*Lethal birth anomalies*	1	2	3	4	5
xxvii.	*Pulmonary hypoplasia*	1	2	3	4	5
xxviii.	*Lethal trisomy*	1	2	3	4	5
xxix.	*Low-birth-weight*	1	2	3	4	5
xxx.	*Low Apgar scores*	1	2	3	4	5
xxxi.	*Hypoxic-ischemic encephalopathy*	1	2	3	4	5
xxxii.	*Intraventricular hemorrhage*	1	2	3	4	5

11. How often have you observed the following patient demographics to influence a DNR decision?

		NEVER	RARELY	SOME TIMES	OFTEN	ALWAYS
i.	Age	1	2	3	4	5
ii.	Gender	1	2	3	4	5
iii.	Ethnic group	1	2	3	4	5
iv.	Place of residence (eg; home, independent living)	1	2	3	4	5
v.	Marital status	1	2	3	4	5

12. How often have you observed the following chronic health states to influence DNR decisions?

		NEVER	RARELY	SOME TIMES	OFTEN	ALWAYS
i.	*Diabetes*	1	2	3	4	5
ii.	*Hypertension*	1	2	3	4	5
iii.	*Angina*	1	2	3	4	5
iv.	*Chronic obstructive pulmonary disease (including asthma)*	1	2	3	4	5
v.	*Cerebral vascular arrest*	1	2	3	4	5
vi.	*Chronic neurological conditions*	1	2	3	4	5
vii.	*Chronic renal failure*	1	2	3	4	5
viii.	*Alcoholic cirrhosis*	1	2	3	4	5
ix.	*Mental illness*	1	2	3	4	5
x.	*Arthritis*	1	2	3	4	5
xi.	*Muscular degenerative diseases*	1	2	3	4	5

13. How often are the following medical therapies <u>initiated</u> following DNR orders?

		NEVER	RARELY	SOME TIMES	OFTEN	ALWAYS
i.	*Arterial lines*	1	2	3	4	5
ii.	*Ventilatory support*	1	2	3	4	5
iii.	*Central venous pressure monitoring*	1	2	3	4	5

		Never	Rarely	Some times	Often	Always
iv.	*Capnography*	1	2	3	4	5
v.	*Inotropic or vasopressor agents (eg; dopamine, epinephrine)*	1	2	3	4	5
vi.	*Vital signs monitoring*	1	2	3	4	5
vii.	*Electrocardiographic monitoring*	1	2	3	4	5
viii.	*Surgery*	1	2	3	4	5
ix.	*Antibiotic*	1	2	3	4	5
x.	*Pulmonary artery catheters*	1	2	3	4	5
xi.	*Intracranial pressure monitoring*	1	2	3	4	5
xii.	*Transcutaneous or transvenous pacemaker*	1	2	3	4	5
xiii.	*Specimen collection (eg; blood, urine, sputum)*	1	2	3	4	5
xiv.	*Blood products*	1	2	3	4	5
xv.	*Total parenteral nutrition*	1	2	3	4	5
xvi.	*Physiotherapy/Occupational therapy*	1	2	3	4	5
xvii.	*Hemodialysis*	1	2	3	4	5
xviii.	*Continuous arteriovenous hemofiltration dialysis (CAVH/D)*	1	2	3	4	5
xviv.	*Extracorporeal membrane oxygenation (ECMO)*	1	2	3	4	5
xx.	*Fluid therapy*	1	2	3	4	5
xxi.	*Intraortic balloon pump (IABP)*	1	2	3	4	5
xxii.	*Analgesics*	1	2	3	4	5
xxiii.	*Diagnostic Imaging (DI)*	1	2	3	4	5

14. How often are the following medical therapies withheld following DNR orders?

		Never	Rarely	Some times	Often	Always
i.	*Arterial lines*	1	2	3	4	5
ii.	*Ventilatory support*	1	2	3	4	5
iii.	*Central venous pressure monitoring*	1	2	3	4	5

		Never	Rarely	Some	Often	Always
iv.	*Capnography*	1	2	3	4	5
v.	*Inotropic or vasopressor agents (eg;*	1	2	3	4	5
vi.	*Vital signs monitoring*	1	2	3	4	5
vii.	*Electrocardiographic monitoring*	1	2	3	4	5
viii.	*Surgery*	1	2	3	4	5
ix.	*Antibiotic*	1	2	3	4	5
x.	*Pulmonary artery catheters*	1	2	3	4	5
xi.	*Intracranial pressure monitoring*	1	2	3	4	5
xii.	*Transcutaneous or transvenous pacemaker*	1	2	3	4	5
xiii.	*Specimen collection (eg; blood, urine, sputum)*	1	2	3	4	5
xiv.	*Blood products*	1	2	3	4	5
xv.	*Total parenteral nutrition*	1	2	3	4	5
xvi.	*Physiotherapy/Occupational therapy*	1	2	3	4	5
xvii.	*Hemodialysis*	1	2	3	4	5
xviii.	*Continuous arteriovenous hemofiltration dialysis (CAVH/D)*	1	2	3	4	5
xviv.	*Extracorporeal membrane oxygenation (ECMO)*	1	2	3	4	5
xx.	*Fluid therapy*	1	2	3	4	5
xxi.	*Intraortic balloon pump (IABP)*	1	2	3	4	5
xxii.	*Analgesics*	1	2	3	4	5
xxiii.	*Diagnostic Imaging (DI)*	1	2	3	4	5

15. How often do the following outcomes occur for DNR patients in your unit?

		NEVER	RARELY	SOME TIMES	OFTEN	ALWAYS
i.	Death in critical care setting	1	2	3	4	5
ii.	Transfer to floor to die	1	2	3	4	5
iii.	Transfer to floor for prolonged rehabilitation	1	2	3	4	5
iv.	Discharge from hospital	1	2	3	4	5
v.	Other (please specify) ______________________________					

16. How often do you experience the following feelings surrounding DNR decisions?

		NEVER	RARELY	SOME TIMES	OFTEN	ALWAYS
i.	*Relief*	1	2	3	4	5
ii.	*Frustration*	1	2	3	4	5
iii.	*Anger*	1	2	3	4	5
iv.	*Depression*	1	2	3	4	5
v.	*Indifference*	1	2	3	4	5
vi.	*Contentment*	1	2	3	4	5
vii.	*Anxiety*	1	2	3	4	5
viii.	*Confusion*	1	2	3	4	5
ix.	*Guilt*	1	2	3	4	5
x.	*Powerless*	1	2	3	4	5
xi.	Other (please specify)________________					

17. How often do you use the following strategies to help you in nursing DNR patients?

		NEVER	RARELY	SOME TIMES	OFTEN	ALWAYS
i.	*Avoidance of the patient*	1	2	3	4	5
ii.	*Do extras for the family (eg; bend visiting rules, chairs, coffee, information)*	1	2	3	4	5
iii.	*Request an assignment change*	1	2	3	4	5
iv.	*Believe the patient will improve*	1	2	3	4	5
v.	*Ensure the patient does not die alone*	1	2	3	4	5

		Never	Rarely	Some times	Often	Always
vi.	*Avoidance of the family*	1	2	3	4	5
vii.	*Emotional withdrawal from the patient*	1	2	3	4	5
viii.	*Change focus from the patient to the family*	1	2	3	4	5
ix.	*Regard the patient as dead*	1	2	3	4	5
x.	*Ensure the patient looks presentable*	1	2	3	4	5
xi.	*Emotional withdrawal from the family*	1	2	3	4	5
xii.	*Be with the patient when death occurs*	1	2	3	4	5
xiii.	*View the patient as an object*	1	2	3	4	5
xiv.	*Ensure the patient looks comfortable*	1	2	3	4	5

SECTION IV

Case 1

Mrs S., a 35 year old woman was admitted to the ICU with abdominal surgical sepsis 7 days ago. She now requires three inotropes to maintain a systolic blood pressure of 90 mm Hg, is ventilator dependent due to severe ARDS, has a Glascow coma score of 9, and requires dialysis for acute oliguric renal failure. Her extremities are gangrenous secondary to microemboli and high dose use of inotropes. Her past history includes controlled insulin dependent diabetes mellitus since the age of 15 years. She is married and has two children under the age of 10 years. Her in-laws and her parents visit her in ICU. Her husband and mother feel that the patient would not want this care and its subsequent consequences as they had discussed it with the patient before. The physician, on the other hand, feels that all aggressive treatment is appropriate and that this is not the time to designate the patient as DNR until further central nervous system deterioration or multi-system involvement occurs. He has informed the family of this and the family remains very uncomfortable with the decision.

Please answer questions 1 to 4 based on this case study.

1. Under these circumstances you would
   (Circle ALL responses that apply)

   Request that the ethics committee review the case *1*

   Ask the physician to reconsider his decision *2*

   Initiate another discussion with physician and family *3*

   Request that your unit supervisor get involved *4*

   Discuss this situation with your peers *5*

   Encourage the family to get a second opinion *6*

   Continue care plan as prescribed *7*

   Support the physician's decision *8*

2. While you are caring for this patient, she goes into ventricular fibrillation. You would:

   Initiate a full code *1*

   Delay in initiating a code *2*

   Notify the physician of the patient's death *3*

3. What are the factors, if any, which may make it difficult for you to care for Mrs. S.?

____

____

____

____

4. What would help you to care for Mrs. S.?

____

____

____

____

Case 2

Mr. T., a 79 year old male, was admitted to the CCU with pulmonary edema, bronchospasm, and wheezing subsequent to a myocardial infarction. He has a diagnosis of "end-stage" congestive heart failure and COPD. He is not a candidate for any cardiovascular surgery. Treatment is being administered with no significant improvement after 10 days of aggressive therapy. The cardiologist wishes to withdraw treatment but the family want "everything" done.

Please answer questions 5 and 6 based on this case study.

5. Does the physician have the right to make the decision to withdraw treatment?

Yes *1*

No *2*

Unsure *3*

Why?

____

____

____

6. As Mr. T.'s nurse what would you do?

____

____

____

____

7. Do you feel that a change is required in practice surrounding DNR status?

If yes, what can be done? If no, why not?

____

____

____

____

SECTION V

1. What is your highest completed level of education?

Diploma 1

Baccalaureate .... 2 *Other than nursing 3*

Baccalaureate (post basic)................... 4

Master's .... 5 *Other than nursing 6*

Doctorate .... 7 *Other than nursing 8*

Other (please specify) ________________________________

2. How many years have you been practising as a registered nurse?

Less than 1 year 1

1 year to less than 3 years 2

3 years to less than 5 years................................ 3

5 years to less than 10 years 4

10 years to less than 15 years 5

15 years or more 6

3. What current nursing position do you hold?

Staff nurse 1

Nurse manager 2

Nurse educator 3

Clinical nurse specialist 4

Other (please specify) ____________________

4. Have you taken a post-graduate course in critical care nursing?

Yes 1

No 2

5. Have you taken a course in ethics?

Yes *1*

No *2*

6. In what area do you primarily practice?

Medical/surgical intensive care (multi-system).................. *1*

Medical intensive care *2*

Neurological intensive care *3*

Surgical intensive care *4*

Trauma intensive care *5*

Coronary care *6*

Coronary surgical care *7*

Obstetrical intensive care *8*

Neonatal intensive care *9*

Other (please specify) ____________________________

7. The age for the patient population in your unit is:

Neonates *1*

0 - 11 mos *2*

1 - 15 yrs *3*

16 yrs and over *4*

All ages *5*

All ages except neonates *6*

8. The critical care bed capacity for your unit is

1 to 4 beds *1*

5 to 10 beds *2*

11 to 20 beds *3*

21 beds or more *4*

9. Your unit is considered to be what level of care?

Level I *1*

Level II *2*

Level III *3*

Unsure *4*

10. Your critical care unit is considered to be:

Open *1*
(where any physician has privileges to admit)

Closed *2*
(where admission is based on approval of the critical care attending physician)

11. Please indicate the number of hours/week you work in critical care.

37.5 hours or more *1*

15 to 37 hours *2*

Less than 15 hours *3*

12. How many years have you been practising in critical care?

Less than 1 year *1*

1 year to less than 3 years *2*

3 years to less than 5 years *3*

5 years to less than 10 years *4*

10 years to less than 15 years *5*

15 years or more *6*

13. Have you ever practised critical care nursing outside of Canada?

Yes .... *1* *(Go to question #14)*

No .... *2* *(Go to question #15)*

14. Where did you practice as a critical care nurse outside of Canada?

____

15. Please indicate the rotation that best describes the shift you work most frequently.

Days/Evenings/Nights.......................... *1*

Days/Evenings *2*

Days/Nights *3*

Days *4*

Evenings *5*

Nights *6*

16. Do you work overtime?

Yes *1*

No .... *2* *(Go to question #18)*

17. How many hours overtime do you work per month? ________

18. Why did you chose to work in critical care?

____

____

____

____

19. Please indicate if your hospital is considered to be a

Definitive care hospital *1*

Community hospital *2*

Other (please specify) __________________

20. The bed capacity for your hospital is

Less than 50 beds *1*

50 to 100 beds *2*

101 to 200 beds *3*

201 to 500 beds *4*

501 to 1000 beds *5*

1001 beds or more *6*

Unsure *7*

21. Please indicate the size of population in which your hospital is located.

> 100,000 .... *1*

< 100,000 .... *2*

> 3,000 .... *3*

< 3,000 .... *4*

Other (please specify) ________________________________

22. Which Alberta health region do you work in?

Chinook regional health authority *1*

Palliser health authority *2*

Headwaters health authority *3*

Calgary regional health authority *4*

Regional health authority #5 .... *5*

David Thomson regional health authority *6*

East Central regional health authority *7*

WestView regional health authority *8*

Crossroads regional health authority *9*

Capital health authority *10*

Aspen regional health authority *11*

Lakeland regional health authority *12*

Mistahia regional health authority *13*

Peace health region *14*

Keewestinok Lakes regional health authority *15*

Northern Lights regional health authority *16*

Northwestern health services region *17*

23. Please indicate your gender.

Female *1*

Male *2*

24. What year were you born? ____________________

25. Please indicate your religious preference

Protestant .... *1* *(Go to question #26)*

Catholic .... *2* *(Go to question #26)*

None *3*

Prefer not to answer..... *4*

Other (please specify) ______________________________ *(Go to question #26)*

26. How strong would you say your religious beliefs are?

NOT VERY STRONG						VERY STRONG
1	*2*	*3*	*4*	*5*	*6*	*7*

Any additional comments you may wish to make are welcome.

____

____

____

____

____

____

____

THANK YOU FOR TAKING THE TIME TO COMPLETE THIS QUESTIONNAIRE.

PLEASE RETURN THIS IN THE ENVELOPE PROVIDED BY SEPTEMBER 20, 1996.

Annex 3: The study instrument

Al-Quds University

Faculty of Public Health

Cover Letter

Dear Nurses;

My name is Nasser Dweib. I am a Master student in Faculty of Public Health, Al-Quds University. I am doing a research project to assess critical care nurses' knowledge, attitudes and practices of "do not resuscitate" (DNR) status in the critical care setting. Identifying the knowledge and practices of nurses of DNR status may lead to a better understanding of DNR status and consequently enhance the delivery of patient care.

Your participation in this study would involve completing the enclosed questionnaire which should take you about 20 minutes. The completed questionnaire will be collected after one week by the researcher. Do not put your name on the questionnaire or the return envelope. This study is voluntary and your consent will be implied with the return of the completed questionnaire. The responses will be safely stored in a locked filing cabinet.

The results will be presented in group form and your answers and the hospital in which you work will never be identified. If you have any questions or concerns, please don’t hesitate to contact me. A copy of the completed study will be available at the library of Al-Quds University.

Thank you for your participation in my research

Nasser K. Dweib
BSN, Master in Policy and Management Candidate
Bethlehem – Palestine
Email: nadweib@yahoo.com
Phone: 0598750118 – 0542721263

Section A

Please answer the following questions about respondent characteristics

1. What is your **gender**?

    1. Male   2. Female

2. What is your **age**? ______

3. What is your **religion**?

    1. Muslim   2. Christian   3. other ____________

4. How **strong** would you say your **religious beliefs** are:

NOT very strong **Very strong**

1 2 3 4 5 6 7

5. What is your highest **completed** level of education?

    1. Diploma   2. Bachelor   3. Master's
    4. Doctorate   5. Other ________________

6. How many **years** have you been practicing as a **registered nurse**? _______

7. How many **years** have you been practicing in **critical care**? _______

8. What current nursing **position** do you hold?

    1. Staff nurse   2. Nurse manager   3. Nurse educator
    4. Practical Nurse   5. Other _______________

9. Have you taken **a post-graduate course in critical care** nursing / neonate / pediatric intensive care?

    1. Yes   2. No

10. Have you taken a **course / training** in ethics?

    1. Yes   2. No

11. In what **area** do you primarily practice?

    1. Medical and Surgical ICU   2. Medical ICU
    3. Surgical ICU   4. Neurological ICU
    5. Coronary care unit CCU   6. Neonatal ICU
    7. Pediatric ICU   8. Pediatric cardiac ICU

12. The age of the **patient population** in your unit is:

1. Neonates 2. 1-11 Months 3. 1-15 Years
4. 16 years and over 5. All ages except neonates 6. All ages

13. The critical care **bed capacity** for your unit is: _______

14. Please indicate the average of **hours / week** you work in critical care _______

15. Do you work **overtime** in **other** units / institutions?

1. Yes 2. No

16. Please indicate the **rotation** that best describes the shift you work most frequently.

1. Days 2. Evenings 3. Nights
4. Days/Evenings 5. Evening/Night 6. Days/Evening/Nights

Section B

Please answer the following questions about DNR orders:

1. How would you define "do not resuscitate" (DNR)?
   1. DNR is withholding escalation of therapy which can prolong life.
   2. DNR is a status by which removal of life sustaining therapy is done due to lack of opportunity to recover.
   3. DNR is withholding cardiopulmonary resuscitation in case of cardiac, respiratory or cardiopulmonary arrest.

2. Do you associate DNR with **no care**?

   1. Yes   2. No   3. Unsure

3. Is informed **consent** required for a DNR designation?

   1. Yes   2. No

4. Can a DNR order be **overruled** (تُتخطى \ تُرفض)?

   1. Yes   2. No

5. Who can overrule a DNR? **(Please circle <u>All</u> responses that apply)**

   1. Physician   2. Family   3. Nurse
   4. Patient   5. other ________________

6. Who is **responsible** for the designation (تصميم \ قرار) of DNR order?

   1. Physician   2. Family   3. Nurse
   4. Patient   5. other ________________

7. Who of the following can <u>**legally**</u> give DNR consent? **(Please circle <u>All</u> responses that apply)**

   1. Physician   2. Family   3. Nurse
   4. Patient   5. Relatives   6. other ____________

8. Does a DNR designation involve additional **therapeutic limits** (eg: stay of treatment, decreasing inotropes, discontinuing ventilation)?

   1. Yes   2. No   3. Unsure

9. Legally, should attempts be made to resuscitate all patients <u>**unless**</u> there is a DNR order written?

   1. Yes   2. No   3. Unsure

Section C

Please answer the following questions about attitude toward DNR order

1. Who should be involved in ensuring the existence of DNR policy? **(Please circle <u>All</u> responses that apply)**

   1. Physicians 2. Nurses 3. Administration
   4. Ethical committee 5. other ________________

2. Why are DNR orders written? **(Please circle <u>All</u> responses that apply)**

   1. Quality of life after CPR would be poor
   2. Present quality of life is poor / inacceptable
   3. Medical futility (عدم الجدوى من العلاج)
   4. Unsure

3. Indicate whether you **<u>agree</u>** or **<u>disagree</u>** with the following statements concerning **DNR status** by circling the appropriate response for each item.

		Strongly Disagree	Disagree	Unsure	Agree	Strongly Agree
a.	DNR is closely linked to Euthanasia (القتل الرحيم)	1	2	3	4	5
b.	DNR suggests that any form of resuscitation should not be administered	1	2	3	4	5
c.	DNR designation indicates that the patient has a potentially reversible condition as long as they do not arrest.	1	2	3	4	5
d.	DNR status should be well documented in patient charts.	1	2	3	4	5
e.	An institutional and/or unit specific DNR policy is necessary to facilitate nursing practice	1	2	3	4	5
f.	A DNR policy limits flexibility in considering individual circumstances surrounding DNR decisions.	1	2	3	4	5
g.	Patient input is important in the DNR decision	1	2	3	4	5

		Strongly Disagree	Disagree	Unsure	Agree	Strongly Agree
h.	Family input is important in the DNR decision	1	2	3	4	5
i.	Even though requested by patient and/or family a DNR order does not have to be ordered.	1	2	3	4	5
j.	Physicians are hesitant (مترددين) about writing DNR orders.	1	2	3	4	5
k.	Admission to a critical care unit is inappropriate for DNR patient.	1	2	3	4	5
l.	Withdrawal of ventilatory support is a late decision for DNR patients.	1	2	3	4	5
m.	DNR patients should have al1 therapy maintained until they die.	1	2	3	4	5
n.	DNR patients should have nursing care maintained until they die.	1	2	3	4	5
o.	DNR orders should be followed by withdrawal of aggressive therapeutic interventions.	1	2	3	4	5
p.	Use of narcotics and/or anxiolytics (eg; Morphine, Assival) increases for the DNR patient	1	2	3	4	5
q.	There is support for coping with situations involving DNR status	1	2	3	4	5
r.	DNR patients require higher levels of nursing care than all other patients.	1	2	3	4	5
s.	Abnormal laboratory values/disorders will not be treated in the DNR patient.	1	2	3	4	5
t.	If there is no written DNR order, you immediately initiate CPR when the patient arrests, even when survival of the patient is unlikely.	1	2	3	4	5

		Strongly Disagree	Disagree	Unsure	Agree	Strongly Agree
u.	Previous exposure to patients who were expected to die but survived influences a person's attitude towards DNR status	1	2	3	4	5
v.	Nurses perceive DNR designation different from other health care professionals.	1	2	3	4	5
w.	Timing of DNR discussions is critical.	1	2	3	4	5

4. indicate whether you **agree** or **disagree** with **discontinuing** any of the following, once a patient is designated DNR

		Strongly Disagree	Disagree	Unsure	Agree	Strongly Agree
a.	Arterial line	1	2	3	4	5
b.	Mechanical ventilation	1	2	3	4	5
c.	Central venous monitoring line	1	2	3	4	5
d.	Capnography	1	2	3	4	5
e.	Inotropic or vasopressor agent	1	2	3	4	5
f.	Frequency of vital signs monitoring	1	2	3	4	5
g.	ECG monitoring	1	2	3	4	5
h.	Surgery	1	2	3	4	5
i.	Antibiotics	1	2	3	4	5
j.	Pulmonary artery catheter	1	2	3	4	5
k.	Intracranial pressure monitoring	1	2	3	4	5
l.	Pacemaker	1	2	3	4	5
m.	Specimen collection	1	2	3	4	5
n.	Blood products	1	2	3	4	5

		Strongly Disagree	Disagree	Unsure	Agree	Strongly Agree
o.	Total parenteral nutrition (TPN)	1	2	3	4	5
p.	Physiotherapy / Occupational therapy	1	2	3	4	5
q.	Hemodialysis / Hemofiltration	1	2	3	4	5
r.	Extracorporeal membrane oxygenation (ECMO)	1	2	3	4	5
s.	Fluid therapy	1	2	3	4	5
t.	Intra-aortic balloon pump (IABP)	1	2	3	4	5
u.	Analgesics	1	2	3	4	5
v.	Diagnostic imaging	1	2	3	4	5

5. Indicate whether you **agree** or **disagree** with the following **factors** influencing DNR decision

5.1. **Institutional** factors

		Strongly Disagree	Disagree	Unsure	Agree	Strongly Agree
a.	Length of stay in hospital	1	2	3	4	5
b.	Risk of legal complications	1	2	3	4	5
c.	Hospital policy	1	2	3	4	5
d.	Cost	1	2	3	4	5
e.	Need for ICU bed	1	2	3	4	5

5.2. **Family** factors

		Strongly Disagree	Disagree	Unsure	Agree	Strongly Agree
a.	Family requests DNR	1	2	3	4	5
b.	Religious conviction (إدانة)	1	2	3	4	5
c.	Socioeconomic status	1	2	3	4	5

5.3. **Patient** factors

		Strongly Disagree	Disagree	Unsure	Agree	Strongly Agree
a.	Patient requests DNR	1	2	3	4	5
b.	Patient's medical diagnosis	1	2	3	4	5
c.	Quality of life	1	2	3	4	5
d.	Functional status	1	2	3	4	5
e.	Benefit of treatment	1	2	3	4	5
f.	Discomfort	1	2	3	4	5
g.	Mental status	1	2	3	4	5
h.	Chronic health status	1	2	3	4	5
i.	Severity of illness	1	2	3	4	5
j.	Poor prognosis	1	2	3	4	5
k.	Length of hospital stay	1	2	3	4	5
l.	Substance abuse	1	2	3	4	5
m.	Religious conviction	1	2	3	4	5
n.	Socioeconomic status	1	2	3	4	5
o.	Compliance with medical care	1	2	3	4	5
p.	Level of consciousness	1	2	3	4	5
q.	Age	1	2	3	4	5
r.	Lifestyle	1	2	3	4	5

Section D

Please answer the following questions about practice of DNR order

1. Does your institution have a **DNR policy**?

1. Yes   2. No   3. Unsure

2. Who is **actually involved** in decision making of DNR status?

		Yes	No	Unsure
a.	Nurses	1	2	3
b.	Physicians	1	2	3
c.	Resident	1	2	3
d.	Religion leader	1	2	3
e.	Patient	1	2	3
f.	Family	1	2	3

3. The length of stay in your unit for patients **after** being designated as DNR is:

1. 0-5 days   2. 6-10 days   3. 11-30 days
4. 30 days and more   5. Unsure

4. How often are **you involved** in each of the following situations?

		Never	Rarely	Some times	Often	Always
a.	Direct care for DNR patient	1	2	3	4	5
b.	DNR decision	1	2	3	4	5
c.	Input in DNR decision making	1	2	3	4	5
d.	Initiating DNR discussion with team	1	2	3	4	5
e.	Witness disagreement between patient/family and physician in regards to DNR status	1	2	3	4	5
f.	Inform the physician of patient & family readiness to discuss DNR	1	2	3	4	5

5. When a patient is designated as DNR status, **how often** do you **see** the following orders?

		Never	Rarely	Some times	Often	Always
a.	DNR (do not resuscitate)	1	2	3	4	5
b.	comfort measures only	1	2	3	4	5
c.	do not intubate	1	2	3	4	5
d.	no cardiopulmonary resuscitation	1	2	3	4	5
e.	treat with medications only	1	2	3	4	5
f.	Code 1	1	2	3	4	5
g.	do not resuscitate from spontaneous arrest	1	2	3	4	5
h.	no code	1	2	3	4	5
i.	no ventilator	1	2	3	4	5
j.	do not defibrillate	1	2	3	4	5
k.	no code blue	1	2	3	4	5
l.	no code but treat aggressively	1	2	3	4	5
m.	Slow code	1	2	3	4	5
n.	Partial code	1	2	3	4	5
o.	Chemical code only	1	2	3	4	5
p.	Electrical code only	1	2	3	4	5
q.	Do not add new therapy	1	2	3	4	5
r.	withdraw life-sustaining therapy	1	2	3	4	5
s.	no antibiotics	1	2	3	4	5
t.	Palliative care only	1	2	3	4	5
u.	Other ____________________________					

6. Have you noticed a **change in trend** with DNR orders in the last year?

1. Large increase
2. Small increase
3. No change
4. Small decrease
5. Large decrease

7. How often have you observed the following **chronic health States to influence DNR** decisions?

		Never	Rarely	Some times	Often	Always
a.	Diabetes	1	2	3	4	5
b.	Hypertension	1	2	3	4	5
c.	Angina	1	2	3	4	5
d.	COPD	1	2	3	4	5
e.	CVA	1	2	3	4	5
f.	Chronic neurological condition	1	2	3	4	5
g.	Chronic renal failure	1	2	3	4	5
h.	Cirrhosis	1	2	3	4	5
i.	Mental illness	1	2	3	4	5
j.	Arthritis	1	2	3	4	5
k.	Muscular degenerative disease	1	2	3	4	5

8. How often have you observed the following **medical diagnoses to influence a DNR** decision?

		Never	Rarely	Some times	Often	Always
a.	Congenital heart disease	1	2	3	4	5
b.	Post-cardiac arrest	1	2	3	4	5
c.	Respiratory failure	1	2	3	4	5
d.	Respiratory infection	1	2	3	4	5
e.	Multiple trauma	1	2	3	4	5
f.	Gastrointestinal failure	1	2	3	4	5

		Never	Rarely	Some times	Often	Always
g.	Peripheral vascular disease	1	2	3	4	5
h.	Pulmonary edema	1	2	3	4	5
i.	COPD	1	2	3	4	5
j.	Multi-organ failure	1	2	3	4	5
k.	Neurologic failure	1	2	3	4	5
l.	GI bleeding	1	2	3	4	5
m.	Thoracic neoplasm	1	2	3	4	5
n.	Metabolic disease	1	2	3	4	5
o.	Arrhythmia	1	2	3	4	5
p.	GI obstruction	1	2	3	4	5
q.	Renal failure	1	2	3	4	5
r.	Sepsis	1	2	3	4	5
s.	Seizures	1	2	3	4	5
t.	Hematologic disease	1	2	3	4	5
u.	Aspiration	1	2	3	4	5
v.	Overdose	1	2	3	4	5
w.	Lethal birth abnormalities	1	2	3	4	5
x.	Pulmonary hypoplasia	1	2	3	4	5
y.	Lethal trisomy	1	2	3	4	5
z.	ARDS	1	2	3	4	5
a*	Low-birth weight	1	2	3	4	5
b*	Low APGAR score	1	2	3	4	5
c*	Encephalopathy	1	2	3	4	5
d*	Intraventricular hemorrhage	1	2	3	4	5

9. How often are the following medical therapies **initiated** following DNR orders?

		Never	Rarely	Some times	Often	Always
a.	Arterial line	1	2	3	4	5
b.	Mechanical ventilation	1	2	3	4	5
c.	Central venous monitoring line	1	2	3	4	5
d.	Capnography	1	2	3	4	5
e.	Inotropic or vasopressor agent	1	2	3	4	5
f.	Frequency of vital signs monitoring	1	2	3	4	5
g.	ECG monitoring	1	2	3	4	5
h.	Surgery	1	2	3	4	5
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k.	Intracranial pressure monitoring	1	2	3	4	5
l.	Pacemaker	1	2	3	4	5
m.	Specimen collection	1	2	3	4	5
n.	Blood products	1	2	3	4	5
o.	Total parenteral nutrition (TPN)	1	2	3	4	5
p.	Physiotherapy / Occupational therapy	1	2	3	4	5
q.	Hemodialysis / Hemofiltration	1	2	3	4	5
r.	Extracorporeal membrane oxygenation (ECMO)	1	2	3	4	5
s.	Fluid therapy	1	2	3	4	5
t.	Intra-aortic balloon pump (IABP)	1	2	3	4	5
u.	Analgesics	1	2	3	4	5
v.	Diagnostic imaging	1	2	3	4	5

10. How often do the following **outcomes** occur for DNR patients in your unit?

		Never	Rarely	Some times	Often	Always
a.	Death in ICU	1	2	3	4	5
b.	Transfer to other ward to die	1	2	3	4	5
c.	Transfer for prolonged rehabilitation	1	2	3	4	5
d.	Discharge from hospital	1	2	3	4	5
e.	Other ____________________________					

11. How often do you experience the following **feelings** about DNR decisions?

		Never	Rarely	Some times	Often	Always
a.	Relief	1	2	3	4	5
b.	Frustration	1	2	3	4	5
c.	Anger	1	2	3	4	5
d.	Depression	1	2	3	4	5
e.	Indifferent	1	2	3	4	5
f.	Anxiety	1	2	3	4	5
g.	Confusion	1	2	3	4	5
h.	Guilt	1	2	3	4	5
i.	Powerless	1	2	3	4	5
j.	Other ____________________________					

12. Any additional comments you may wish to make are welcome:

Thank you for your time

Annex 4: Experts Reviewers of the Study Tool

Motasem Hamdan, PhD. Associate Prof. Health Policy& Management. Dean, School of Public Health. Al-Quds University. Jerusalem.

Mohammad Shahin, PHD. Associate Prof. Public Health. School of Public Health. Al-Quds University. Jerusalem-Palestine

Nizar Hijjeh, MD PHD. Pediatric Cardiac Surgeon. Palestine Pediatric Heart Center. Al-Makassed Islamic Charitable Hospital. Jerusalem-Palestine

Hussein Jabareen, PhD, Associate Prof. Community & Public Health. Dean of Nursing College. Hebron University. Hebron-Palestine

Maryam Rassouli. PhD, RN. Associate professor. Nursing & Midwifery School, Shahid Beheshti University of Medical Sciences. Iran

Hussein Abu-Ali. MSc, RN. Statistician. Al-Makassed Islamic Charitable Hospital. Jerusalem-Palestine

Annex5: Research Ethical Committee Decision Letter

Al-Quds University
Jerusalem
Deanship of Scientific Research

جامعة القدس
القدس
عمادة البحث العلمي

Research Ethics Committee
Committee's Decision Letter

Date: 14/3/2018
Ref No: 41/REC/2018

Dear Mr. Nasser Dweib, Dr. Asma Imam,

Thank you for submitting your application for research ethics approval. After reviewing your application entitled "Do Not Resuscitate Status: Knowledge, Attitude and Practice of Critical Care Nurses in Palestine" the Research Ethics Committee (REC) confirms that your application is in accordance with the research ethics guidelines at Al-Quds University.
We would appreciate receiving a copy of your final research report/ publication.

Thank you again and wish you a productive research that serves the best interests of your subjects.

Dr. Dina M. Bitar
Research Ethics Committee Chair

Cc. Prof. Imad Abu Kishek - President
Cc. Members of the committee
Cc. file

Abu-Dies, Jerusalem P.O.Box 20002 | **أبوديس، القدس ص.ب. 20002**
Tel-Fax: #970-02-2791293 | research@admin.alquds.edu | **تلفاكس: 2791293-02-970#**

Annex6: Approval to conduct research in the selected hospitals

State of Palestine
Ministry of Health - Nablus
General Directorate of Education in Health

دولة فلسطين
وزارة الصحة- نابلس
الإدارة العامة للتعليم الصحي

Ref.: ....
Date:..................

رقم: ع.ت.ص/٣٩٩/٢٠١٨
تاريخ: ٢٠١٨/٣/١

الأخ مدير عام الادارة العامة للمستشفيات المحترم،،،
الأخ مدير مجمع فلسطين الطبي المحترم،،،
تحية واحترام،،،

الموضوع: تسهيل مهمة طالب ماجستير

يرجى تسهيل مهمة الطالب: ناصر ذويب- ماجستير السياسات والادارة الصحية- جامعة القدس، في عمل مشروع بحثي بعنوان: "Do not resuscitate status: knowledge, attitude and practice of critical care nurses in Palestine"، لذا يرجى تسهيل مهمته في الحصول على معلومات من خلال تعبئة استبانة من الممرضين العاملين في أقسام العناية المكثفة (بعد اخذ موافقتهم على المشاركة)، وذلك في:

- **مستشفى بيت جالا الحكومي**
- **مجمع فلسطين الطبي**

علما بأنه سيتم الالتزام بمعايير البحث العلمي والحفاظ على سرية المعلومات. كما يرجى العلم ان مشرف البحث: د. أسمى الامام.

مع الاحترام،،،

د. امل أبو عوض
مدير عام التعليم الصحي

نسخة: عميد كلية الصحة العامة المحترم/ جامعة القدس

P.O .Box: 14
TelFax: 09-2333901

ص.ب. 14
تلفاكس: 09-2333901

Suhad Abedrabbo

From:	Nasser Dweib <nadweib@yahoo.com>
Sent:	Saturday, March 17, 2018 11:25 AM
To:	info@almakassed.org
Subject:	Research
Attachments:	signature-1.gif; Untitled attachment 00015.htm; 2018-03-17 11.06.53.pdf; Untitled attachment 00018.htm; Abstract and objectives.pdf; Untitled attachment 00021.htm; Final Questionnaire.pdf; Untitled attachment 00024.htm
Follow Up Flag:	Follow up
Flag Status:	Flagged

Dear Dr. Bassam;

I am Nasser Dweib, second year Health Policy and Management master student at Al-Quds University and staff nurse at pediatric cardiac ICU in Al-Makassed Hospital.

Im doing my thesis about DNR status and i want to distribute my questionnaire in Al-Makassed, can you please find the attached documents which include a letter from the university, the questionnaire and the objectives of the study.

Regards

Nasser K. Dweib RN, BSN
ECMO Specialist
Staff Nurse - PCICU - Makassed Islamic Charitable Hospital - Jerusalem
Bethlehem - Palestine
+970 598 750 11 8 | +972 54 27 21 26 3

مرفق البيانات المطلوبة
٢١/٣/٢٠١٨

لا مانع
21/3/2018

Al-Quds University
Jerusalem
School of Public Health

جامعة القدس
القدس
كلية الصحة العامة

التاريخ: 2018/3/13

حضرة الدكتور يوسف التكروري المحترم
مدير مستشفى الأهلي/ الخليل

الموضوع: تسهيل مهمة الطالب ناصر ذويب

تحية طيبة وبعد،،

يقوم الطالب ناصر ذويب برنامج ماجستير السياسات والإدارة الصحية/ كلية الصحة العامة/ جامعة القدس بإجراء بحث الرسالة بعنوان:

"Do Not Resuscitate Status: Knowledge, Attitude and Practice of Critical Care Nurses in Palestine".

وهو بحاجة إلى توزيع استبانه الدراسة على التمريض في أقسام العناية المكثفة في مستشفى الأهلي/ الخليل. نرجو من حضرتكم السماح للطالب بتوزيع الاستبانه على عينة الدراسة المطلوبة. علماً بان الدراسة ستكون لأغراض البحث العلمي فقط.

وتفضلوا بقبول فائق الاحترام،،

اسماعيل عمرو
مدير التمريض
المستشفى الأهلي
26/3/2018

د. معتصم حمدان
عميد كلية الصحة العامة
Faculty of Public Health

مرفق طيه : الاستبانه وأهداف الدراسة

نسخة: الملف

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Al-Quds University
Jerusalem
School of Public Health

جامعة القدس
القدس
كلية الصحة العامة

التاريخ: 2018/3/13

حضرة الدكتور سليم الحاج يحيى المحترم
مدير مستشفى النجاح الوطني الجامعي ا نابلس

الموضوع: تسهيل مهمة الطالب ناصر ذويب

تحية طيبة وبعد،،

يقوم الطالب ناصر ذويب برنامج ماجستير السياسات والإدارة الصحية/ كلية الصحة العامة/ جامعة القدس بإجراء بحث الرسالة بعنوان:

"Do Not Resuscitate Status: Knowledge, Attitude and Practice of Critical Care Nurses in Palestine".

وهو بحاجة إلى توزيع استبانه الدراسة على التمريض في أقسام العناية المكثفة في مستشفى النجاح الجامعي/ نابلس. نرجو من حضرتكم السماح للطالب بتوزيع الاستبانه على عينة الدراسة المطلوبة. علماً بان الدراسة ستكون لأغراض البحث العلمي فقط.

وتفضلوا بقبول فائق الاحترام،،

د. معتصم حمدان
عميد كلية الصحة العامة

مرفق طيه : الاستبانه وأهداف الدراسة

نسخة: الملف

مستشفى النجاح الوطني الجامعي
22-04-2018

Jerusalem
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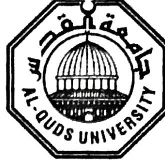
ص.ب. 51000 القدس
البريد الالكتروني: sphealth@admin.alquds.edu

Al-Quds University
Jerusalem
School of Public Health



جامعة القدس
القدس
كلية الصحة العامة

التاريخ: 2018/3/20

حضرة الدكتور ادمون شحادة المحترم
مدير مستشفى الجمعية العربية للتأهيل

الموضوع: تسهيل مهمة الطالب ناصر ذويب

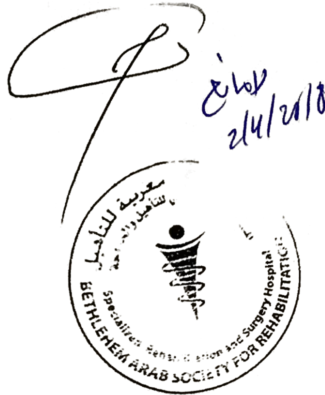
تحية طيبة وبعد،،

يقوم الطالب ناصر ذويب برنامج ماجستير السياسات والإدارة الصحية/ كلية الصحة العامة/ جامعة القدس بإجراء بحث الرسالة بعنوان:

"Do Not Resuscitate Status: Knowledge, Attitude and Practice of Critical Care Nurses in Palestine".

وهو بحاجة إلى توزيع استبانه الدراسة على التمريض في أقسام العناية المكثفة في مستشفى الجمعية العربية للتأهيل. نرجو من حضرتكم السماح للطالب بتوزيع الاستبانه على عينة الدراسة المطلوبة. علماً بان الدراسة ستكون لأغراض البحث العلمي فقط.

وتفضلوا بقبول فائق الاحترام،،



موافق
2/4/2018

كلية الصحة العامة
Faculty of Public Health
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