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Assessment of Standards of Quality Care and Nurses' Performance in Neonatal Units at Governmental Hospitals in the West Bank

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Thesis Approval

Assessment of Standards of Quality Care and Nurses' Performance in Neonatal Units at Governmental Hospitals in the West Bank

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Jerusalem- Palestine

1431/2010

Dedication

To my father, God bless him
To my mother, wishing her wellness and good health
To whom I owe every success in my life, my dear husband Talal
To my precious little daughter Hiba
To my brother, and sisters
To Dr. Asma Imam for her efforts
I dedicate the fruit of this effort

الى والدي الكريم رحمه الله
الى والدتي الكريمه متمنية لها دوام الصحة والعافيه
الى من أدين له بكل خطوة نجاح في حياتي زوجي طلال
الى طفلتي الصغيره الغاليه هبه
الى أخي واخواتي
الى د. أسما إمام على جهودها
أهدي ثمرة هذا الجهد

Signature

Declaration

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

Signed

Dalia Rahmi Toqan

Date: 16 / 6/ 2010

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Abstract

Improving the quality of health care becomes the primary concern of all health. Neonatal nurses are part of the healthcare providers and they should be knowledgeable about the quality health services in order to perform their roles in improving outcomes of newborns.

The purpose of this study was to assess the standards of quality care and performance of neonatal nurses at governmental hospital in West Bank/ Palestine. A quantitative descriptive design was used to determine and describe the relationships existed between selected variables. Two questionnaires were formulated by using international standards for quality of care and international standards for neonatal nurses' performance, the two questionnaires were modified to fit the Palestinian hospitals. The questionnaires were tested for validity and reliability by using Chronbach alpha and with the help of experts in fields of quality and neonatology.

The population of the study consisted of all neonatal nurses working at 7 governmental hospitals in West Bank/Palestine. A total of 84 nurses were targeted and invited to participate in this study. Responding rate was 96%.

After data collection and analysis, the results of this study showed that the overall level of application of standards of quality care standards was moderate in the following standards (newborn assessment, neonatal nursing care, medication management and use, family education, infection control, and qualification and education).

The neonatal nurses who were older, had more experience years, and had less educational degrees applicated standards of quality care more than younger, less experienced and had more educational degrees nurses. On the other hand there was no significant difference for place of residence, and gender, and application of standards of quality care.

The overall of application of standards of performance was moderate in the following standards (quality of practice, education, and collaboration). On the other hand was high in the following standards (professional practice evaluation, ethics, resource utilization and leadership).

The neonatal nurses who are older, had more experience years, and had 3 years diploma degree applicated standards more than younger, less experienced, and had 2 years diploma degree or BA degree.

The result of this study showed that there was a positive relationship between nurses: incubator ratio and the application of standards of quality care and standards of performance among the neonatal nurses. Moreover, there were no significant differences between application of performance standards and place of residence or gender of neonatal nurses.

In the light of study findings, similar studies that focus on the issue of quality in the governmental hospitals be conducted in order to ensure continuous application of quality in the neonatal units. Moreover developing quality team in the neonatal units, and providing training programs for neonatal nurses and enforcing nursing care standards in all neonatal units.

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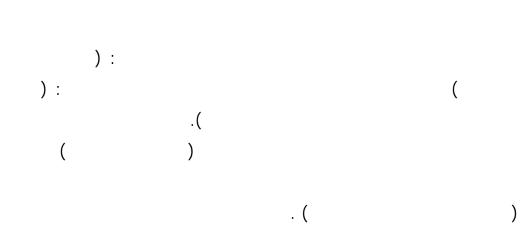
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List of abbreviations

ANA   American Nursing Association
ANOVA   Analysis of Variance
B.A   Bachelor degree
DF   Degree of Freedom
F   Frequency
JCOAH   Joint Commission of Accreditation of Hospitals
M   Mean
MA   Master Degree
MOH   Ministry of Health
NICU   Neonatal intensive care unit
NO.   Number
NANN   National Association for Neonatal Nursing
PCBS   Palestinian Central Bureau of Statistics
PhD   Doctor of Philosophy
SD   Standard Deviation
SPSS   Statistical Package for Social Science
WB   West Bank
WHO   World Health Organization

CHAPTER ONE

Introduction

Maintaining and improving care require active involvement of everyone in health care system in order to meet the need for evaluating health care in its totality as well as to identify whether there has been an effective and appropriate care. Everyone in health care must be engaged in the evaluation of activities to be effective and of high quality.

Today's approaches to managing and improving quality in health care are moving in a new and positive direction. "While strategies in the movement may vary somewhat among applications in different settings, in general, the new efforts in quality improvement can be characterized as organization-wide, collaborative, enthusiastic, and focused on refining processes of care rather than assigning blame to people" (Schoroeder, 1994, p.179). The goal of quality initiatives in many health care organizations has been shifted from achieving accreditation to improving care and service. Philosophically, quality has been shifted from mandate to opportunity and many organizations can accurately claim improvement in both effectiveness and efficiency as a result of the new commitment and approach to quality (Schoroeder, 1994, p.183).

The quality is" the major component of neonatal health care, and it demands participation from nurses rendering care" (Merrelli, 2000, p.194). Further, nurses are recognized as leaders of quality services in neonatal care settings (Surgue, 2004).

The neonatal period comprises of the first 28 days of life. It is the most important single period in all of infancy and childhood during which the highest mortality occurs (Campell and Micintoch, 1998). During this period, neonates undergo various physiological changes, and in a certain stage they require further care. Moreover, every neonate should have his/her right in an effective and a complete nursing care in order to be safe against the possible morbidity and probably mortality (Draper, 2003).

1.1Problem Statement

The quality of care given within any hospital is measured by performances of the health care providers, and nurses are considered essential providers, since they play a major role in providing nursing care to those patients who seek health care during their illness. In addition, performance should be effective and efficient in order to achieve the goal.

There is a relationship between quality of care and performance of nurses in neonatal units, so it is important to assess the nurse's performance in the Neonatal Intensive Care Units (NICU) which should depend on group of standards of care which are documented and developed by professionals in order to establish a level of practice agreed upon by members. This relationship is revealed by Hurber (2000) when he clarified that these documents reflect the minimum expectations required by professionals for a safe practice. As a result, nurses should be knowledgeable about professional standards of care or practice, and should perform within those guidelines.

It is observed that the majority of neonatal nurses working in the Palestinian governmental hospitals have weakness in their clinical performances which is related to a great lack of commitment to quality. This could be attributed to the absence of a standardized operational system which defines all types of processes and procedures done for neonates, in addition to the fact that neonatal nurses rely on their knowledge and skills in applying those procedures and skills that is badly reflected on the quality of care provided to neonates.

Therefore, this study assessed standards of quality care and the level in which neonatal nurses' performance fits with the approved standards of quality care during their practice MOH and neonatal units.

1.2 Justification for the study

Standards of care are considered as the cornerstone for any performance done in any hospital unit, since this acts as guideline for all kinds of procedures that are to be performed for the hospitalized patients. Standards of quality care can be described as an "authoritative statement which describe a common or acceptable level of care or performance by which quality of practice can be determined" (Ellis and Huber, 2000, p.12).

Mortality and morbidity rates are also considered as indicators for performance and these indicators can be used for measuring the quality of care as pointed by Rowland and Rowland (1997). Moreover, mortality rate is a critical indicator in the overall health and welfare of a region. Further, it is observed that the mortality rate among neonates admitted to governmental hospitals in the West Bank is high the year (2008) for as shown in table (1.1)

Table (1.1): Avarage neonatal admission and monthly mortality rate at governmental neonatal departments (2008)

Name of Hospital	Number of incubators	Number of nurses	Average Monthly admission	A average monthly Mortality Rate
Nablus	26	21	136	10
Jenin	12	11	70	9
Tulkarem	6	13	39	2.8
Ramallah	10	9	30	4.7
Hebron	18	12	73	10.5
Salfit	3	5	13	0.3
Jerico	4	13	24	0.1
Total	**86**	**84**	**367**	**37.4**

Source: Health Information Center of Palestinian Ministry of Health (MOH 2008)

As it is illustrated in the table (1.1) the mortality rate is high in relation to the number of admissions and this might be attributed to several factors. Some of these factors could be related to (1) nurses' performances in neonatal units, (2) absence of written standards of quality, (3) work overload (4) physician practice, (5) lack of studies given in this area, (6) discrepancies among figures of neonatal mortality and morbidities, and (7) lack of continuing education related to the issue of quality of care for neonatal nurses.

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This study was conducted to assess the standards of quality care and nurse's performance in neonatal units at governmental hospitals.

1.3 Purpose of the study

The main aim of this study is to assess the application of standards of quality care and nurse's performance in neonatal units at governmental hospitals.

1.4 Objectives of the study

The main objectives of the study were:

1. To determine the current level of standards of quality care and nurses performance;
2. To compare level of standards of quality care and standards of nurses performance among the governmental hospitals;
3. To determine the relationship between sociodemographic variables (age, gender, place of residence, educational level, years of experience) and the level of quality of care.
4. To determine the relationship between sociodemographic variables (age, gender, place of residence, educational level, years of experience) and the level of nurses' performance in neonatal units in governmental hospitals;
5. To determine the relationship between the organizations' related variable such as number of nurses: incubators number ratio in neonatal units and the level application of standards of quality of care and nurses' performance in neonatal units in governmental hospitals.

1.5 Study Questions

The study was conducted to answer the following questions:

1. What is the current level of standards of quality care in neonatal units?
2. What is the level of neonatal nurses' performance in the neonatal units?

1.6 Study hypothesis

The following hypotheses were tested at significance level of ($\alpha \leq 0.05$):

1- There are no significant differences in application of standards of quality care among nurses working in neonatal units at governmental hospitals in the West Bank related to age
2- There are no significant differences in application of standards of quality care among nurses working in neonatal units at governmental hospitals in the West Bank related to gender.
3- There are no significant differences in application of standards of quality care among nurses working in neonatal units at governmental hospitals units in West Bank related to place of residence.
4- There are no significant differences in application of standards of quality care among nurses working in neonatal units at governmental hospitals in West Bank related to level of education

5- There are no significant differences in application of standards of quality care among nurses working in neonatal units at governmental hospitals in West Bank related to experience.
6- There are no significant differences in application of standards of performance among nurses working in neonatal units at governmental hospitals in the West Bank related to age
7- There are no significant differences in application of standards of performance among nurses working in neonatal units at governmental hospitals in the West Bank related to gender
8- There are no significant differences in standards of performance among nurses working in neonatal hospital units at governmental hospitals in West Bank related to place of residence.
9- There are no significant differences in application of standards of performance among nurses working in neonatal units at governmental hospitals in West Bank related to level of education
10- There are no significant differences in application of standards of performance among nurses working in neonatal units at governmental hospitals in West Bank related to experience.
11- There are no significant relationship between neonatal nurses' application of standards of quality care and performance, and number of nurses: number of incubator ratio

1.7 Assumptions

Prior to conducting this study the following assumptions were made:

1. The participants are cooperative and informative.
2. The instruments used in the study are valid and reliable.
3. All participants would read the questionnaires carefully and respond truthfully.

1.8 Timeframe of the study

Steps of research	M 11 Nov	M 12 Dec	M 1 Jan	M 2 Feb	M 3 Mar	M 4 Apr	M 5 May	M 6 June	M 7 July	M 8 Aug
Writing and submitting the proposal										
Obtaining approval										
Developing questionnaire										
Collecting data										
Data analysis										
Writing thesis										

Summary

The international trends now is directed toward the improvement of quality of services in health sectors, because quality has beneficial effects in decreasing length of stay in hospitals, as well as decreasing patients' morbidity and mortality rates. Therefore, it is important for all care providers to consider quality of care in their performance in order to reach the maximum improvement of their service. As well as, improving health status of hospital admitted patients, and this couldn't be done without having explicit standards that helps in guiding nurses in hospitals to achieve goals of the hospitals in quality improvement.

The purpose of this study was to assess the standards of quality care and neonatal nurses' performance at MOH governmental hospitals. This study tried to reflect care within MOH neonatal units in relation to standards of quality depending on the international standards of quality.

CHAPTER TWO

Review of Relevant Literature

Introduction

This chapter presents a review of relevant literature which includes: historical background of quality, some information about quality system, quality and performance concepts, as well as some information about neonatal nursing, and the role of neonatal nurses is presented.

 Moreover, the literature review included review of relevant topics and studies from published and unpublished master and doctoral dissertation, and peer reviewed journals, as well as text books related to quality.

2.1 Historical background of Quality Concept

Historically, traces of the quality movement back to the medieval where craftsmen began organized into unions called guilds in the late 13th century. Until the early 19th century, manufacturing in the industrialized world tended to follow this craftsmanship model. The factory system with its emphasis on product inspection, started in Great Britain in the mid-50s, and grew into the Industrial Revolution in the early 80s. In the early 20th century, manufacturers began to include quality processes in quality practices.

After the United States had entered the Word War II, quality became a critical component of the war effort: Bullets manufactured in one state, for example, had to work consistently in rifles made in another. The armed forces initially inspected virtually every unit of product, then to simplify and speed up this process without compromising safety; the military began to use sampling techniques for inspection which aided by the publication of military-specification standards and training courses in Walter Shewhart's statistical process control techniques.

The birth of total quality in the Unites States came as a direct response to the quality revolution in Japan, following the World War II. The Japanese welcomed the input of Americans Joseph M. Juran and W. Edwards Deming and rather than concentrating on inspection; they focused on improving all organization process through the people who used them. The U.S.A response, emphasizing not only statistics but approaches that embraced the entire organization, became known as total quality management (TQM).

By the last decades of 20th century, TQM was considered a fad by many business leaders. But while the use of term TQM has faded somewhat, practically in the united stated, its practices continue

In the few years, since the turn of the century, the quality movement has evolved from the foundation of Deming, Juran and the early Japanese practitioner of quality, and has moved beyond manufacturing into service, healthcare, education and government sectors. And the following is the brief history of quality:

- Pre- Industrial Revolution: skilled craftsmen controlled their own quality through pride of workmanship. They were involved in the production from beginning to end.
- 1880's- Fredrick Talor and "Scientific Management": Mass production, assembly lines, and division of labor. Introduction of work standards and wage incentives.
- 1920's- Shewhart Introduces Statistical Process Control: Methods based on continual on-line monitoring of process variation. Concepts of "common cause" and "assignable cause" variability.
- 1930's- Dodge and Romig Introduce Acceptance Sampling Methods: Probabilistic approach to prediction, centered on defect prediction concept of acceptable quality level (AQL).
- 1950's- Deming Introduces Statistical Process Control to Japan.
- 1970's- Many U.S Companies Begin Losing Market Share to Global Competitions.
- 1980's- "Quality Revolution" Begins in America:
- 1984- U.S.Government Designates October as National Quality Month.
- 1987- Malcolm Baldridge National Quality Award in Established.
- 1990's- Quality Programs Spread to Service Industries: Proliferation of Quality programs:TQM and Six Sigma (http://www.asq.org/learn-about-qualiy/history-of-quality)

2.2 Historical Background of Quality in Health Care Organizations

The concern of high quality health care dates back to the 5th Century B.C., when Hippocrates established a code of medical ethics and obligating future doctors to swear never to do harm to any one (Wensley, 2001).

The Romans who had reported on the efficiency of their military hospitals probably undertook the earliest studies of quality (Sale, 1999). However, in France," the first recorded instance of quality of care in hospitals was instituted in 1973 by the National Conversion of French Revolution" (Rowland, 2000, p.671).

The first documented evidences of the evaluation of nursing care duties goes back to the eighteenth century, when John Howard and Elizabeth Fry described the quality of patient care in the hospitals that they visited. In 1850, Florence Nightingale evaluated the care given for patients by keeping notes on her observation using the information which established the level of care being provided and improving care in areas that were below standard (Sale, 1999 and Simpson, 1994).

In the United States of America and as reported by Kemp (1998) "the oldest recognized quality control in hospitals was concerned with the hospital accreditation which began in 1918, when the American College of Surgeons drew up a list of basic standards for hospital facilities"(p.221).

In 1950, the American Nurses Association published its function standards and qualifications for the practices of nurses. In addition, it created diversion of the organization charged with developing standards of practice to ensure quality care. It was developed as model for implementing the quality assurance process (Kemp, 1998).

In 1951, the Joint Commission on Accreditation of Healthcare Organizations was found for purpose of accrediting hospitals in U.S.A (Wilson and Goldschmidt, 1995).

In 1978, as documented by Kemp (1998) the Royal College of nursing set up working committee on standard of nursing care. This committee brought out its first report in 1997 that was called the publication of the royal college of nursing documents standard. In 1981, "further work by Kiston and Kandall demonstrated the use of standards as part of quality assurance package" (Sale, 2000, p.38).

In 1980, the Joint Commission of Accreditation of Hospitals (JCOAH) organized the first standards, which dealt mainly with medical staff organization and record keeping (Rowland and Rowland, 1997, p.406)

Since 1990, the National Health Service (NHS) has made a significant investment in quality management in health care, which purposed to serve improvement (Tomas and Maramba, 1997).

In regard to newborn care quality, the responsibility for the care of newborn before 1960 was shared among general pediatricians, obstetricians and general practitioners. In the early to mid 1960s, pediatricians with special interest in caring for sick newborns began to specialize in early infant care, leading to the development of neonatology as a pediatric subspecialty. In the eighties, nurse clinicians and nurse specialists with advanced training and skills are responsible for delivering much of the intensive newborn care provided (Budetti and McManus, 1982).

2.3 ISO 9001

ISO 9001 is the internationally recognized standard for the quality management of business. It applies to the processes that create and control the products and services an organization supplies. It prescribes systematic control of activities to ensure that the needs and expectations of customers are met. It is designed and intended to apply to virtually any product or service, made by any process anywhere in the world. The International Organization for Standardization (Geneva, Switzerland) first issued the standards in 1987. In 1994 and in 2000 the ISO 9000 series were revised. The standards are generic, which means that the same standards can be applied to any organization (Heuvel, 2007, p. 20).

2.3.1 Why Hospitals'/ ISO 9001: 2000 :

There is evident over the years that the ISO 9001:2000 leads companies to better operations, improved performance, and improve profitability. It motivates staff by defining their roles and responsibilities. Cost saving can be made through improved efficiency and productivity, as product or service deficiencies will be highlighted. From this, improvements can be developed, resulting in less waste, inappropriate or rejected work and fewer complaints. Customers will notice that orders are met consistently, on time and to the correct specification. This can open up the market place and increased opportunities (Heuvel, 2007).

2.4 Quality Concept and Health Care

The issue of quality of health care was discussed since 1960 when there was an increasing interest in the quality of health care on the part of providers, health care recipients, organization and public at large. The concepts about quality and how to achieve it are considered the key to survival in the 1990s and beyond. The goal for quality initiative has shifted from achieving accreditation to improving care and service philosophically. Quality has shifted from mandate to opportunity (Texas Health Resources, 2007).

Quality has always been a primary concern in the healthcare field. It determines how successfully to prevent and treat physical and mental illness which affects the well being of patient and his family (Badran, 1997). It is built into the service or product rather than assuming that inspection and removal of errors leads to good quality (Carol and Bessie, 1996).

Quality in health care can be assessed, therefore, only in the local context with data appropriate for the specific questions asked (Anderson, 1998). According to Skedlelle and Roland (1998), "quality in health care varies with the perspective of access to care, the balance between supplies and efficient use of resources, the correct implementation of medical technology and more important the performance by individual health workers" (p.163).

Quality is difficult to be defined as an abstract term. It requires a continuous adoption of products and service to fulfill or exceed the requirements and expectations of all patients in the organization and the community, or a conformance to requirements, no matter whether or not the requirements are articulated or do not fully satisfied (Horber and Blesk, 2001).

The National Association of Quality Assurance Professionals (1991) described quality as "level of excellence produced and documented in the processes of patient care based on the best knowledge available and achievable at a particular facility" (p.7). Also, the Joint Commission on Accreditation of Health care Organization (JCAHO, 1994) defined quality as " the degree to which health services for individuals and populations increase the likehood of desired health outcomes and are consistent with current professional knowledge"(p.7). However it can be described as "the degree in which services are efficient, well executed, effective and appropriate"(Huber, 2000, p.611). It can be divided into two inter-dependent parts; quality in fact means conforming to standards and quality in perception means meeting the customer's expectation or meeting customer's requirements. The definition of quality encompasses both the technical scientific aspect and the art of care. The art of care refers to the manner by which nurses conduct themselves in relation to their patients (Gardener, 2000, p.12).

Quality of care can be also defined as "the degree to which healthcare for patients increases the likely hood of desired outcomes and is consistent with current professional knowledge or it is the degree or grade of excellence with respect medical and nursing services received by patients" (Mainz, 2003, and WHO, 2003). On the other hand, quality of healthcare consists of the proper performance(according to standards) of interventions, which are known to be safe and affordable to the society in question and have the ability to produce impact on mortality, morbidity, disability and malnutrition (Roemer and Montoya,1999).

2.4.1 General Dimensions of Quality at Any Health Care Organization:

Booyens (1996) Messner and Lewis (1996) had mentioned that there are several dimensions that provide a framework for well balanced, integrated quality and risk perspective program those dimensions include: acceptability, accessibility, appropriateness, effectiveness, efficiency, equity, and safety and continuity.

Acceptability

Acceptability in health care as viewed by Booyens (1996) involves: supplying patients with necessary information, maintaining confidentiality, identifying and satisfying the reasonable expectations of the patient, community, provider and funder, satisfying with applicable risk management, adequate professional knowledge and competency, as well as technologically advanced services in accordance with the development and expectations of providers, funders and recipients of health care.

Booyens (1996) believed that acceptability should also be viewed within the legal, professional-ethical and cultural context of the various stakeholders. Services should further be socially acceptable in terms of privacy and standards of communication with the patient.

Accessibility

Services should be convenient for the patient in terms of distance/geographical outlay and time. Accessibility of health care services further involves the provision of appropriate, knowledgeable and skilled health care workers and services when required as well as the" timeliness" of care (Booyens, 1998).

Appropriateness

Appropriateness is defined as" the care or intervention provided relevant to and appropriate for the patient's clinical needs" (Messner and Lewis, 1996, p.63). Appropriateness is the key issue and refers to the right decision and care at the right time and is relevant to outcome. It further refers to the provision of services or interventions the individuals and community really need, be it physical, psychological or social (Booyens, 1998).

Effectiveness

A part from technical effectiveness, the adequacy of equipment and staffing in department should be included (Booyens, 1998). Effectiveness also involves measuring and monitoring, whether the intended benefits which are the health care goals, are being achieved for the individual, family or community (Bowling, 1997). Effectiveness involves providing services based on scientific knowledge and avoiding underuse and overuse respectively (Betancourt et al, 2001, p.14).

Efficiency

It means that resources are not wasted on one service or patient to the detriment of another. It is further about the use of one's time to meet a variety of needs, the skilled use of resources and the availability of equipment and assesses the relationship between inputs and outputs (Booyens, 1998). Also Betancourt et al (2001) defined efficiency as" avoiding waste, including waste of equipment, supplies, ideas and energy" (p.14).

Equity

Defined by Betancourt (2001) as "providing care that does not vary in quality because of personal characteristics such as ethnicity, gender, geographic location and socioeconomic status" (p.4).

Safety

Safety is defined as" the risks of procedures and interventions, as well as the hospital environment" ((Messner and Lewis ,1996, p.65). Avoiding injuries to patients from the care that is intended to help them, they should be free from accidental injury, misdiagnosis and inappropriate treatment. Ensuring patient safety also requires that patients be informed and participate as full as they wish and are able- and that patients and their families should not be excluded from learning about uncertainty, risks, and treatment choices (Betancourt, 2001, p.16).

Continuity

Messener and Lewis (1996) had defined continuity as" the care or intervention provided for the patient coordinated over time, with respect to other services and providers, this includes patient education and discharge planning which involve all appropriate members if the interdisciplinary team as well as family and community support system(p.64).

Timelines of care

Brown (1998) cited that timelines is "the degree to which the needed care is provided to the patient at the most beneficial or necessary time" (p.566).

Respect of patients needs

This dimension includes the involvement of patient and his family in decisions related to their care, and how the health care providers are sensitive and respectful to these needs (Messener and Lewis, 1996, p.65).

2.4.2 Quality and Neonatal Care:

Good quality neonatal care at the neonatal units based on many criteria and should be involved in providing care or service to neonates. These criteria are: accessible, available, and acceptable to parents and responsive to cultural and social norms. Having on hand all essential supplies, staffed by technically competent health providers, provide

comprehensive continuous care and follow up care and also these services should be evaluated at regular intervals from both provider and organization professionals (WHO, 2004).

Quality improvement is a major foci of neonatal health care. It aims at improving neonatal health outcomes and the related activities that contribute to neonatal care. Neonatal nurses need help to develop their knowledge and practice to be capable of providing quality, and enhance their role in neonatal units as well as improve the health and well being of neonates (El Mohanad, 2001).

2.4.3 Measuring and Assessing Quality of Care:

The current definition of the term assessment is "the process by which the characteristics and needs of groups or situations are evaluated or determined so they can be addressed". The assessment forms the basis of a plan for services or action" (WHO, 2003). The assessment process is essential for quality measuring which in turn, is essential to evaluate nurses' contributions to the care of patients with a set of nursing processes and outcomes to guide quality improvement. There are several tools to measure the quality of nursing care standards. The observation instrument is a method for measuring the quality of nursing care; it leads itself to data gathering and equipment recording. It was complied and refined from the best process criteria presented in nursing literature. The criteria are organized within the instrument according to the nursing model of assessment, planning, implementation and evaluation. Data are collected from different sources; patient's record, interviews with nurse, observation of unit management and observer inferences and questionnaires (Naylor, 2007).

The process of assessing quality is used for monitoring the clinical work performance in order to give a regular feedback to the clinical staff. The supervisor and clinicians need to be able to work together to improve the quality of care that patient receives at clinics. The supervisor's responsibility is to make sure that clinical standards of care are maintained improved and patients are assured of a high standard of care (Osteria, 1996).

2.4.4 Standards of quality in nursing care

In order to provide quality-nursing care, standards of both practice and performance must be identified. Standards must be objective and measurable to enhance understanding and communication among practitioners. Standards of practice not only identify how nursing is to be practiced, but also serve as a base per staff orientation, education, and evaluation, as well as development of policies, procedures and protocols (Booyens, 1998, p.606)

In 1992 Katz and Green pointed out that the quality of care to be expected from the health care facility is to be made explicit by written standards that direct the way the service is to be provided from that service. Standards, therefore, define quality. A standard is a written value statement of rules, conditions, and actions in a patient, staff member, or the system that are sanctioned by an appropriate authority.

Booyens (1998) defined standards as "a written description of the desired level of performance, containing the characteristics associated with excellence, for measuring and evaluating actual performance or service delivery"(p.606).

Ellis and Hartely (2000) mentioned that there are three different types of standards for quality in nursing care namely: structure, process, and outcome standards.

2.4.4.1 Structure standards:

Ellis and Hartely (2000) defined structure standard as" a statement of the organizational structures that are intended to accomplish the desired outcomes, should be in place, and that can be used for evaluation"(p.457). The evaluator determines whether the agency is adhering to the stated philosophy and objectives, laying a foundation for quality health care through, identifying what structure must be in place in a health care system to deliver quality. Structure elements consist of such things as well as constructed hospital, quality patient care standards, the adequacy of equipment, organizational components and quality staffing policies (Stanhope, 2002).

2.4.4.2 Process standards:

Defined as" a statement of the processes intended to accomplish the desired outcomes that should be in place and that can be used for evaluation" (Ellis and Hartely, 2000, p.454). Any organization or healthy agency uses various methods to determine criteria for evaluating provider's activities. Process in other meaning is a specific look for the quality of care being given by agency provider such as nurses. However, the activities of the nurses are evaluated to see whether they are the same as the nursing care procedures defined by the agency or not. The techniques used for process evaluation are direct observation, questionnaire, interview, audit and video tapes of client and provider encounters (Stanhope, 2004).

2.4.4.3 Outcome standard:

Defined as "a statement of the expected results of care for the patients that can be used for evaluation" (Ellis and Hartely, 2000, p.453). Outcome is the end result of quality care. It reviews the status of patients after health care has been delivered and reflects the present structure and process elements of quality of care. It is written without any measurements marked upon it that is used to attempt a scale drawing the measurements would be only and estimated in an accurate and valuable. The importance of this standard sits in well-written standards enable professionals to describe in measurable terms, the care they provide for patients, what is required to carry out care and what the expected outcome will be achieved (Sale, 2000).

The relationship among the three types of standards is a self evident. Outcome standard may indicate a need for change in the nursing process or it may indicate a need for changing organizational structure (Quality Assurance Project, 2007).

2.4.5 Importance of Standards to the Nursing Profession:

The American Nurses Association's (ANA) Cabinet on Nursing Practice and the ANA practice councils have been actively engaged in standards development since the late 1960s. The first standards of nursing practice were published by ANA in 1973. These

standards were generic in nature and focused on the nursing process. Since that time, many groups and organizations have promulgated standards of nursing practice, some in collaboration with ANA and other independently.

The evolution of standards of nursing practice has raised several concerns, including:

- The lack of consistency in process whereby the profession develops standards;
- The proliferation of standards of nursing;
- The wide range in intent, format, and scope of current standards; and
- The number and divergent approaches used in current standards which limit their use by nurse, other health care providers, payers, policy makers, and consumers for use in a variety of activities such as broad-based quality assurance, reimbursement schemes, etc (JCAHO, 1999)

Standards can shape health care, in fact, serve as a benchmark for measurement of practice and care. Their primary purpose, however, must be to guide practice. Standards can touch all parts of health care delivery; it can be a significant factor in determining consistent achievement of positive outcomes for patients (Schoreder, 1991).

Implementation of standards can significantly affect patient morbidity and overall costs of health care (Katz and Green, 1992). According to Thomas et al (1994) standards can be used to (a) enhance the nurses' control over many aspects of clinical practice;(b) measure autonomy;(c) promote competency; (d) assist in position development; (e) assist in unit orientation;(f) facilitate staff development;(g) provide basis for performance appraisal; (h) facilitate quality improvement; and (i) determine requirements of care.

2.4.6 Influential Factors of Health Care Standards:

ANA (2000) emphasized that the standards within the health care are influenced by several factors which are :(a) professional codes of practice; (b) consumer's requirements; (c) departmental needs; (d) national targets or initiatives; and (e) regional directives.

Standards allow nurses to carry out professional rules, serving as protection for the nurse, the patient and the institution where health care is given. Each nurse is accountable for her/his own quality of practice and is responsible for the use of these standards to ensure knowledgeable, safe and comprehensive nursing care (ANA, 2000).

2.5 Performance and its Related Concepts

Crosby (1996) had stated that quality of care given within an organization, and the efficiency of this organization are reflected by the performance of all employees. This is through providing employees with clear and measurable expectations of their achievements, which is essential to obtaining high level performance. Spanberg (1990) also stated that good performance evaluation can unify the organization, so that it can deliver its mission, and employee know how they are doing in their job.

The term "performance" is used to focus attention on the total behavior of person including his/her organization, the use of specialized knowledge, his/her attitude acquired through training, as well as organization and integration of practice (Bargagliotti, 1999).

Wilson and Goldschmidt (1995) stated that "performance can be expressed in terms of norms (what most people do or achieve) and excellence (what the best achieve)" (p. 445). A performance related behavior is directly associated with job tasks, and the need to be accomplished to achieve job's objectives (Sullivan and Decker, 1997).

Performance evaluation is a continuous process with little psychological risk to the employee. It is that constant feedback from one human being to another, which accepts the problem and tries to solve them (Young, 1992).

The ability to perform can be measured. JCAHO (1999) has defined two dimensions of performance, first doing the right thing and, second, doing the right thing well. In this respect, performance assessment is the measurement of and individual's ability to carry out a specified task (Katz and Green, 1997).

Performance assessment is an essential requirement for the evaluation of existing health services, and thus is necessary for improvement in health care by focusing on what the health workers actually do (Jurnm, 1996). Accordingly, performance assessment should encompass the components of a position description, the roles and responsibilities attached to that position, and acquisition and mastery of skills and knowledge. It represents a continuous process to the care given (JCAHO, 1999).

Measurement of quality takes place in clinical area. Therefore, it is important that staff working in this area have an insight into different methods of measurement, and this is done by establishing criteria describing performance standards of care. These will be measured by generic and predetermined clinical indicators shared among all similar heath care organization. The indicator will not be the only determinants of quality, but they will serve as triggers for review and corrective action. Additionally, the JCAHO (1993) has pointed out that high quality care means that clinical management of patients is efficacious, appropriate, and available when needed.

In some areas, nurses are responsible for provision of care, and are accountable for its quality. It follows that nurses should be in the front when it comes at identifying methods for measuring and maintaining the quality of nursing care. This could be seen as one method of preserving clinical autonomy (Henerson, 1984). Without quality mechanisms, nurses are unable to articulate their needs because they lack objective evidence (Kuren, 2001, p.150).

2.5.1 Purpose of Assessing Nurses' performance:

Assessing nurses' performance helps to govern their behavior to produce services in high quality and high volume. It helps in selecting weakness and strength of nurses' performance (Kopelman, 1999). Through regular assessment of each nurse, a manager can achieve multiple goals: among these are helping a satisfactory worker to further enhance performance; telling worker which aspects of her or his performance need improvement; locating the best nurse for a special assignment; improving communication with unsatisfied worker, and establishing a basis for later job coaching (Gillies, 1996, p.523).

Additionally, assessment is providing an indispensable practical tool for raising the quality of care and advocate professional nurses' standards (Marsland, 1992), and analyzing and

reporting data gathered from assessment (Swans, 1997). It serves employees for their rights to know how well he or she is doing, and what can be done to improve performance.

Gillies (1996) and Rowland and Rowland (1997) argued that performance assessment serves as an early warning for training purpose. Through performance results, managers can identify subordinate weakness, potentialities and training needs. Accordingly, the director of staff development can develop and implement educational program within organizational objectives.

According to Anderson and Hay (2000) performance assessment can provide systemic judgments to back up salary, increase promotions, transfer and help the employee to develop and grow (p. 414).

Staff who are dealing with critically ill neonates should give optimum care with priority because critical problems can occur to neonates as cardiac arrhythmia or pulmonary problems, thus no place for poor performance in (NICU) performance (Ayoub, 1996).

2.6 Neonatal nursing

 Neonatal nursing had developed significantly during the last 40 years. Specialty care for the sick or premature infant begins with the invention of the incubator in 1878 and its subsequent display with infants at world expositions and fairs until the 1940s. In 1923 the first hospital center for premature infants in the United States was established, and in 1950 the first federal grant funding the Premature Institute program to train hospitals in caring for this special group of newborns was provided. These developments led to the expanded role of nurses into specialized nursing care for the neonate in the early 1960s and the country's first neonatal intensive care unit (NICU) (ANA, 2004)

Advances in technology and health care led to regionalization in most large teaching hospitals and the development of high-tech neonatal care during the 1970s. The American College of Obstetricians and Gynecologists added validity to the major with the publication of standards of care for neonates. In turn, neonatal nurses developed their skills and advanced their role in infant care as nurse clinicians, practitioners, clinical specialists, and educators (ANA. 2004, p.3).

To help the profession and the public better understanding the practice of neonatal nursing and thereby value today's neonatal nurses, the National Association of Neonatal Nurses (NANN) convened the Scope and Standards of Practice Task Force to examine historical documents, references, and resources to create specialty scope and standards of practice to provide the answer to the who, what, when, where, why, and how questions about the neonatal nursing, and it encompasses minimally acceptable levels of nursing care and nursing performance. In today's climate of cost containment and evidence-based practice, the standards of practice for neonatal nursing must also include outcomes of care, standards of professional performance, quality of care, performance appraisal, education, ethics, collaboration, research, resource utilization, and leadership, so the professional neonatal nurse is expected to be competent and accountable in these areas of nursing practice (ANA, 2004).

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2.6.1 The Role of Neonatal Nurse:

Neonatal nurse is an expert in the assessment of clinical management of the high risk neonate. The nurse can provide the consistent and continuous care necessary to the improvement of patients' morbidity and mortality. Therefore, they must be prepared so well to assess the neonate's condition, identify his/her needs and deal with their problems to restore their lives (Beal, 2000). In addition, the nurse is an important member in providing efficient care, and improving neonatal outcomes. She/he should have a power of observation and the ability to take accurate decision, rapid management and evaluate any complications that may occur (Spence, 2000). On the other hand, nurses working in the neonatal units play an integral role; they provide continuity of nursing care for high risk neonates. Therefore, continuing interventions program should be implemented for all nurses in the unit in order to update their knowledge and skills (Bowell, 2000 and Oswatt & Boyce, 2000).

The role of the neonatal nurses in providing quality services to neonates through series of lectures and practical training courses developed and organized by members from senior nursing professionals. So, proper application of these programs will contribute to improve the health and well being of neonates (Lefrak and Porter, 2004)

Neonatal nurses should be trained to manage sophisticated mechanical devices and should be educated in the art of how to save the appropriate use of technical equipment (Beal, 2000). The NICU nursing requires a highly specialized body of knowledge and understanding the neonatal physiology and able to recognize subtle physiological and behavioral deviations (Littleton and Engebreston, 2002). The lines between medicine and nursing can become blurred in the NICU, whereas, care is primarily collaborative with overlapping, shared responsibilities in many nursing interventions , based on establishing written protocols, resulting in more independence and creativity of care (Loo, Horn, and Cowans, 2003).

Neonatal nursing involves a variety of skills, unique functions and responsibilities that are essential, and among these skills are the ability to do assessment in order to collect data about the neonatal conditions. The assessment is a continuous process that operates at all phases of neonatal nursing care, and it is the foundation for decision making regarding the health condition of the neonates. During assessment, the neonatal nurse collects data about the biophysical, developmental, and socio-cultural background about the neonate from a variety of resources in order to provide accurate and comprehensive assessment (Hocken, 2005).

The neonatal nurse should have the skills of diagnosis (problem identification) since the nurse must interpret and make decisions about the data gathered through assessment process, she or he organizes or clusters data into categories which helps in providing basis for nursing interventions to achieve outcomes for which nurse is accountable. The nursing diagnosis generally based on priority needs of high risk neonate (Thompson, 1999).

Moreover, the expert neonatal nurse plans individualized care for neonates in the unit, taking in consideration involvement of parents in the care plan for their neonates. The neonatal care plans also take into consideration the neonates' developmental status as well as physiologic strength and weakness as well as needs (Bembaum, 2000). It helps to ensure that, the parents as well as the health care team have a good understanding of the neonate's

particular care priorities and potentials. The care plan helps in achieving the desired goals of nursing care and the positive outcomes for neonates. The outcomes are the projected change in neonate health status, clinical condition or behavior that occurs after nursing interventions. The care plan must be established before the interventions can be developed (Walton, 2001).

The implementation of nursing care plan is essential role of neonatal nurses; it begins when the nurse puts selected interventions into action and accumulates feedback regarding its effect. The feedback returns in observations and communications that provide a data base on which to evaluate the outcome of nursing intervention. Parent teaching and participation with care may help in increase parent-infant bond, and they will continue care of neonate at home. The may need referral to other health care facilities or agencies (Chappell, 2001). Through the implementation stage, the following are considered the role of neonatal nurse in neonatal units as cited by (Monterosso, Kristjanson, and Sly, 2005) general care, special needs coverage, technical duties, and emotional support.

General care

One of main duties for a neonatal nurse is the general care of the infant. Babies, even the tiny ones or those with physical aliments, need regular changes, feeding and cuddle. Customarily, the NICU will assign each baby "care times" throughout the day and night, usually about 3 or 4 hours apart from each other. At each care time, the nurse will change the baby's diaper, take temperature, and provide breast milk or formula, taking into consideration the correct amount, and ensure educating mothers about the nutritional needs of their babies. Also the neonatal nurse ensures the medication administration if required. Moreover, the neonatal nurse ensures educating parents of an infant if they are able to visit regularly how to perform these basic cares. With time, nurses will help parents to feel equipped in all aspects of meeting their needs and will continue to serve as a basic support system during the hospitalization.

Special Needs coverage

The duty of neonatal nurse includes inserting and changing intra venous fluids (I.V.F), administering blood transfusion and drawing blood for various tests. Nurses are able to perform many other procedures as well, and it fully depends upon each hospital's individual protocol, as well as the nurse's experience level and staff rating.

Technical duties

This include documenting care, including any procedure done, and any progress or change in infant health status.

Emotional support

Neonatal nurses often get to know the families of infants very well, and try to strengthen the relationship with these families, and often provide an emotional support and comfort during scary times. If a baby has to go through surgery or is exceptionally ill, nurses are great for reassuring the parents and providing as concrete of answers as they are permitted to.

2.7 Research Studies Regarding Neonatal Care:

High quality of care in neonatology implies providing an appropriate level of care to well newborn babies as well as more care for the few babies who need it. Audit, surveillance and outcome studies may not always capture the complexity of quality of care and its contribution to outcome, and a more focused approach to standards of care evaluation may be required.

Through reviewing previous studies in relation to neonatal quality of care it was observed that there was shortage in local studies about the standards of quality of neonatal care in Palestine, while regional studies reveal that some studies were conducted about quality of nursing care from different views in general, others were about neonatal nursing care and variables that might affect this care. Moreover it was observed that studies had investigated the association of some variables with quality of care such as (age, qualification degree, experience, and staffing ratio). The following studies were organized as the following:

2.7.1 Regional studies

Among these studies, the study by Mustafa (1999) that measured the quality of nursing services between two Egyptian hospitals, one was private and the other was governmental. The study examined the fulfillment of structural standards by nursing services from point of view of 23 nursing leaders. The study variables were availability of written objectives for nursing service, policies and procedures, staffing adequacy, in-service training, and patient care management. The study tools were a questionnaire for assessing the structural standards in the nursing services, and the second tool was a check list for observing the care given to patients. The results showed that there were differences in the fulfillment of structural standards between the two hospitals in favor of the private hospital. The study also showed that the fulfillment of availability of written objectives, policies and procedures, staffing adequacy, in-service training and patient care management were higher in the private hospital. The study recommended the following:(a)improvement of the quality in the governmental hospitals; (b) nursing departments should participate in the quality improvement plans in each hospital in order to implement the plan during their practice; and (c) administration departments should provide standards for quality of care in each hospital in order for all staff to adhere to these standards.

Mustafa (2001) assessed the nurses' perception of infection control standards in Ain Shams (Cairo) hospital. The study included 60 nurses working in pediatric cardio-surgical unit, and in adult ICU. The study utilized two tools. A questionnaires with two parts; the first consisted of the demographic data about nurses, and the second part consisted of 59 items related to standards of infection control which included nurses' information about hand washing, gloves and gown wearing, sharp disposal, respiratory therapy equipment, suction equipment, intravenous therapy and the visitors. The second tool was observational checklist to explore the nurses' performance regarding infection control standards. The result of the study showed that the there were significant differences between nurses working in pediatric unit, and the nurses working in adult unit regarding the performance according to standards of infection, information regarding wearing gowns and gloves,

sharp disposal, hand washing, handling suctioning equipment in favor to nurses working in adult units, also the results shows that the bachelor nurses, more experienced ones, and older nurses had information about infection control standards more than nurses with diplomas degrees, less experience, and younger nurses in both units. The study recommended that infection control committees in hospital should focus on setting protocols for standards of infection in pediatric units, also there should be continuous evaluation for these standards and finally infection control training was recommended.

Saad (2003) conducted a study to develop standards of care for stroke patients in Egypt, the study included 60 nurses, the tools used were an observational checklist for performance of nurses which included the nursing care for stroke patients, patients education, communication skills of nurses, and the structural design of stroke units and the other tool was a questionnaire for the purpose of validation of the checklist. The result of the study showed (a) poor performance of the nurses' who are working in stroke units; (b) poor patient's education regardless his/her condition, exercising, nutrition, and referral resources; (c) poor communication with the stroke patients; (d) inappropriate specialized structural design of the units for the stroke patients. The study recommendations were the following (a) there should be standards for care of stroke patients; (b) conducting training programs for the personnel working in stroke units, (c) improving communication skills of the nurses in the units; (d) improving structural design of the unit; and (e) training the nurses for health teaching of the patient and his family.

Ali (2007) conducted a study for assessing performance of nurses ICUs especially for examination of nurses' practices in endotracheal suctioning (ETS). A sample of 45 nurses from two adult ICUs units was selected to determine how nurses perform suctioning in daily practice, and whether this practice adheres to best suctioning recommendations, and consequently provided lower-quality ETS treatment than expected. The results showed that participants varied in the way they practice ETS, and they didn't adhere to best practice suctioning recommendations. The study recommended that current practices and teaching interventions need to be developed.

Abdel-Kareem (2008) conducted a study to determine factors that affect quality of nursing care in intensive care units from perception of the physicians and nurses versus health care consumers in two Egyptian hospitals. Seventy five nurses, thirty one physicians, and fifty two patients were questioned about the factors affecting the quality of nursing care in the intensive care units. The result showed that among the factors that affecting the quality of nursing care were structural standards which related to staffing, materials and equipments available in those units, the second factor was the educational qualification of nurses, and the third factor was job related factors which included patient's environment, organizational climate and support services. The study recommended (a) establishing protocols for procedures that organize working and to be available to all personnel working in this unit; (b) supply the unit with enough materials, staffing, and equipment for improving quality of care; (c) continuous observation of nurses' performance; and (d) there should be continuous training programs for nurses, physicians and all personnel who are in direct relation with intensive care units.

2.7.2 International studies

Aurbary and Yoxall (2001) conducted a study in UK for investigation of the effectiveness of advanced neonatal nurse practitioners in the resuscitation of preterm infants at birth. The study was retrospective and included 245 preterm infants born in Liverpool Woman's Hospital in UK between years 1998 and 1999. The result of the study showed that babies who were resuscitated by the practitioner nurses at birth were no more likely to be intubated and have positive outcome in relation to there conditions.

Ritzel (2007) conducted a study for the investigation of the relationship between the structural environment of the neonatal unit between two types of units; the traditional unit and a private unit in a northwest Florida hospital and the neonatal outcomes measured by the length of stay in the units, the study was comparative, retrospective study and included a sample of 157 of neonates admitted to both units, the result showed that there is no relationship between the structural environment of the two types of units and the length of stay of infants.

Kane, Shamliyan, and Muller (2007) used meta-analytic approaches for investigating the relationship between the nurse's qualification and the quality of nursing outcomes, decreased mortality rate, decreasing the complications, and infection of the surgical patients. The result showed that there was a relationship between the qualification and positive outcomes of patients.

Day, Chismark, Dyeus, and McKeon (2008) conducted a study for assessment of quality of care in pediatric oncology in USA, this study was achieved by using direct observation of nursing care and a review of medical records, policies, together with interviews with nursing staff. The researchers used Joint Commission International Standard (JCI) to assess quality and selected six JCI domains (Access to care, assessment of patient, patient's care, patient and family education, infection control, and staff qualification). The result of the study showed that quality of care was achieved in some domains, and was not in others (a) access of care the quality was achieved; (b) patient assessment was partially achieved; (c) some of the written policies and procedures related to the care of patient was not available; (d) patient education was achieved; (e) infection control was partially achieved, and (f) staff qualification was partially achieved. The study recommendations included that (a) staff continuing education is needed to improve their performance in order to improve quality of care; (b) there should be written policies and procedures for nurses; (c) improving infection control programs through continuing education regarding infection control issues; and (d) improving qualification of nurses through continuing education programs.

Aclot (2008) conducted a study to identify variations in standards of neonatal care in the first week of life that might have contributed to deaths in infants who were born at 27 and 28 weeks' gestation. The result of the study showed that there was association between the quality of neonatal care and neonatal deaths. The results revealed failure of standards of neonatal care to meet ventilator support, cardiovascular support, thermal control, meeting resuscitation standards, infection control and surfactant administration. Moreover, these findings suggested an association between quality of neonatal care and neonatal deaths.

Nurse staffing and the care provided by nursing personnel are central to the provision of quality patient care in the health care system, several studies investigated the relationship between staff: patient ratio and patient outcome, among these studies was the study of Poll

(1999) to assess the Americans perceptions of nursing shortage and its relationship with quality of care. The study surveyed 1000 people about their attitudes toward the nursing profession. The results were that 4% of respondents answered that the quality of health care in the USA not affected "at all" by nursing shortage, 86% believed that the shortage affected health care quality" a great deal", 92% of respondents trusted information about health care providers by registered nurses, ranking them with physicians in this regards, 76% of the public thought nurses should have four years of education after high school, and 91% of Americans knew that nurses monitor patients care, but only 14% realized that nursing need specialization and experience.

A retrospective study conducted by Gitlow (2001) to assess the effect of infants to staff ratio. The sample included 692 of low birthwieght infants admitted to Intensive Care Nursery/Royal Women Hospital over a four year period form January to December 1999. The result showed that, low birthweight infants improved by 82% when the infant staff ratio was high, and suggesting improved survival with the highest infant/staff ratio.

Needleman, Buerhaus, and Mattke (2002) conducted a study about the effect of staffing and qualification of nurses in surgical units and the outcome of surgical patients in 11 hospitals in the USA. The result showed that there was a relationship between nurses and patient ratio and improving outcome of surgical patients, and also found a relationship between the qualifications of nurses in favor of registered nurses.

Moreover, in their study about the infant to staff ratio and mortality in very low birth weight infants, Calloghan and Cartwright (2003), found that there was a positive relationship between mortality rate of infants in neonatal units and the number of staff who took care of them; the less staffing in neonatal units, the more mortality rate among the infants with very low birth weight. Furthermore, the survival rate improved when staffing increased in the same unit, the researchers used a retrospective study that covers the period of three years from January 1996 to December 1999.

McCue, Mark, and Harless (2004) conducted a study for assessment of the effect of nursing staffing on the quality of care, they used data from a longitudinal cohort of 422 hospitals and analyzed them from (1990-1995) to examine the relationships between nurse staffing and quality of care; they found that increasing registered nurse staffing had reduced mortality ratio and decreased complications ratios among patients.

Hamilton (2007) conducted a study in the U K for the purpose of assessing the relationship between nurse staffing and the mortality rate among preterm infants, the study was retrospective conducted between years 1998 and 1999, the researchers used records of 2585 preterm babies admitted to the 54 neonatal units in UK. The results showed that the mortality rate among preterm infants was related to shortage. The researchers recommended that there should be enough staffing in the neonatal units to increase survival rate for the infants.

Summary

The issue of quality is not a recent one, it has been dealt with since 13th century and continued till now, and through understanding the concepts of quality together with its dimensions, all organizations could improve quality of health care. Health quality becomes

the primary concern of all health organizations for the purpose of improving their services. Quality couldn't be achieved without explicit standards of practice that act as a guideline for healthcare providers to improve their performance. Neonatal nurses are part of the healthcare providers and they should be knowledgeable about the quality health services in order to perform their roles in improving outcomes of newborns.

CHAPTER THREE

Conceptual Framework

The purpose of this study is to assess the standards of quality care and nurses' performance at governmental neonatal units in the West Bank of Palestine. This chapter will include the conceptual framework and the conceptual and operational definitions of the variables that might have an impact on the quality of care and the performance of neonatal nurses'.

3.1 Conceptual Definitions:

Assessment: is the process of gathering information in order to determine whether need, problem, or concern is unmet (Ellis and Hurber, 2000).

Ethics: "is the systematic study of what a person's conduct and actions ought to be with regard to self, other human beings, and the environment, it is the justification of what is right or good and the study of what person's life and relationships ought to be, not necessarily what they are"(Marquis an Huston, 2006, p.68).

Professional practice evaluation: "The process of determining the outcomes and effectiveness of any action taken in relation to practice standards, guidelines, rules and regulations" (Ellis and Hartely, 2000, p.447).

Quality: "is the degree to which health services for individuals and populations increase the likelihood of desired health outcomes and are consistent with recent professional knowledge" (Messner and Lewis, 1996, p.59).

Standards: "are the broad statements that address the basic scope of professional nursing practice. They identify minimum acceptable care practices for the professional nurse who cares for specific populations of patients. These standards are population- based and not setting-specific" (ANA, 2004, p.30)

Standards of patient care: "are written statements of expectations of the care the patient should receive or results of care received" (Murry, 2003, p.187).

Performance: is the total behavior of person, the use of specialized knowledge, and attitude acquired through training, as well as organization and integration of practice (Bargagliotti, 1999).

Performance standards: "are specific written statements of nursing behaviors that further define what a nurse in a specific area of nursing should be doing which derived from standards of nursing care" (Murry, and Dicore 2003, p.186).

Neonatal Nursing: is a specialized nursing practice of caring of newborn infants (http://en.wikipedia.org/wiki/Neonatal_nursing.).

Neonatal Unit: is a unit in the hospital concerned about the ill or premature newborn infants (http://.en.wikipedia.org).

Qualified individual: "is an individual or staff member who can participate in one or all of the organization's care activities or services. Qualification is determined by the following: education, training, experience, competence, applicable licensure, law or regulation, registration, or certification" (Joint Commission International Accreditation standards for Hospital, 2008, p. 237).

Resource utilization: "is awareness of the supports available and necessary for care, as well as the use of these supports in a responsible manner to achieve quality of care" (ANA ,2004, P:30)

Collaboration: "is a recursive process where two or more people or organizations work together toward an intersection of common goals" (ANA, 2004, p.29)

Quality of care: "is the degree to which the nursing care provided activities for its standards of practice" (Murry and Dicore, 2003, p.319).

Leadership: "a process of influencing the activities of either an individual or a group in an effort to achieve goals in a given situation" (Huber, 2000, p. 50).

Continuing education: Planned educational activities intended to build upon the educational and experiential bases of the professional nurse for enhancement of practice, education, administration, research or theory development to the end of improving the health of the public (ANA, 1991).

3.2 Operational Definitions:

Standards of quality: are the measurements of procedures done to newborn babies while caring for them in term of efficiency and effectiveness. (Statements 1-51) see appendix (4)

Neonatal nurse: is the one who provides nursing care of newborn babies during first month after birth.

Neonatal units: The units that provide special care for patients whose age is from birth up to 3 months.

Neonatal period: The first 28 days after birth.

Governmental hospitals: are hospitals governed and authorized by Palestinian Ministry of Health.

Nurse performance: is the manner in which nurses perform their acts and apply procedures. (Statement 1-33) see appendix (4)

3.3 The Study Conceptual Framework

Figure 3.1 shows the study of conceptual framework. The framework developed was based on literature reviewed, and it included factors related to demographic data, organizational factors, standards of quality care and standards of performance of neonatal nurses'.

Demographic data
- Age
- Gender
- Years of experience
- Place of residence
- Educational degree

Standards of Quality
- Newborn assessment (1-7)
- Nursing care (8- 22)
- Medication management and use (23-29)
- Family education (30-34)
- Infection control (35- 42)
- Staff qualification (43-51)

Quality standards of Neonatal Nurses Performance:
- Quality of Practice (1-5)
- Continuing Education (6-8)
- Professional practice evaluation (9-17)
- Collaboration (18-20)
- Ethics (21-23)
- Resource Utilization (24-27)
- Leadership (28-33)

Organizational factors
Number of nurses' per incubator ratio

Figure 3.1 Linking selected demographic and organizational variables with the application of quality care standards in neonatal units and neonatal nurses' performance

While there is growing international interest in achieving performance according to standards, there is also recognition that the determinants of health workers' performance according to standards are not always well understood (Marques, 2001). Complex factors influence the decisions and behavior of physicians and other healthcare providers in daily practice. A number of theoretical models from the social and behavioral sciences offer potentially useful frameworks for characterizing the factors that facilitate and inhibit performance according to standards. To explore their relevance to understanding the determinants of health worker performance, this is best described by the health social influence theory (Marques, 2001).

Social influence theory posits that individuals' beliefs and behavior are strongly influenced by persons in their social network and society at large. The beliefs and values of peers, prevailing social norms, shared assumptions, and organizational culture all influence how individuals perceive and interpret information and are thus influential in behavior change (Bandura 1986). Research in psychology has found that the degree to which an individual's attitudes and behaviors are influenced by those of peers increases in proportion to uncertainty. When uncertainty is high and clear information is limited, individuals' judgments and interpretations are heavily dependent on those of others in similar situations or sharing similar characteristics (Mittman et al. 1992). Situations of uncertainty are common in healthcare delivery, especially in areas where clinical knowledge is evolving and where patient and physician preferences significantly influence selection of a course of action.

Mittman and his colleagues argued that clinical practice behavior is rooted in social and behavioral norms that define "the way we do things here" in a given setting or culture. These norms, in turn, are based on core values and beliefs about accepted ways of acting and behaving. In medicine, practice norms first develop during the socialization process of medical training and evolve through subsequent interactions with mentors and peers. Moulding et al. (1999) noted that physicians' attitudes are affected by the views of colleagues and respected opinion leaders, as well as by patients and other health professionals. Social processes influence the success of efforts to implement standards yet are often overlooked in traditional approaches for disseminating standards. Similarly, the role of the prevailing medical culture in determining physicians' beliefs and attitudes toward standards must be considered, particularly in settings where an evidence-based medicine culture is perceived as at odds with a more humanistic, patient-centered approach. Social influence can provide implicit and explicit suggestions about the inappropriateness of current practices and the acceptability of suggested alternative practices. For this reason, standards implementation strategies that incorporate social influence interventions may be expected to be more effective than strategies limited to only the transfer of information.

3.4 Factors Affecting Quality of Care and Nurses' Performances

There are several factors affecting nurses' performance and quality of care such as age, sex, educational qualification, experiences and organizational factors and presence of clear standards. In the following section those factors are discussed.

3.4.1 Demographic Factors:

3.4.1.1 Age and Nurses' Performance:

Aging may play a role when assessing the effects of sleep deprivation on performance. There is evidence suggesting that the aging process increases the physiological and cognitive fatigue. Recent laboratory studies documented a decrease in performance in older workers at the night shift compared to younger workers (Dean, Scott, & Rogers, 2006).

3.4.1.2 Gender Factor and Performance:

Differences can also exist in the way that men and women work, both in health profession and other professions. One meta-analysis had shown that women who had longer consultations were more patient centered, engaged in more emotionally focused talk, counsel more psychosocially, and that their patients speak more (Cozens, 2008).

3.4.1.3 Outcome of Neonatal care in Relation to Quality of Neonatal Care:

High quality of care in neonatology implies providing an appropriate level of care to well newborn babies as well as more concentrated care for few babies who need it. Aclot (2008) mentioned that there was a relationship between the quality of care and mortality rate in neonatal units in England. The researcher viewed different studies conducted on neonates and through observing the morbidity and mortality outcomes of neonates in different hospitals, he found that mortality and morbidity rates increased in relation to incompliance to national standards of neonatal nursing care, decrease staffing in the units, increase units' volume, increase nosocomial infection, decrease continuous education for neonatal nurses, and decrease quality improvements measurements in those units.

3.4.1.4 Qualifications of Neonatal Nurse:

A qualification of the neonatal nurse plays a great role in improving the quality of care in the neonatal units. Aubrey and Yoxall (2001) found that preterm infants resuscitated by Advanced neonatal nurse paractitioners were less likely to be intuabted, and less likely to be admitted to neonatal unit.

3.4.2 Organizational Factor:

3.4.2.1 Staffing:

Concerns have been raised about the impact of nursing shortage on the quality of care, increased workload and poor patient outcomes. While these views have been echoed in neonatal care, there is evidence of the impact of nursing level on infant outcomes.

A few studies have attempted to empirically test the relationship between staffing and neonate outcomes, among these studies, one study conducted in seven Scottish and two Australian neonatal units suggested that risk adjusted mortality is independently related to

infant: nurse ratios in the first three days after birth with 79% increase of mortality when more than 1.7 infants where assigned per nurse per shift.

Hamilton et al (2007) found that increasing ratio of nurses with neonatal qualifications to intensive care and high dependency infants to 1:1 was associated with a decrease in risk-adjusted mortality (48%). The study concluded that survival in neonatal care for very low birthweight or preterm infants was related to proportion of nurses with neonatal qualifications per shift.

Summary

The chapter presented the conceptual framework of the study, conceptual and operational definitions of the study variables. There are some factors that might affect the quality of care and neonatal nurses' performance; such factors are age of nurse, gender, experience and educational qualification. Organizational factors may also have an effect on quality.

Chapter Four

Methodology and Procedures

This chapter presents a detailed description of study design, population, study sample, instruments, reliability and validity of the instruments, study variables and statistical analysis, in addition to ethical considerations, limitations, and pilot study.

4.1 Study Design

This study is quantitative in nature and is conducted by utilizing a descriptive exploratory approach. According to Heath (1995) the main objective of descriptive research is to give accurate description of persons, situations, or group, and the frequency with which certain phenomena or characteristics occur. Grove & Burns (1997) had also defined the quantitative research as "descriptive designs provide information about the phenomenon through observation; provide a picture of situations as they naturally happen; and they are used to identify problems with current practice"(p.250). Polit and Beck (2006) mentioned that the quantitative research is collection and analysis of numeric information that typically conducted within the traditional scientific method. Moreover, Polit and Beck (2006) mentioned that the exploratory research is a study that explores the dimensions of a phenomenon or develops hypotheses about the relationships between phenomena.

4.2 Study population

The study included all neonatal nurses working in seven governmental hospitals in the West Bank, making a total 84 neonatal nurses whom were asked to participate in this study. Polit and Beck (2006) described a population as "the entire group of persons or objects that is of interest to the researcher, which also meets the criteria which the researcher is interested in studying" (p.727).

4.3 Study Instruments

The researcher formulated two questionnaires from the following resources. The first questionnaire "standards of quality" was prepared using Joint commission International Accreditation Standards for hospitals manual (2008) Appendix (4). The items of standard were modified to fit the Palestinian neonatal hospitals. The second questionnaire "standards of performance of the neonatal nurses", was prepared using the National Association of Neonatal Nursing (NANN) manual (2004) which consisted the standards of practice and performance of neonatal nurses who care for high risk neonates and their families, and these standards reflected the value and priorities of nursing profession.

Quinn (2000) described the questionnaire as "a sequence of questions that the respondent is required to answer"(p. 519). Billings et al (2005) defined the questionnaire as a method in which a person answers questions in writing on a form that is usually self-administered. Structured instruments consist of a set of questions (items) in which the wording of both the questions and response alternatives is predetermined (Polit and Beck, 2006).

The most popular of the questionnaire dimensions were constructed using a 5 point Likert scale. According to Polit and Beck (2006) a Likert scale consists of several items that

express a point of view on topic to indicate the degree to which the respondent agree or disagree with each statement. In this study, a likert scale was weighed as strongly agree = 5, agree = 4, uncertain = 3, disagree = 2, and strongly disagree = 1

The questionnaires were written in English, and then were translated to Arabic by two English university teachers. The Arabic version was then back-translated into English and then examined and compared with original version. There was no particular difficulty found in translation and back translation.

4.3.1 Study Variables

The study consists of independent and dependent variables as follows:

1. **Independent variables:** are the characteristics of the respondents which included: age, place of residence, gender, qualification, and experience.

2. **Dependent variables**: included the following

First instrument: Standards of quality care which includes the following domains

1. Newborn nursing assessment. Items (1-7)
2. Neonatal nursing care (8-22)
3. Medication management and use (23-29)
4. Family education (30-34)
5. Infection control (35-42)
6. Neonatal nurse qualification and education (43-51)

Second instrument: Neonatal nurses performance standards:
1. Quality of practice (1-5)
2. Continuing Education (6-8)
3. Professional practice evaluation.(9-17)
4. Collaboration (18-20)
5. Ethics (21-23)
6. Resource Utilization (24-27)
7. Leadership (28-33)

4.3.2 Validity of the Instruments:

The structured questionnaires were reviewed by 5 specialists in neonatal care, and research experts (Appedix 5) to determine whether the items in the questionnaire were relevant and suitable to study purpose. The questionnaires were modified slightly according to experts' suggestions. According to Polit and Hungler (2001) validity refers to" the degree to which the instrument measures what is supposed to measure" (p.353). The content validity is the degree to which the items in an instrument adequately represent the universe of the content.

4.3.3 Reliability of the Instruments:

To determine the reliability of the questionnaire Cronbach Alpha was used. Table (4.3) shows the reliability coefficients for the two questionnaire items.

Table (4.1): Reliability coefficients for standards of quality care and nurses' performance in neonatal units

Standard	No. Of items	Reliability coefficient
Standards of quality care in neonatal units		
Newborn nursing assessment	7	0.72
Neonatal nursing care	15	0.89
Medication management and use	7	0.70
Family education	5	0.78
Infection control	8	0.81
Neonatal nurse qualification and education	9	0.85
Total score for first instrument	**51**	**0.94**
	No. of items	**Reliability coefficient**
Performance standards in the neonatal units		
Quality of practice	5	0.89
Education	3	0.60
Professional practice evaluation	9	0.89
Collaboration	3	0.87
Ethics	3	0.65
Resource Utilization	4	0.73
Leadership	6	0.87
Total score for second instrument	**33**	**0.94**

As seen from table (4.3), all reliability coefficients values within high values.

Polit and Beck (2006) defined the reliability of a quantitative instrument as "a major criterion for assessing its quality and adequacy. An instrument's reliability is the consistency with which it measures the target attribute"(p. 416). Reliability also concerns a measure's accuracy. A reliable measure maximizes the true score component and minimizes the error component (Polit and Beck, 2006).

4.3.4 Pilot Study:

Piloting has been conducted in order to test response rate and to modify any part of the study before the start of the main study. The sites of piloting were 3 nongovernmental hospitals in Nablus city: Al-Ittihad hospital, St-Lukus hospital and Al-Arabi hospital all these hospitals have neonatal units that provide services to sick newborn babies. After sending a formal letter to the administration department of these hospitals explaining the purpose of this study, and how the study would be conducted, permission was granted from the general directors of hospitals. 10 nurses from the three hospitals filled in the questionnaires, and pilot went without any problem.

4.4 Ethical Consideration

An official letter was sent from Al-Quds University to the Ministry of Health asking for permission to access the hospitals and collect data from neonatal nurses. An official letter was obtained from Ministry of Health/General Director of Hospitals (Appendix 1) to facilitate data collection procedures. An informed consent was attached to the

questionnaire; respondents were assured that the data will only be used for research purpose, and confidentiality will be maintained. Moreover, participants had the right to refuse to participate or withdraw from the study at anytime.

4.5 Study Settings

The study was conducted in the neonatal units at governmental hospital in the West Bank/ Palestine. These hospitals are Nablus, Jenin, Tulkarem, Ramallah, Jerico, Hebron and Salfit. The neonates' admission rate in theses hospitals ranged from 13 to 136 monthly in 2008.

4.6 Study Period

The study was conducted in the period between November 2008, and November 2009.

4.7 Data Collection

Self-administrated questionnaires were distributed among hospitals, and were handed to head nurses of each neonatal unit in order to distribute them among neonatal nurses. It took around 1 month to finish data collection. The response rate was 96%

4.8 Statistical Analysis

The data were analyzed data with by using the Statistical Package for Social Sciences program (SPSS version 10). Frequency distribution means, and standard deviation were computed for continuous numeric variables and to answer questions of the study. An independent t- test, one-way ANOVA statistical test, Scheffe Post Hoc, and correlation were used to test the study hypothesis. The relation between the items in both questionnaires and study variables then were established.

Polit and Beck (2007) defined Analysis of Variance (ANOVA) as " a statistical procedure for testing mean differences among three or more groups by comparing variability between groups to variability within groups" (p.711). And they defined t-test as "A parametric statistical test for analyzing the difference between two means "(p.734). Moreover, they defined Scheffe Post Hoc test as "A test for comparing all possible pairs of groups following a significant test of overall group differences (e.g. in an ANOVA)" (p.728). Correlation defined as "an association or connection between variables such as variation in one variable is related to variation in another" (p.715).

4.9 Limitations of Study

There were some limitations during conducting this study; these limitations are summarized in the following:
.
- Lack of research studies related to this study and lack of resources in standards of quality of care.
- The financial limitation since the study was self funded

Summary

The purpose of the study was to assess the standards of quality care and the performance of neonatal nurse at governmental hospitals in West Bank. For this purpose a descriptive exploratory research design utilized. Two questionnaires were used depending on the international standards of quality and performance. After testing reliability, and validity of the tools, the questionnaires were distributed in the seven governmental hospitals. All neonatal nurses were asked to participate in the study after taking permission of MOH. The results were analyzed by using (SPSS) version 10.

CHAPTER FIVE

Findings of the Study

This study was conducted to determine the level of standards of quality care and nurses' performance in governmental hospitals. Also the study examined the relationship between different socio-demographic variables and nurses' performance and standards of quality care. To achieve the study purpose, validated reliable questionnaires were distributed among all neonatal nurses working in governmental hospitals.

This chapter contained two parts: first, descriptive statistics which includes demographic characteristics of participants' means standard deviations and ranges for the components of the two questionnaires, questions related findings, and the second part, results of hypothesis.

5.1 Demographic Characteristics of the Respondents

Neonatal nurses at governmental hospitals, who had been working in neonatal units were targeted for participation in the study. Two questionnaires containing the standards of quality care, and standards of performance were distributed. A total of 81 participants returned the questionnaires. Table (5.1) showed the respondent distribution in different hospitals.

Table (5.1) Respondents distribution

Hospital	Frequency	Percentage
Jenin	12	14.8
Tulkarem	10	12.3
Nablus	21	25.9
Ramallah	9	11.1
Hebron	11	13.6
Jericho	13	16.0
Salfit	5	6.2
Total	**81**	**100%**

The age of respondents ranged from 20 to over 41 years. The majority (65.4%) were between 20-30 of age, (23.5%) were between 31-40 years of age and (11.1%) were 41 and more of age. Female respondents accounted (96.3%), while male respondents were (3.7%). The majority of nurses were from villages with percentage (44.4%), while (25.9%) were from cities, and (29.6%) were from camps. Neonatal nurses' characteristics showed that (66.7%) had 2 years diploma, while (8.6%) had 3 years diploma, and (24.7%) of nurses had B.A or more degrees. Of the 81 participants of the study (21%) had experience of less than 1 year, while (43.2%) had between 1-5 years of experience, (16%) had 6-10 years of experience, and (11.1%) had between 11-15 years of experience and (8.6%) had 16 or more years of experience. Table (5.2) showed demographic characteristics of the respondents.

Table (5.2) Respondents Characteristics

Respondents Characteristics	Frequency	Percentage
Age		
20-30	53	65.4
31-40	19	23.5
41 and more	9	11.1
Total	**81**	**100%**
Place of residence		
City	21	25.9
Village	36	44.4
Camp	24	29.6
Total	**81**	**100%**
Gender		
Male	3	3.7
Female	78	96.3
Total	**81**	**100%**
Qualification		
Diploma (2 years)	54	66.7
Diploma (3 years)	7	8.6
B.A and more	20	24.7
Total	**81**	**100%**
Years of experience		
Less than 1 year	17	21
1-5	35	43.2
6-10	13	16
11-15	9	11.1
16 and more	7	8.6
Total	**81**	**100%**

5.2 Findings Related to the First Question of the Study

5.2.1 What is the Current level of Standards of Quality Care at Neonatal Units?

To answer this question, means, percentages and standard deviations of the questionnaire items were calculated. Then, the researcher used a scale to evaluate respondents' agreement level for each item, the scale was as follows:

90-100 = very high

80-89.9 = high

65-79.9 = moderate

55-64.9= low

And less than 55= very low

Table (5.3) The mean scores, standard deviations and percentages of newborn nursing assessment standard

No.	Statement	Mean	S.D	Percentage	Evaluation level
1	Initial assessment of newborn includes physical examination.	4.01	0.81	80.2	High
2	In your department the content of assessment based on applicable protocols.	3.83	1.02	76.6	Moderate
3	Nursing care needs are determined by the assessment.	4.16	0.86	83.2	High
4	Nursing assessment findings are always documented.	4.15	0.91	83.0	High
5	Newborns are always assessed for response to treatment.	4.00	0.89	80.0	High
6	There is coordination between nursing assessment and medical assessment	4.07	1.01	81.4	High
7	Nursing assessment process is enough to determine the care needs for newborns.	3.52	1.05	70.4	Moderate
Total score of newborn nursing assessment		**3.96**	**0.58**	**79.2**	**Moderate**

Table (5.3) showed that the overall level of newborn nursing assessment standard's application was moderate, with mean (3.96) and percentage (79.2%).

Table (5.4) The mean scores, standard deviations and percentages of neonatal nursing care standard

No.	Statement	Mean	S.D	Percentage	Evaluation level
8	All newborns are cared for according to their needs.	4.41	0.75	88.2	High
9	Neonatal nursing care based on uniformed protocols.	3.72	1.13	74.4	Moderate
10	The neonatal nurse use nursing care plans for all newborns	3.85	0.99	77.0	Moderate
11	Nursing care Plan is actually applied.	3.91	0.91	78.2	Moderate
12	Nursing care plan is documented in the chart.	4.10	0.94	82.0	High
13	There are clear guidelines for nursing care procedures in the unit.	3.88	1.04	77.6	Moderate
14	All neonatal nurses receive training for applying these procedures	3.44	1.31	68.8	Moderate
15	There is a procedure guide for caring of newborns in case of emergency	2.90	1.25	58.0	Low
16	There is a procedure guide for caring of newborn on life support mechanical ventilator.	3.57	1.40	71.4	Moderate
17	There is a clear protocols for administering blood products during caring of newborn	3.72	1.23	74.4	Moderate
18	There is a clear guide for preparing feedings in the unit.	4.02	1.14	80.2	High
19	All types of milk are available in the unit.	3.32	1.43	66.4	Moderate
20	There is a clear protocols for intravenous fluid administration during nursing care of newborns.	4.31	0.96	86.2	High
21	There is coordination among nursing care plan and medical care plan.	3.98	0.91	79.6	Moderate
22	All protocols and procedures guidelines are followed by neonatal nurses during caring of newborns.	4.17	0.80	83.4	High
Total score of neonatal nursing care		**3.81**	**0.72**	**78.2**	**Moderate**

Table (5.4) showed that the overall level of neonatal nursing care standard's application was moderate with mean (3.81) and percentage (78.2%). All item levels ranged between high and moderate except for item (15) it was low.

Table (5.5): The mean scores, standard deviations and percentages of medication management and use standard

No.	Statement	Mean	S.D	Percentage	Evaluation level
23	There is a clear guideline for Medication use in the unit.	4.40	0.65	88.0	High
24	All medications for newborns are available in the unit.	3.31	1.17	66.2	Moderate
25	The medication is stored according to manufacturing guide.	4.10	1.08	82.0	High
26	The neonatal nurses know the side effect of all medications administered to newborns.	4.10	0.82	82.0	High
27	The medication errors are always reported by nurses	4.05	0.92	81.0	High
28	There is a form for medication error in the unit.	3.10	1.39	62.0	Low
29	All medications are documented in the chart.	4.51	0.81	90.2	Very high
Total score of medication management and use		**3.94**	**0.60**	**78.8**	**Moderate**

Table (5.5) showed that the overall level of medication management and use standard's application was moderate, with mean (3.94) and percentage (78.8%). All item levels ranged between very high, moderate and high except for item (28) it was low.

Table (5.6):The mean scores, standard deviations and percentages of family education standard

No.	Statement	Mean	S.D	Percentage	Evaluation level
30	You could identify the educational needs for families of newborns	3.91	1.01	78.2	Moderate
31	You educate families about how to participate in care decisions of their newborns.	3.99	0.98	79.8	Moderate
32	Families are informed about all procedures to be done to their newborns	3.89	1.00	77.8	Moderate
33	Families receive education regarding neonatal care after discharge.	3.96	0.89	79.2	Moderate
34	Families are educated for usage of community resources for ongoing care of their newborns.	3.79	1.00	77.8	Moderate
Total score of family education		**3.91**	**0.72**	**79.2**	**Moderate**

Table (5.6) showed that the overall level of family education standard's application was moderate, with mean (3.91) and percentage (79.2%).

Table (5.7):The mean scores, standard deviations and percentages of infection control standard

No.	Statement	Mean	S.D	Percentage	Evaluation level
35	There is infection control protocol in newborn unit.	3.96	1.03	79.2	Moderate
36	Infection control procedures are always followed	4.07	1.03	81.4	High
37	There is isolation room for infected cases in the unit.	3.60	1.47	72.0	Moderate
38	The spoiled linens and laundry are handled in a proper way in the unit.	3.70	1.35	74.0	Moderate
39	Soap and disinfectants detergents are always available in the unit.	4.26	0.89	85.2	High
40	There is always assigned cleaner in the unit.	3.54	1.41	70.8	Moderate
41	Disposable wastes are properly handled by the neonatal nurse	3.59	1.29	71.8	Moderate
42	A specific neonatal nurse is assigned to take care of infected newborn.	3.14	1.48	62.8	Low
Total score of infection control		**3.73**	**0.84**	**74.6**	**Moderate**

Table (5.7) showed that the overall level of infection control standard's application was moderate, with mean (3.73) and percentage (74.6%). All item levels ranged between high to moderate level except for item (42) the level was low.

Table (5.8): The mean scores, standard deviations and percentages of neonatal nurse qualification and education standard

No.	Statement	Mean	S.D	Percentage	Evaluation level
43	You have enough knowledge in Neonatal nursing care.	3.99	0.97	79.8	Moderate
44	You have enough skills in neonatal nursing care.	3.98	0.99	79.6	Moderate
45	You received in-service training regarding neonatal nursing care.	3.90	1.10	78.0	Moderate
46	You have specific scientific degree in neonatal nursing care.	3.72	1.05	74.4	Moderate
47	your knowledge in neonatal care is consistent with the actual need of newborn	4.07	0.80	81.4	High
48	The neonatal head nurse always provides opportunities for clinical improvement in the unit.	3.98	0.96	79.6	Moderate
49	There is always a continuous evaluation of the neonatal nurses regarding their skills and knowledge.	3.90	1.04	78.0	Moderate
50	The neonatal head nurse provides time for continuing education regarding neonatal care.	3.53	1.30	70.6	Moderate
51	You have participated in any educational programs regarding neonatal nursing care in the last year.	2.93	1.39	58.6	Low
Total score of Neonatal Nurse Qualification and Education		**3.78**	**0.73**	**75.6**	**Moderate**

Table (5.8) showed that the overall level of neonatal nurse qualification and education standard's application was moderate, with mean (3.78) and percentage (75.6%). All item levels ranged between moderate and high except for item (51) the level was low.

Table (5.9): Total score of standards of quality care for neonatal nurses

No.	Standard	Mean	S.D	Percentage	Evaluation level
1	Newborn nursing assessment	3.96	0.58	79.2	Moderate
2	Neonatal nursing care	3.81	0.72	78.2	Moderate
3	Medication management and use	3.94	0.60	78.8	Moderate
4	Family education	3.91	0.72	79.2	Moderate
5	Infection control	3.73	0.84	74.6	Moderate
6	Neonatal nurse qualification and education	3.78	0.73	75.6	Moderate
	Total score	**3.85**	**0.57**	**77.0**	Moderate

Table (5.9) showed that the total score of standards of quality care for neonatal nurses was medium, with mean (3.85) and percentage (77.0%).

5.3 Findings Related to Second Questionnaire of the Study

5.3.1 What is the Current Level of Neonatal Nurses' Performance at Neonatal Units?

Table (5.10):The mean scores, standards deviations and percentages of quality of practice standard

No.	Statement	Mean	Std. Deviation	percentage	Evaluation Level
1.	The neonatal nurse identifies quality aspects during nursing care	3.86	0.85	77.2	Moderate
2.	The neonatal nurse participates in developing policies, procedures, and practice guidelines for the unit.	3.60	1.13	72.0	Moderate
3.	The neonatal nurse uses continuous quality-improvement activities to initiate changes in nursing practice.	3.69	1.06	73.8	Moderate
4.	The neonatal nurse uses quality-improvement data to initiate health care delivery system changes, as needed.	3.64	0.94	72.8	Moderate
5.	The neonatal nurse identifies indicators used to monitor quality and affect neonatal care.	3.70	0.94	74.0	Moderate
	Total score	**3.70**	**0.83**	**74.0**	**Moderate**

Table (5.10) showed that the overall level of quality of practice standard was moderate, with mean (3.70) and percentage (74.0%).

Table (5.11):The mean scores, standard deviations and percentages of education standard

No.	Statement	Mean	Std. Deviation	percentage	Evaluation Level
6.	The neonatal nurse participates in ongoing educational activities related to clinical and theoretical knowledge and professional issues.	3.47	1.18	69.4	Moderate
7.	The neonatal nurse seeks experiences that reflect current clinical practice to maintain current clinical skills and competence.	4.05	0.86	81.0	High
8.	The neonatal nurses apply the neonatal knowledge and skills in the clinical setting.	4.16	0.81	83.2	High
Total score		**3.89**	**0.69**	**77.8**	**Moderate**

Table (5.11) showed that the overall level of education standard was moderate, with mean (3.89) and percentage (77.8%).

Table (5.12-a):The mean scores, standards deviations and percentages of professional practice evaluation standard

No.	Statement	Mean	Std. Deviation	percentage	Evaluation level
9.	The neonatal nurse Engages in performance appraisal on a regular basis, identifying areas of strength, weakness, as well as areas for professional development.	3.81	0.95	76.2	Moderate
10.	The neonatal nurse seeks constructive feedback on an ongoing basis for the purpose of professional development.	3.88	0.89	77.6	Moderate
11.	The neonatal nurse takes action to achieve professional goals identified during performance appraisal process.	3.98	0.89	79.6	Moderate
12.	The neonatal nurse demonstrates knowledge of current professional practice standards, laws, and regulations regarding neonatal nursing care	3.96	0.86	79.2	Moderate
13.	The neonatal nurse shares knowledge and skills with her colleagues.	4.17	0.86	83.4	High
14.	The neonatal nurse provides peers with constructive feedback regarding neonatal care and practice.	4.00	0.97	80.0	High
15.	The neonatal nurse interacts with colleagues to enhance one's own professional neonatal nurse practice.	4.12	0.76	82.4	High
16.	The neonatal nurse contributes in and supports the creation of a healthy work environment.	4.12	0.73	82.4	High
17.	The neonatal nurse contributes to an environment that is conductive to the clinical education of nursing student, other healthcare trainees, and other employees, as appropriate	4.07	0.77	81.4	High
	Total score	**4.01**	**0.83**	**80.2**	**High**

Table (5.12) showed that the overall level of professional practice evaluation standard was high with mean (4.01) and percentage (80.2%).

Table (5.13): The mean scores, standards deviations, and percentages of collaboration standard

No.	Statement	Mean	Std. Deviation	percentage	Evaluation Level
18.	The neonatal nurse continuously communicates with the family and other healthcare providers regarding neonatal care in a collaborative manner.	3.57	1.07	71.4	Moderate
19.	The neonatal nurse collaborates with the family and other health providers in the formulation of overall goals and the plan of care regarding newborn.	3.63	1.01	72.6	Moderate
20.	The neonatal nurse consults with other healthcare providers for neonatal care as needed.	3.89	1.00	77.8	Moderate
	Total score	**3.70**	**0.86**	**74.0**	**Moderate**

Table (5.13) showed that the overall level of collaboration standard was moderate, with mean (3.70) and percentage (74.0%).

Table (5.14) The mean scores, standards deviations and percentages of ethics standard

No.	Statement	Mean	Std. Deviation	percentage	Degree
22.	The neonatal nurse maintains infant and family confidentiality within legal and regularity parameters.	4.37	1.01	87.4	High
23.	The neonatal nurse delivers care in a nonjudgmental manner.	4.43	0.92	88.6	High
24.	The neonatal nurse informs family for potential risks, benefits, and outcomes of healthcare regimens.	4.21	1.01	84.4	High
	Total score	**4.34**	**0.63**	**86.8**	**High**

Table (5.14) showed that the overall level of ethics standard was high with mean (4.34) and percentage (86.8%)

Table (5.15):The mean scores, standards deviations and percentages of resource utilization standard

No.	Statement	Mean	Std. deviation	Percentage	Evaluation level
25.	The neonatal nurse evaluates infant safety, effectiveness, availability among practice options.	4.19	0.85	83.8	High
26.	The neonatal nurse assists family in identifying and securing necessary resources and services to address healthcare needs.	4.07	0.88	81.4	High
27.	The neonatal nurse assigns tasks based on the needs and condition of the infant, the potential for harm, the stability of the infant's condition, and the complexity of the care.	4.02	0.84	80.4	High
28.	The neonatal nurse utilizes organizational and community resources to formulate multidisciplinary plan of care for infants.	3.85	0.91	77.0	Moderate
	Total score	**4.03**	**0.70**	**80.6**	**High**

Table (5.15) showed that the overall level of resource utilization standard was high, with mean (4.03) and percentage (80.6%).

Table (5.16):The mean scores, standard deviations and percentages of leadership standard

No.	Statement	Mean	Std. Deviation	percentage	Evaluation Level
29.	The neonatal nurse engages in teamwork, and a team builder.	4.19	0.95	83.8	High
30.	.The neonatal nurse demonstrates a commitment to continuous lifelong learning for self and others.	4.22	0.76	84.4	High
31.	The neonatal nurse directs the coordination of care across settings and among health givers.	4.05	0.91	81.0	High
32.	The neonatal nurse promotes of profession through participation in professional organization.	3.95	1.00	79.0	Moderate
33.	The neonatal nurse exhibit creativity and flexibility through time of change	4.14	0.82	82.8	High
34.	The neonatal nurse teaches others to succeed by monitoring and other strategies for developing of profession.	4.02	0.92	80.4	High
Total score		**4.10**	**0.70**	**82.0**	**High**

Table (5.16) showed that the overall level of leadership standard was high, with mean (4.10) and percentage (82.0%).

Table (5.17):The mean scores, standards deviations and percentages of total score of performance standards

No.	Standards	Mean	Std. Deviation	percentage	Evaluation level
1.	Quality of practice	3.70	0.83	74.0	Moderate
2.	Education	3.89	0.69	77.8	Moderate
3.	Professional practice evaluation	4.01	0.83	80.2	High
4.	Collaboration	3.70	0.86	74.0	Moderate
5.	Ethics	4.34	0.63	86.8	High
6.	Resource Utilization	4.03	0.70	80.6	High
7.	Leadership	4.10	0.70	82.0	High
Total score		**3.88**	**0.59**	**77.6**	**Moderate**

Table (5.17) showed that the overall level of neonatal nurses' performance was moderate, with mean (3.88) and percentage (77.6%).

5.4 Findings Related to Study Hypothesis

The following tests were used for testing the study hypothesis

1- One Way ANOVA (hypotheses):1, 3, 4, 5, 6, 9, and10
2- Scheffe Post Hoc (hypotheses):1, 4, 5, 8, and10
3- T-Test (hypotheses):2 and 7
4- Correlation (hypothesis)11

5.4.1 Findings Related to Hypothesis One:

There are no significant differences at ($\alpha \leq 0.05$) in application of standards of quality care among nurses working in neonatal units at governmental hospitals in the West Bank related to age.

Table (5.18-a): Frequencies, means and standards deviations for level of neonatal nursing care quality standard's application according to age

Standard	Age	Frequency	Mean	S.D
New born nursing assessment	20-30	53	3.95	.570
	31-40	19	4.02	.510
	41 and more	9	3.94	.810
	Total	**81**	3.96	.580
Neonatal nursing care	20-30	53	3.68	.730
	31-40	19	3.93	.540
	41 and more	9	4.31	.730
	Total	**81**	3.81	.720
Medication Management and use	20-30	53	3.83	.600
	31-40	19	4.05	.450
	41 and more	9	4.41	.610
	Total	**81**	3.95	.600
Family education	20-30	53	3.78	.780
	31-40	19	4.11	.530
	41 and more	9	4.24	.470
	Total	**81**	3.91	.720
Infection control	20-30	53	3.61	.810
	31-40	19	3.84	.590
	41 and more	9	4.25	1.25
	Total	**81**	3.73	.840
Neonatal nurse qualification and education	20-30	53	3.63	.690
	31-40	19	3.90	.790
	41 and more	9	4.40	.450
	Total	**81**	3.78	.730
Total score	20-30	53	3.73	.550
	31-40	19	3.96	.460
	41 and more	9	4.27	.660
	Total	**81**	3.85	.570

Table (5.19): One Way ANOVA Test for level of neonatal nursing care quality standards' application according to age

Standard	Source of Variation	Sum of Squares	D.F	Mean Squares	F value	Sig.
New born nursing assessment	Between groups	0.089	2	0.044	0.129	0.879
	Within groups	26.922	78	0.345		
	Total	27.011	80			
Neonatal nursing care	Between groups	3.440	2	1.720	3.560	0.033*
	Within groups	37.686	78	0.483		
	Total	41.125	80			
Medication Management and use	Between groups	2.817	2	1.409	4.285	0.017*
	Within groups	25.315	78	0.329		
	Total	28.132	80			
Family education	Between groups	2.611	2	1.306	2.655	0.077
	Within groups	38.353	78	0.492		
	Total	40.964	80			
Infection control	Between groups	3.453	2	1.727	2.555	0.084
	Within groups	52.715	78	0.676		
	Total	56.168	80			
Neonatal nurse qualification and education	Between groups	4.923	2	2.462	5.079	0.008*
	Within groups	37.805	78	0.485		
	Total	42.728	80			
Total score	Between groups	2.555	2	1.277	4.294	0.017*
	Within groups	22.905	78	0.297		
	Total	25.459	80			

Table (5.19) showed that there were significant differences at the level of ($\alpha = 0.05$) between the means of application of following standards: neonatal nursing care, medication management and use, neonatal nurse qualification and education, and total score attributed to age. Tables (5.20-5.23) showed the results of using Scheffe Post Hoc Test.

Table (5.20): Scheffe Post Hoc, for comparing the means of neonatal nursing care standard's application attributed to age

Age	20-30	31-40	41 and more
20-30		0.245	0.633*
31-40			0.385
41 and more			

Table (5.20) showed that there were significant differences in application of neonatal nursing care standard between age group (20-30) and (41 and more) in favor of (41 and more).

Table (5.21): Scheffe Post Hoc, for comparing the means of medication management and use standard's application attributed to age

Age	20-30	31-40	41 and more
20-30		0.213	0.580*
31-40			0.368
41 and more			

*Statistically significant at ($\alpha = 0.05$)

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Table (5.21) showed that there were significant differences in application of medication management and use standard between age groups (20-30) and (41 and more) in favor of (41 and more).

Table (5.22): Scheffe Post Hoc for comparing the means of qualification and education standard's application attributed to age

Age	20-30	31-40	41 and more
20-30		0.274	0.768*
31-40			0.495
41 and more			

* Statistically significant at (α = 0.05)

Table (5.22) showed that there were significant differences in the qualification and education standard between age group (20-30) and (41 and more) in favor of (41 and more).

Table (5.23): Scheffe Post Hoc for comparing the means of total score of neonatal nursing care standards' application attributed to age

Age	20-30	31-40	41 and more
20-30		0.225	0.542*
31-40			0.317
41 and more			

* Statistically significant at (α = 0.05)

Table (5.23) showed that there were significant differences in total score of neonatal nursing care quality standards' application between age group (20-30) and (41 and more) in favor of (41 and more).

5.4.2 Findings related to hypothesis two:

There are no significant differences in application of standards of quality care among nurses working in neonatal units at governmental hospitals in the West Bank related to gender.

Table (5.24): T-Test for level of neonatal nursing care quality standards' application attributed to gender

Standard	Male (N=3)		Female (N=78)		T value	Sig.
	Mean	Standard deviation	Mean	Standard deviation		
Newborn nursing assessment	4.29	0.52	3.95	0.58	0.980	0.330
Neonatal nursing care	3.69	0.37	3.81	0.73	0.288	0.774
Medication management and use	3.90	0.70	3.95	0.60	0.128	0.899
Family education	4.27	1.27	3.89	0.70	0.882	0.381
Infection control	4.42	0.31	3.71	0.84	1.447	0.152
Neonatal nurse qualification and education	3.33	0.22	3.79	0.74	1.071	0.287
Total score	**3.91**	**0.18**	**3.84**	**0.58**	**0.196**	**0.845**

* Statically significant at (α = 0.05). Degree of Freedom = 79

Table (5.24) shows that there are no differences between the means of neonatal nursing care quality standards' application attributed to gender.

5.4.3 Findings related to hypothesis three:

There are no significant differences in application of standards of quality care among nurses working in neonatal units at governmental hospitals units in West Bank related to place of residence.

Table (5.25-a): Frequencies, means and standards deviations of the level of neonatal nursing care quality standard's application attributed to place of residence

Standard	Place	Frequency	Mean	S.D
New born nursing assessment	City	21	3.83	0.68
	Village	36	4.01	0.53
	Camp	24	4.01	0.56
	Total	**81**	**3.96**	**0.58**
Neonatal nursing care	City	21	3.65	0.61
	Village	36	3.90	0.65
	Camp	24	3.81	0.89
	Total	**81**	**3.81**	**0.72**
Medication Management and use	City	21	3.69	0.61
	Village	36	4.04	0.55
	Camp	24	4.03	0.61
	Total	**81**	**3.95**	**0.60**
Family education	City	21	3.62	0.81
	Village	36	3.99	0.74
	Camp	24	4.03	0.51
	Total	**81**	**3.91**	**0.72**
Infection control	City	21	3.52	0.82
	Village	36	3.87	0.80
	Camp	24	3.72	0.89
	Total	**81**	**3.73**	**0.84**
Neonatal nurse qualification and education	City	21	3.65	0.79
	Village	36	3.78	0.74
	Camp	24	3.88	0.68
	Total	**81**	**3.78**	**0.73**
Total score	City	21	3.66	0.54
	Village	36	3.92	0.54
	Camp	24	3.91	0.62
	Total	**81**	**3.85**	**0.57**

Table (5.26): One Way ANOVA Test for level of neonatal nursing care quality standards' application attributed to place of residence

Standard	Source of Variation	Sum of Squares	D.F	Mean Squares	F value	Sig.
New born nursing assessment	Between groups	0.502	2	0.251	0.739	0.481
	Within groups	26.509	78	0.340		
	Total	27.011	80			
Neonatal nursing care	Between groups	0.821	2	0.40	0.794	0.456
	Within groups	40.304	78	0.517		
	Total	41.125	80			
Medication Management and use	Between groups	1.844	2	0.922	2.701	0.074
	Within groups	26.288	77	0.341		
	Total	28.132	79			
Family education	Between groups	2.399	2	1.200	2.426	0.095
	Within groups	38.565	78	0.494		
	Total	40.964	80			
Infection control	Between groups	1.630	2	0.815	1.166	0.317
	Within groups	54.538	78	0.699		
	Total	56.168	80			
Neonatal nurse qualification and education	Between groups	0.640	2	0.320	0.593	0.555
	Within groups	42.089	78	0.540		
	Total	42.728	80			
Total score	Between groups	1.026	2	0.513	1.617	0.205
	Within groups	24.433	77	0.317		
	Total	25.459	79			

* Statically significant at ($\alpha = 0.05$)

Table (5.26) showed that there were no significant differences between the means of neonatal nursing care quality standards' application attributed to place of residence.

5.4.4 Findings related to hypothesis four:

There are no significant differences in application of standards of quality care among nurses working in neonatal units at governmental hospitals in West Bank related to level of education

Table (5.27-a): Frequencies, means, and standards deviations of level of neonatal nursing care quality standards' application attributed to level of education.

Standard	Level of education	Frequency	Mean	S.D
New born nursing assessment	Diploma (2years)	54	4.01	0.52
	Diploma (3years)	7	3.94	0.47
	B.A and more	20	3.85	0.77
	Total	**81**	**3.96**	**0.58**
Neonatal nursing care	Diploma (2years)	54	3.96	0.64
	Diploma (3years)	7	3.81	0.59
	B.A and more	20	3.38	0.82
	Total	**81**	**3.81**	**0.72**
Medication Management and use	Diploma (2years)	54	3.98	0.61
	Diploma (3years)	7	4.22	0.47
	B.A and more	20	3.78	0.58
	Total	**81**	**3.95**	**0.60**
Family education	Diploma (2years)	54	3.88	0.74
	Diploma (3years)	7	4.17	0.65

Table (5.27-b)

	B.A and more	20	3.90	0.69
	Total	**81**	**3.91**	**0.72**
Infection control	Diploma (2years)	54	3.86	0.81
	Diploma (3years)	7	3.79	0.81
	B.A and more	20	3.39	0.88
	Total	**81**	**3.73**	**0.84**
Neonatal nurse qualification and education	Diploma (2years)	54	3.79	0.73
	Diploma (3years)	7	3.68	0.91
	B.A and more	20	3.78	0.70
	Total	**81**	**3.78**	**0.73**
Total score	Diploma (2years)	54	3.92	0.56
	Diploma (3years)	7	3.89	0.39
	B.A and more	20	3.62	0.59
	Total	**81**	**3.85**	**0.57**

Table (5.28): One Way ANOVA Test for level of neonatal nursing care standards' application attributed to level of education

Standard	Source of Variation	Sum of Squares	D.F	Mean Squares	F value	Sig.
New born nursing assessment	Between groups	0.369	2	0.184	0.539	0.585
	Within groups	26.643	78	0.342		
	Total	27.011	80			
Neonatal nursing care	Between groups	4.903	2	2.452	5.279	*0.007
	Within groups	36.222	78	0.464		
	Total	41.125	80			
Medication Management and use	Between groups	1.150	2	0.575	1.641	0.201
	Within groups	26.982	77	0.350		
	Total	28.132	79			
Family education	Between groups	0.536	2	0.268	0.517	0.589
	Within groups	40.428	78	0.518		
	Total	40.964	80			
Infection control	Between groups	3.230	2	1.615	2.380	0.099
	Within groups	52.938	78	0.679		
	Total	56.168	80			
Neonatal nurse qualification and education	Between groups	0.069	2	0.034	0.063	0.939
	Within groups	42.659	78	0.547		
	Total	42.728	80			
Total score	Between groups	1.326	2	0.663	2.115	0.128
	Within groups	24.133	77	0.313		
	Total	25.459	79			

* Statistically significant at ($\alpha = 0.05$)

Table (5.28) showed that there were significant differences between the means of neonatal nursing care standards' application attributed to level of education. To know in favor of whom the differences are related, Scheffe Post Hoc Test was conducted. Table (5.29) shows the results of using Scheffe Post Hoc Test.

Table (5.29): Scheffe Post Hoc, for comparing the means of neonatal nursing care standards' application attributed to level of education

Qualification	Nursing diploma (2years)	Nursing diploma (3years)	Nursing B.A and more
Diploma (2years)		0.1534	*0.5796
Diploma (3years)			0.4262
B.A and more			

* Statistically significant at ($\alpha = 0.05$)

Table (5.29) showed that there are significant differences in neonatal nursing care standards' application attributed between diploma (2 years) and BA and more to favor of diploma (2 years).

5.4.5 Findings related to hypothesis five:

There are no significant differences in application of standards of quality care among nurses working in neonatal units at governmental hospitals in West Bank related to experience.

Table (5.30-a) Frequencies, means, and standard deviation of level of neonatal nursing care quality standards' application attributed to experience

Standard	Years of Experience	Frequency	Mean	S.D
New born nursing assessment	Less than 1 year	17	3.89	0.50
	1 -5	35	3.96	0.60
	6-10	13	4.09	0.53
	11-15	9	3.71	0.78
	16 and more	7	4.24	0.47
	Total	81	3.96	0.58
Neonatal nursing care	Less than 1 year	17	3.62	0.66
	1 -5	35	3.70	0.81
	6-10	13	4.07	0.46
	11-15	9	3.66	0.57
	16 and more	7	4.48	0.49
	Total	81	3.81	0.72
Medication Management and use	Less than 1 year	17	3.56	0.65
	1 -5	35	3.96	0.58
	6-10	13	4.10	0.29
	11-15	9	3.89	0.42
	16 and more	7	4.65	0.43
	Total	81	3.95	0.60
Family education	Less than 1 year	17	3.36	0.88
	1 -5	35	3.99	0.65
	6-10	13	3.89	0.51
	11-15	9	4.24	0.41
	16 and more	7	4.43	0.47
	Total	81	3.91	0.72
Infection control	Less than 1 year	17	3.69	0.88
	1 -5	35	3.68	0.81
	6-10	13	3.63	0.69
	11-15	9	3.50	1.01
	16 and more	7	4.64	0.40
	Total	81	3.73	0.84

Table (5.30-b)

Neonatal nurse qualification and education	Less than 1 year	17	3.48	0.80
	1 -5	35	3.66	0.64
	6-10	13	3.97	0.71
	11-15	9	3.88	0.77
	16 and more	7	4.59	0.34
	Total	**81**	**3.78**	**0.73**
Total score	Less than 1 year	17	3.61	0.61
	1-5	35	3.79	0.55
	6-10	13	4.01	0.40
	11-15	9	3.77	0.52
	16 and more	7	4.51	0.38
	Total	**81**	**3.85**	**0.57**

Table (5.31-a): One Way ANOVA Test for level of nursing care quality standards' application attributed to experience

Standard	Source of Variation	Sum of Squares	D.F	Mean Squares	F value	Sig.
New born nursing assessment	Between groups	1.405	4	0.351	1.043	0.391
	Within groups	25.606	76	0.337		
	Total	27.011	80			
Neonatal nursing care	Between groups	5.160	4	1.290	2.726	*0.035
	Within groups	35.966	76	0.473		
	Total	41.125	80			
Medication Management and use	Between groups	6.295	4	1.574	5.405	*0.001
	Within groups	21.837	75	0.291		
	Total	28.132	79			
Family education	Between groups	8.164	4	2.041	4.729	*0.002
	Within groups	32.800	76	0.432		
	Total	40.964	80			
Infection control	Between groups	6.582	4	1.646	2.522	*0.048
	Within groups	49.586	76	0.652		
	Total	56.168	80			
Neonatal nurse qualification and education	Between groups	7.128	4	1.782	3.804	*0.007
	Within groups	35.600	76	0.468		
	Total	42.728	80			
Total score	Between groups	4.493	4	1.123	4.019	*0.005
	Within groups	20.966	75	0.280		
	Total	25.459	79			

* Statistically significant at (α = 0.05)

Table (5.31) showed that there are significant differences at the level of (α =0.05) between the means of neonatal nursing care quality standards' application attributed to experience in the following standards: neonatal nursing care, medication management and use, family education, infection control, neonatal nurse qualification and education standards and total score. Tables (5.32-5.37) showed the results of using Scheffe Post Hoc Test.

Table (5.32): Scheffe Post Hoc for comparing the means of neonatal nursing care standard application attributed to experience

Experience	Less than 1 year	1 -5	6-10	11-15	16 and more
Less than 1 year		0.079	0.443	0.036	*0.853
1 -5			0.364	0.044	0.773
6-10				0.407	0.409
11-15					0.817
16 and more					

* Statistically significant at (α = 0.05)

Table (5.32) showed that there are significant differences in application of neonatal nursing care standard between (less than 1 year) and (16 years and more) in favor of (16 years and more).

Table (5.33): Scheffe Post Hoc, for comparing the means of medication management and use standard application attributed to experience

Experience	Less than 1 year	1 -5	6-10	11-15	16 and more
Less than 1 year		0.396	0.532	0.326	*1.090
1 -5			0.136	0.070	0.694
6-10				0.206	0.558
11-15					0.764
16 and more					

* Statistically significant at (α = 0.05)

Table (5.33) showed that there are significant differences in application of medication management and use standard between (less than 1 year) and (16 years and more) in favor of (16 years and more).

Table (5.34): Scheffe Post Hoc for comparing the means of family education standard application attributed to experience

Experience	Less than 1 year	1 -5	6-10	11-15	16 and more
Less than 1 year		*0.624	0.528	*0.879	*1.064
1 -5			0.096	0.256	0.440
6-10				0.352	0.536
11-15					0.184
16 and more					

* Statistically significant at (α = 0.05)

Table (5.34) showed that there are significant differences in application of family education standard between (less than 1 year) and (1-5 years) in favor of (1-5 years), and between (less than 1 year) and (11-15 years) in favor of (11-15 years), and between (less than 1 year) and (16 years and more) in favor of (16 years and more).

Table (5.35): Scheffe Post Hoc for comparing the means of infection control standard application attributed to experience

Experience	Less than 1 year	1 -5	6-10	11-15	16 and more
Less than 1 year		0.016	0.061	0.192	*0.951
1 -5			0.050	0.175	0.968
6-10				0.125	*1.018
11-15					*1.143
16 and more					

* Statistically significant at (α = 0.05)

Table (5.35) showed that there are significant differences in application of infection control standard between (less than 1 year), (1-5), (6-10), (11-15), and (16 years and more) in favor of (16 years and more).

Table (5.36): Scheffe Post Hoc for comparing the means of neonatal nurse qualification and education standard application attributed to experience

Experience	Less than 1 year	1 -5	6-10	11-15	16 and more
Less than 1 year		0.186	0.489	0.399	1.11*
1 -5			0.302	0.213	0.924*
6-10				0.089	0.622
11-15					0.711
16 and more					

* Statistically significant at (α = 0.05)

Table (5.36) showed that there are significant differences in neonatal nurse qualification and education standard between (less than 1 year), (1-5 years), and (16 years and more) in favor of (16 years and more).

Table (5.37): Scheffe Post Hoc for comparing the means of total score attributed to experience

Experience	Less than 1 year	1 -5	6-10	11-15	16 and more
Less than 1 year		0.179	0.395	0.158	0.898*
1 -5			0.217	0.021	0.720*
6-10				0.238	0.503
11-15					0.741
16 and more					

* Statistically significant at (α = 0.05)

Table (5.37) showed that there are significant differences in total score between (less than 1 year), (1-5 years), and (16 years and more) in favor of (16 years and more).

5.4.6 Findings Related to Hypothesis six:

There are no significant differences in application of standards of standards of performance among nurses working in neonatal units at governmental hospitals in the West Bank related to age.

Table (5. 38): Frequencies, means and standards deviations of level of performance standards' application attributed to age

Standards	Age	Frequency	Mean	Std. Deviation
Quality of practice	20-30	53	3.57	.810
	31-40	19	3.81	.740
	41 and More	9	4.27	.920
	Total	81	3.70	.830
Education	20-30	53	3.96	.720
	31-40	19	4.14	.550
	41 and More	9	3.96	.790
	Total	81	4.00	.690
Professional practice evaluation	20-30	53	3.51	.870
	31-40	19	3.87	.560
	41 and More	9	4.23	.790
	Total	81	3.68	.83
Collaboration	20-30	53	3.76	.840
	31-40	19	4.00	.900
	41 and More	9	4.37	.840
	Total	81	3.88	.860
Ethics	20-30	53	4.13	.670
	31-40	19	4.14	.510
	41 and More	9	4.59	.490
	Total	81	4.18	.630
Resource Utilization	20-30	53	3.74	.730
	31-40	19	4.03	.500
	41 and More	9	4.47	.520
	Total	81	3.89	.700
Leadership	20-30	53	4.01	.680
	31-40	19	4.21	.700
	41 and More	9	4.37	.780
	Total	81	4.09	.700
Total score	20-30	53	3.76	.580
	31-40	19	4.00	.500
	41 and More	9	4.31	.620
	Total	81	3.88	0.59

Table (5.39-a):   One Way ANOVA Test for level of performance standards' application attributed to age

Standards	Source of variation	Sum of squares	df	Mean Square	F	Sig.
Quality of practice	Between Groups	4.073	2	2.037	3.116	.050*
	Within Groups	50.977	78	0.654		
	Total	55.050	80			
Education	Between Groups	.4890	2	.2450	.5090	.603
	Within Groups	37.511	78	0.481		
	Total	38.000	80			
Professional practice evaluation	Between Groups	4.888	2	2.444	3.836	.026*
	Within Groups	49.685	78	0.637		
	Total	54.573	80			
Collaboration	Between Groups	3.186	2	1.593	2.195	.118
	Within Groups	56.627	78	0.726		
	Total	59.813	80			
Ethics	Between Groups	1.718	2	.8590	2.228	.115
	Within Groups	30.071	78	0.386		
	Total	31.789	80			

Table (5.39-b)

Resource Utilization	Between Groups	4.587	2	2.294	5.218	.007*
	Within Groups	34.288	78	.440		
	Total	38.875	80			
Leadership	Between Groups	1.353	2	.6770	1.396	.254
	Within Groups	37.810	78	.485		
	Total	39.163	80			
Total score	Between Groups	2.770	2	1.385	4.302	.017*
	Within Groups	25.111	78	0.322		
	Total	27.881	80			

* Statistically significant at ($\alpha = 0.05$)

Table (5.39) showed that there are significant differences at level of ($\alpha = 0.05$)between the means of neonatal nurses performance standards' application attributed to age in the following standards: quality of practice, professional practice evaluation, resource utilization standards and total score. Scheffe Post Hoc Test was conducted. Tables (5.40-5.43) showed the results of using Scheffe Post Hoc Test.

Table (5.40): Scheffe Post Hoc, for comparing the means of quality of practice standard application attributed to age

Age	20-30	31-40	41 and more
20-30		0.245	0.701*
31-40			0.456
41 and more			

* Statistically significant at ($\alpha = 0.05$)

Table (5.40) showed that there are significant differences in application of quality of practice standard between age group (20-30) and (41 and more) in favor of (41 and more).

Table (5.41): Scheffe Post Hoc for comparing the means of professional practice evaluation standard application attributed to age

Age	20-30	31-40	41 and more
20-30		0.352	0.721*
31-40			0.369
41 and more			

* Statistically significant at ($\alpha = 0.05$)

Table (5.41) showed that there are significant differences in application of professional practice evaluation standard between (20-30) and (41 and more) in favor of (41 and more).

Table (5.42): Scheffe Post Hoc, for comparing the means of resource utilization standard application attributed to age

Age	20-30	31-40	41 and more
20-30		0.286	0.732*
31-40			0.446
41 and more			

* Statistically significant at ($\alpha = 0.05$)

Table (5.42) showed that there are significant differences in application of resource utilization standard between (20-30) and (41 and more) in favor of (41 and more).

Table (5.43): Scheffe Post Hoc, for comparing the means of total score attributed to age

Age	20-30	31-40	41 and more
20-30		0.245	0.556*
31-40			0.312
41 and more			

* Statistically significant at (α = 0.05)

Table (5.43) showed that there are significant in total score between (20-30) and (41 and more), in favor of (41 and more).

5.4.7 Findings Related to Hypothesis Seven:

There are no significant differences in application of standards of performance among nurses working in neonatal units at governmental hospitals in the West Bank related to gender

Table (5.44): T-Test for level of performance standards' application attributed to gender

Standards	Male (N=3)		Female (N=78)		T.	Sig.
	Mean	Standard deviation	Mean	Standard deviation		
Quality of practice	3.13	1.03	3.72	0.82	1.212	0.229
Education	4.33	0.00	3.99	0.70	0.852	0.397
Professional practice evaluation	3.33	0.51	3.69	0.84	0.731	0.467
Collaboration	3.78	0.84	3.89	0.87	0.217	0.829
Ethics	4.44	0.51	4.17	0.64	0.735	0.464
Resource Utilization	3.83	0.80	3.89	0.70	0.140	0.889
Leadership	3.94	0.67	4.10	0.70	0.377	0.707
Total score	**3.71**	**0.24**	**3.88**	**0.60**	**0.503**	**0.616**

* Statistically significant at (α = 0.05). Degree of Freedom = 79

Table (5.44) showed that there are no significant differences between the means of performance standards' application attributed to gender.

5.4.8 Findings Related to Hypothesis Eight:

There are no significant differences in standards of performance among nurses working in neonatal hospital units at governmental hospitals in West Bank related to place of residence.

Table (5.45):Frequencies, means and standards deviations for level of performance standards' application attributed to place of residence

Standards	Place	Frequency	Mean	Std. Deviation
Quality of practice	City	21	3.59	0.79
	Village	36	3.71	0.89
	Camp	24	3.79	0.79
	Total	81	3.70	0.83
Education	City	21	3.98	0.70
	Village	36	3.97	0.71
	Camp	24	4.06	0.67
	Total	81	4.00	0.69
Professional practice evaluation	City	21	3.50	0.64
	Village	36	3.80	0.87
	Camp	24	3.64	1.01
	Total	81	3.68	0.83
Collaboration	City	21	3.63	0.74
	Village	36	3.95	0.88
	Camp	24	4.00	0.93
	Total	81	3.88	0.86
Ethics	City	21	4.08	0.57
	Village	36	4.29	0.55
	Camp	24	4.11	0.78
	Total	81	4.18	0.63
Resource Utilization	City	21	3.65	0.75
	Village	36	3.98	0.63
	Camp	24	3.96	0.72
	Total	81	3.89	0.70
Leadership	City	21	4.09	0.65
	Village	36	4.13	0.69
	Camp	24	4.06	0.77
	Total	81	4.09	0.70
Total score	City	21	3.75	0.52
	Village	36	3.94	0.57
	Camp	24	3.89	0.68
	Total	81	3.88	0.59

Table (5.46-a): One Way ANOVA Test for level of performance standards' application attributed to place of residence

Standards	Source of variation	Sum of squares	Df	Mean Square	F	Sig.
Quality of practice	Between Groups	0.455	2	0.227	0.325	0.724
	Within Groups	54.595	78	0.700		
	Total	55.050	80			
Education	Between Groups	0.107	2	0.054	0.110	0.896
	Within Groups	37.893	78	0.486		
	Total	38.000	80			
Professional practice evaluation	Between Groups	1.204	2	0.602	0.880	0.419
	Within Groups	53.368	78	0.684		
	Total	54.573	80			
Collaboration	Between Groups	1.801	2	0.900	1.211	0.304
	Within Groups	58.013	78	0.744		
	Total	59.813	80			

Table (5.46-b)

Ethics	Between Groups	0.739	2	0.369	0.928	0.400
	Within Groups	31.050	78	0.398		
	Total	31.789	80			
Resource Utilization	Between Groups	1.560	2	0.780	1.631	0.202
	Within Groups	37.315	78	0.478		
	Total	38.875	80			
Leadership	Between Groups	0.071	2	0.035	0.071	0.932
	Within Groups	39.092	78	0.501		
	Total	39.163	80			
Total score	Between Groups	0.493	2	0.247	0.703	0.498
	Within Groups	27.388	78	0.351		
	Total	27.881	80			

Table (5.46) showed that there are no significant differences between the means of performance standards' application attributed to place of residence.

5.4.9 Findings Related to Hypothesis Nine:

There are no significant differences in application of standards of performance among nurses working in neonatal units at governmental hospitals in West Bank related to education level.

Table (5.47-a):Frequencies, means, and standards deviations for level of performance standards' application attributed to level of education

Standards	Qualification	Frequency	Mean	S.D
Quality of practice	Diploma (2years)	54	3.81	0.75
	Diploma (3years)	7	3.46	1.10
	B.A and more	20	3.48	0.91
	Total	81	3.70	0.83
Education	Diploma (2years)	54	3.96	0.69
	Diploma (3years)	7	4.14	0.47
	B.A and more	20	4.05	0.76
	Total	81	4.00	0.69
Professional practice evaluation	Diploma (2years)	54	3.86	0.75
	Diploma (3years)	7	3.70	0.59
	B.A and more	20	3.17	0.91
	Total	81	3.68	0.83
Collaboration	Diploma (2years)	54	4.04	0.71
	Diploma (3years)	7	3.62	1.13
	B.A and more	20	3.55	1.06
	Total	81	3.88	0.86
Ethics	Diploma (2years)	54	4.28	0.58
	Diploma (3years)	7	4.38	0.45
	B.A and more	20	3.83	0.71
	Total	81	4.18	0.63
Resource Utilization	Diploma (2years)	54	3.91	0.72
	Diploma (3years)	7	4.21	0.47
	B.A and more	20	3.71	0.68
	Total	81	3.89	0.70
Leadership	Diploma (2years)	54	4.07	0.78

Table (5.47-b)

	Diploma (3years)	7	4.05	0.65
	B.A and more	20	4.17	0.47
	Total	81	4.09	0.70
Total score	Diploma (2years)	54	3.96	0.56
	Diploma (3years)	7	3.88	0.54
	B.A and more	20	3.64	0.64
	Total	81	3.88	0.59

Table (5.48): One Way ANOVA Test for level of performance standards' application attributed to education level

Standards	Source of variation	Sum of squares	Df	Mean Square	F	Sig.
Quality of practice	Between Groups	2.093	2	1.046	1.541	0.221
	Within Groups	52.957	78	0.679		
	Total	55.050	80			
Education	Between Groups	0.267	2	0.133	276.	0.760
	Within Groups	37.733	78	0.484		
	Total	38.000	80			
Professional practice evaluation	Between Groups	7.063	2	3.531	5.798	0.004*
	Within Groups	47.510	78	0.609		
	Total	54.573	80			
Collaboration	Between Groups	4.091	2	2.046	2.863	0.063
	Within Groups	55.722	78	0.714		
	Total	59.813	80			
Ethics	Between Groups	3.270	2	1.635	4.471	0.015*
	Within Groups	28.519	78	0.366		
	Total	31.789	80			
Resource Utilization	Between Groups	1.392	2	0.696	1.449	0.241
	Within Groups	37.483	78	0.481		
	Total	38.875	80			
Leadership	Between Groups	0.142	2	0.071	0.142	0.868
	Within Groups	39.021	78	0.500		
	Total	39.163	80			
Total score	Between Groups	1.548	2	0.774	2.293	0.108
	Within Groups	26.333	78	0.338		
	Total	27.881	80			

Table (5.48) showed that there are significant differences at the level of ($\alpha = 0.05$) between the means of neonatal nurses performance standards' application attributed to education level in the following standards: professional practice evaluation and ethics standards. Tables (5.50-5.51) showed the results of using Scheffe Post Hoc Test.

Table (5.49): Scheffe Post Hoc for comparing the means of professional practice evaluation standard application attributed to education level

Qualification	Diploma (2years)	Diploma (3years)	B.A and more
Diploma (2years)		0.164	0.696*
Diploma (3years)			0.532*
B.A and more			

* Statistically significant at ($\alpha = 0.05$)

Table (5.49) showed that there are significant differences in application of professional practice evaluation standard between diploma (2 years) and B.A and

more in favor of diploma (2 years), and between diploma (3 years) and B.A and more in favor of diploma (3 years).

Table (5.50): Scheffe Post Hoc, for comparing the means of ethics standard application attributed to education level

Qualification	Diploma (2years)	Diploma (3years)	B.A and more
Diploma (2years)		0.097	0.451*
Diploma (3years)			0.548*
B.A and more			

* Statistically significant at ($\alpha = 0.05$)

Table (5.50) showed that there are significant differences in application of ethics standard between diploma (2 years) and (B.A and more) wsin favor of diploma (2 years), and between diploma (3 years) and (B.A and more) in favor of diploma (3 years).

5.4.10 Findings related to Hypothesis Ten:

There are no significant differences in application of standards of performance among nurses working in neonatal units at governmental hospitals in West Bank related to experience.

Table (5.51-a):Frequencies, means and standards deviations of level of performance standards' application attributed to experience

Standard	Years of Experience	Frequency	Mean	S.D
Quality of practice	Less than 1 year	17	3.68	0.84
	1 -5	35	3.55	0.75
	6-10	13	3.85	0.86
	11-15	9	3.40	0.95
	16 and more	7	4.63	0.35
	Total	81	3.70	0.83
Education	Less than 1 year	17	3.90	0.86
	1 -5	35	3.93	0.65
	6-10	13	4.31	0.55
	11-15	9	3.96	0.56
	16 and more	7	4.05	0.80
	Total	81	4.00	0.69
Professional practice evaluation	Less than 1 year	17	3.47	0.71
	1 -5	35	3.52	0.95
	6-10	13	3.97	0.60
	11-15	9	3.63	0.53
	16 and more	7	4.46	0.59
	Total	81	3.68	0.83
Collaboration	Less than 1 year	17	3.67	0.78
	1 -5	35	3.87	0.91
	6-10	13	4.23	0.58
	11-15	9	3.33	0.93
	16 and more	7	4.57	0.63

Table (5.51-b)

	Total	81	3.88	0.86
Ethics	Less than 1 year	17	4.00	0.66
	1 -5	35	4.19	0.70
	6-10	13	4.15	0.57
	11-15	9	4.15	0.41
	16 and more	7	4.67	0.38
	Total	81	4.18	0.63
Resource Utilization	Less than 1 year	17	3.41	0.74
	1 -5	35	3.91	0.68
	6-10	13	4.08	0.58
	11-15	9	3.89	0.36
	16 and more	7	4.57	0.49
	Total	81	3.89	0.70
Leadership	Less than 1 year	17	4.02	0.77
	1 -5	35	4.00	0.69
	6-10	13	4.22	0.59
	11-15	9	4.22	0.70
	16 and more	7	4.33	0.87
	Total	81	4.09	0.70
Total score	Less than 1 year	17	3.70	0.57
	1 -5	35	3.79	0.62
	6-10	13	4.08	0.45
	11-15	9	3.78	0.49
	16 and more	7	4.47	0.50
	Total	81	3.88	0.59

Table (5.52): One Way ANOVA Test for level of performance standards' application attributed to experience

Standards	Source of variation	Sum of squares	df	Mean Square	F	Sig.
Quality of practice	Between Groups	7.931	4	1.983	3.198	0.018*
	Within Groups	47.119	76	0.620		
	Total	55.050	80			
Education	Between Groups	1.578	4	0.394	0.823	0.514
	Within Groups	36.422	76	0.479		
	Total	38.000	80			
Professional practice evaluation	Between Groups	7.045	4	1.761	2.816	0.031*
	Within Groups	47.528	76	0.625		
	Total	54.573	80			
Collaboration	Between Groups	8.414	4	2.103	3.110	0.020*
	Within Groups	51.400	76	0.676		
	Total	59.813	80			
Ethics	Between Groups	2.230	4	0.558	1.434	0.231
	Within Groups	29.558	76	0.389		
	Total	31.789	80			
Resource Utilization	Between Groups	7.613	4	1.903	4.627	0.002*
	Within Groups	31.262	76	0.411		
	Total	38.875	80			
Leadership	Between Groups	1.121	4	0.280	0.560	0.692
	Within Groups	38.042	76	0.501		
	Total	39.163	80			
Total score	Between Groups	3.854	4	0.963	3.047	0.022*
	Within Groups	24.027	76	0.316		
	Total	27.881	80			

* Statistically significant at ($\alpha = 0.05$)

Table (5.52) showed that there are significant differences at level of (α = 0.05)between the means of neonatal nurses' performance standards application attributed to experience in the following standards: quality of practice, professional practice evaluation, collaboration, resource utilization standards and total score. Tables (5.54-5.58) showed the results of using Scheffe Post Hoc Test.

Table (5.53): Scheffe Post Hoc, for comparing the means of quality of practice standard application attributed to experience

Experience	Less than 1 year	1 -5	6-10	11-15	16 and more
Less than 1 year		0.134	0.164	0.282	0.946*
1 -5			0.298	0.149	1.080*
6-10				0.446	0.782*
11-15					1.229*
16 and more					

* Statistically significant at (α = 0.05)

Table (5.53) showed that there are significant differences in application of quality of practice standard between (less than 1 year), (1-5), (6-10) and (16 years and more) in favor of (16 years and more)

Table (5.54): Scheffe Post Hoc, for comparing the means of professional practice evaluation standard application attributed to experience

Experience	Less than 1 year	1 -5	6-10	11-15	16 and more
Less than 1 year		0.050	0.503	0.159	0.989*
1 -5			0.454	0.109	0.939*
6-10				0.344	0.486*
11-15					0.831*
16 and more					

* Statistically significant at (α = 0.05)

Table (5.54) showed that there are significant differences in application of professional practice evaluation standard between (less than 1 year), (1-5), (6-10), (11-15) and, (16 years and more) in favor of (16 years and more).

Table (5.55): Scheffe Post Hoc, for comparing the means of collaboration standard application attributed to experience

Experience	Less than 1 year	1 -5	6-10	11-15	16 and more
Less than 1 year		0.200	0.564	0.333	0.905*
1 -5			0.364	0.533	0.705*
6-10				0.897*	0.341
11-15					1.238*
16 and more					

* Statistically significant at (α = 0.05)

Table (5.55) showed that there are significant differences in application of collaboration standard between (less than 1 year), (1-5) and (11-15), and (16 years and more) in favor of (16 years and more), and between (6-10) and (11-15) in favor of (6-10).

Table (5.56): Scheffe Post Hoc, for comparing the means of resource utilization standard application attributed to experience

Experience	Less than 1 year	1 -5	6-10	11-15	16 and more
Less than 1 year		0.503*	0.665*	0.477	1.150*
1 -5			0.163	0.025	0.657*
6-10				0.188	0.495
11-15					0.683*
16 and more					

* Statically significant at (α = 0.05)

Table (5.57) showed that there are significant differences in application of resource utilization standard between (less than 1 year), (1-5) and (11-15), and (16 years and more) in favor of (16 years and more).

Table (5.57) Scheffe Post Hoc, for comparing the means of total score standards attributed to experience

Experience	Less than 1 year	1 -5	6-10	11-15	16 and more
Less than 1 year		0.089	0.381	0.084	0.767*
1 -5			0.291	0.059	0.677*
6-10				0.297	0.386
11-15					0.683*
16 and more					

* Statistically significant at (α = 0.05)

Table (5.57) showed that there are significant differences in total score between (less than 1 year), (1-5) and (11-15), and (16 years and more) in favor of (16 years and more).

5.4.11 Findings Related to Hypothesis Eleven:

There are no significant relationships between neonatal nurses' application of standards of quality care and performance and number of nurses: number of incubator ratio.

Table (5.58) Nurse: Incubator ratio

Name of Hospital	Number of incubators	Number of nurses	Ratio
Nablus	26	21	0.81
Jenin	12	11	0.92
Tulkarem	6	13	2.17
Ramallah	10	9	0.90
Hebron	18	12	0.67
Salfit	3	5	1.67
Jerico	4	13	3.25
Total	**86**	**84**	**0.98**

Source: Health Information Center of Palestinian Ministry of Health (MOH), (2008)

Table(5. 58) showed the following

In Nablus there is less than one nurse for each incubator.
The best ratio is in Jericho 3.25 nurse for each incubator.
The worst ratio is in Hebron 0.67 nurse for each incubator.

Table (5.59) The correlation between nurse: incubator ratio and standards of quality care and performance

	nurse/patient ratio	standards of quality care	standards of performance
Nurse/patient ratio		0.282*	0.308**
standards of quality care			0.930**
standards of performance			

* Statistically significant at ($\alpha = 0.05$)
** Statistically significant at ($\alpha = 0.01$)

Table (5.59) shows that there is a positive correlation at ($\alpha = 0.05$) between nurse: incubator ratio and standards of quality care, and a positive correlation at ($\alpha = 0.01$) between nurse: incubator ratio and standards of performance. Moreover, there is a positive correlation at ($\alpha = 0.01$) between standards of quality care and standards of performance.

Summary

In this study, it was found that there are some differences in neonatal nurses' application of quality standards related to education level, age, and years of experience, while other variables such as gender and place of residence had no significant differences on neonatal nurses' quality standards application. Moreover, it was found that there are no differences in neonatal nurses' application of quality standards related to gender and place of residence, while there are differences related to education level, age, and years of experience.

CHAPTER Six

Discussion of Findings

Introduction

This chapter includes interpretation of the study findings in relation to previously conducted studies. The discussion includes demographic and characteristics of the respondents. In addition relationships among variables and standards of quality care, and standards of performance findings were discussed in relation to Palestinian context and in reference to international literature.

6.1 Demographic and characteristics of nurses in the neonatal units

The study respondents were 81 neonatal nurses working in 7 governmental neonatal units in West Bank. The majority of those nurses working at Nablus hospitals (25.9%), this result related to the fact that Nablus governmental hospital has 21 incubators and had occupancy rate (136 per month during year 2008) and it had the highest number of staff.

The majority of respondents age range between 20-30 years old (65.4%).This result could be explained by the following: first, the nurses with long experiences in the hospitals prefer to move to public clinics so as to get rid of evening and night shift duties, this movement give chance for new graduate nurses to be hired by hospitals. Second reason, the recent policy of PMOH for increasing number of health care providers in its effort to reform the health sector in Palestine which necessitates increasing staffing of hospitals with different types of employees among which nursing staff. Third reason, is related to the Palestinian Civilian Service law which gives the chance for early retirement of (50s) for females or after 20 years of experience, so many nurses now scheduled on the program of retirement according to this law, and the MOH starts to replace the nurses with new graduated .

The majority of nurses are from villages (44.4%), this result could be related to cultural consideration in Palestinian society, which imposed that most urban people prefer their daughters to be nurses, and from their point of view that nursing profession is maintained its image of femininity, and also from the point of that the nurses find jobs easily than other professions from the point of economics that demand rate for this profession is always high.

The female nurses composed (96.3%) from total neonatal nurses in the governmental hospitals; this could be related to cultural considerations in the Palestinian society, since newborn babies requires the presence of their mothers beside them continuously to take care of and feed them, so it is sometimes unacceptable culturally for the presence of male nurses in the unit, and mothers feel comfortable more in the presence of female nurses, this result is consistent with the study of Al asad (2007) who found that 68.7% of female patients in Jordan hospitals prefer the female nurses. Another reason is that male nurses feel that working in neonatal units is a feminine responsibility so; they prefer to work in other units.

The majority of respondents had 2 years diplomas (66.7%), this result may be related to that the poor economical status of most of Palestinian people the students prefer to join the

2 years programs because they cost less than the higher programs. Moreover the result reflects the policy of PMOH for hiring the 2 years diplomas because they are cost less in system of salaries. This result is inconsistent with the literatures that focused on the importance of the educational level for nurses because it determines their responsibilities for performing the various roles (Jacob, 2002).

6.2 Standards of quality among neonatal nurses

White (2005) revealed that caring of neonates is best carried out by a consistent care giver and should focus on promoting highly standard nursing care to produce out comes at neonatal units.

6.2.1 Standards of nursing assessment:

Nursing assessment is an important role for all nurses, and through assessment the nurse could plan for patient care. In this study the total score of newborn nursing assessment score was moderate (79.2%) this could be related to items 2 and 7 (the assessment process doesn't depend on applicable protocols and the nursing process is not adequate for determining the care needs of newborns) as shown in table (5.3).

Beal (2000) emphasized on the importance of nursing assessment for identifying of newborn needs and dealing with problems and to restore his/her life. On the other hand, Day, Chismark, Dyeus, and McKeon (2008) studied the standards of quality for the oncology nurses, and they found that most nurses didn't do assessment to children in the pediatric oncology department.

6.2.2 Standard of nursing care:

The result of this study showed that the level of standard of nursing care among neonatal nurses was moderate (78.2%). This result could be related to several causes related to items 14,15, and 19 (most of the neonatal nurses didn't receive training for applying procedures guidelines, absence of procedure guidelines for caring of newborn in emergency, and regarding feeding of newborn milk for newborn is not available sometimes in the neonatal units) as showed in table (5.4). Carnett (2002) emphasized that the clinical guidelines improve the process and outcomes of clinical care, and emphasized on the fact that the guidelines have several effects on: First, knowledge of health professional through illustration of how to perform clinical practice. Second, attitudes, through acceptance of new standards of care. Third, compliance with the recommended practice, and decrease practice variation, and finally the outcomes, improved clinical outcomes (e.g; mortality, morbidity) enhancement of value of health, and decreased medical liability. This result also is supported by the literature which emphasized that the quality of care is expected from the health care facility is made by the written standards. Therefore, standards define quality (Katz and Green, 1998).

It is also observed in table (5.4) item (15) that the rating was low regarding the availability of emergency guideline. This may be related to the fact that in emergency, actions usually done by the physician and not by the neonatal nurses even if the nurse is highly qualified to do such actions. Moreover the nurses are not allowed to act without presence of the physician; this may deter nurses from developing of emergency guidelines. This revealed that in the field of practice, the nursing profession still dependent on medical profession in

one way or another. Loo, Horn, and Cowans (2003) emphasized on that the line between medicine and nursing, and neonatal care is primarily collaborative and sharing responsibilities in many nursing interventions and is based on establishing written protocols, resulting in more independence and creativity of care.

6.2.3 Standard of medication management and use:

In this study rating of standard of medication management and use was moderate (78.8%). This result may be related to items 24 and 28 as showed in table (5.5) (inavailability of some medications, and absence of medication error form in some of neonatal units) Joint Commission International Accreditation Standards for Hospitals (JCUASH, 2008) emphasized that the medication management plays a great role in improving quality of patient care, and consider medication as an important component in palliative, symptomatic, preventive, and curative treatment of diseases and conditions. Moreover, McIntyre and Courey (2007) emphasized on the importance of safe medication administering, preparing, dispensing, documenting, monitoring and storing. And literatures suggested that nurses should emphasize on the patients safety and prevention of harm, and hospital quality improvement should focus on building or maintaining a facility and policies that promote provision of care under safe conditions. Safety is indeed the base of quality healthcare environment (Tzeng, 2007). What is observed in the standard of medication management and use that, some hospitals don't have form for reporting medication error; this may deter nurses from reporting errors. Duncan (2004) found that the majority of nurses afraid of manager and coworkers' reactions toward medication error, or thinking that error was not seriously enough to be reported. Moreover, Friesen, Farquhar, and Hughes (2006) emphasized that the organization culture that is built on the trust promote safe environment where errors are identified and reported, and the patient care delivery and quality will be improved.

6.2.4 Standard of family education:

The result of current study showed that the application of family education standard by the neonatal nurses was moderate (79.2%). Tamara (1999) emphasized that one of the neonatal nurses' duties is to educate families and enable them to participate in the care of there babies, and the JCI (2008) also emphasized that patient and family education helps in better participation in care and make informed care decisions and effective education starts with assessment of family's learning needs. Education includes both knowledge needed during the care process and the knowledge needed after patient is discharged to another care site or home. Thus, education can include information on community resources for additional care and required follow-up care and how to access emergency services if necessary (JCI, 2008). Moreover, Mosa (2007) who found that 96.6% of neonatal nurses in the Egyptian Hospitals educate families of newborns about the care of their babies while they are in the hospitals and at the time of discharge. Day, Chismark, Dyeus, and McKeon (2008) found that the pediatric nurses in the pediatric oncology unit educate families about the care of their children and this education continued after discharge too.

6.2.5 Standard of infection control:

This study showed that application of infection control standard by neonatal nurses was moderate (74.6%). The lowest percentage was assigned to item 42 (a specific neonatal

nurse is not assigned to take care of infected newborn) this may be related to the shortage of nurses in neonatal units. Leifer (2002) mentioned that, the neonatal nurse should be aware of the latest infection control measures and be sure that they are followed correctly; also they should be encouraged to view the issues surrounding infection control with a high degree of professional interest. Also Potter and Perry (2004) stated that infection control information and training of nurse should be based on standards and guidelines of universal precautions along with an explanation of its content. On the other hand, Yousef (1999) found that neonatal nurses have a deficit in the knowledge of infection control and found this result related to lack of training. And Abd El-Ghalil (2007) found that nurses in the governmental hospital have a lack of knowledge in infection control issues related to lack of in-service educational courses and lack of supervision from infection control committee.

6.2.6 Standard of nurse qualification and education:

The result showed that the neonatal nurses education and qualification standard was moderate (75.6%). JCI standards (2008) emphasized on the need of the health organizations for a variety of skilled and qualified people to fulfill its goals and meet patient's needs. The organization leader's work together to provide staff with the opportunities to learn through in-service education in order to improve performance and at the end improves quality of care. El Mohanad (2001) emphasized on the development of neonatal nurses' knowledge and practice to be capable of providing quality, and enhance their role in neonatal units and improve health and well being of neonates.

What is observed in table (5.8) item (51) that the majority of neonatal nurses have low participation in the educational programs in the last year, and this result may be related to the fact that such educational programs are not conducted in those hospitals, or that training courses are sometimes conducted either outside Palestine or in East Jerusalem where the access is very difficult because of the political situation. And for nurses to go outside Palestine is difficult because of families responsibilities, or they have no replacement to cover their workload.

6.3 Demographic Variables and Application of Standards of Quality care.

The results showed that in general older nurses 41 or more applied standards more than younger nurses, and they are more qualified and educated. It seems that older nurses gained experiences that enable them to perform duties better than younger nurses, especially in medication management and use. Mosa (2001) found that the nurses' with diploma degrees had less performance in the medical surgical wards. Aurbary and Yoxall (2001) found a relationship between the qualification of the nurses in neonatal units and the positive outcome for resuscitated neonates. Ali (2007) also found there is a relationship between age of the neonatal nurses and their knowledge in quality of care during her practice with the neonates.

The result showed that diploma degree holders applied standards of quality care more than BA nurses. Some BA nursing holders in Palestine opt not to do bed side nursing care and prefer to carry out non nursing or administration taskes. Needleman, Buerhaus, and Mattke (2002) found that there was no relationship between the qualifications of nurses on the patient's outcome as a standard for quality of nursing care. On the other hand, Hyett (1998) found that staff nurses have more skills in neonatal units than practical nurses, and Kane, et

al (2007) found that there is a relationship between registered nurses and the quality of nursing outcome, decreasing mortality rate, decreasing complications, and infection among surgical and medical patients..

In this study, it was found that the more experienced nurses (16 years or more) applied standards of nursing care. Benner (1984) mentioned that "clinical knowledge is gained over time and the clinicians themselves are often unaware of their gains. As a result of this increased clinical knowledge, the neonatal nurse is able to develop an appropriate interpretation of the present clinical situation" (p.4). Mirtre et al. (1998) mentioned that the expert nurse's primary concern is meeting the neonate's actual needs, and capable of making decisions and implementing the appropriate action. This experience enables the neonatal nurse to be aware of standards of quality, and to perform her/his duties accordingly. Ali (2007) also found that there is a relationship between years of experience of neonatal nurses and their knowledge to quality of nursing care in their work settings. And Blegen et al (2002) found that there are negative relationship between nurses' experience and the medication errors and patient's fall rates.

The result of this study showed that there is shortage in nursing staff as illustrated in table (5.58) were the ratio of nurse: incubator in Nablus hospitals is 0.81nurse, while in Hebron hospital is 0.67 and in Jerico 3.25 (for Jerico hospital the there is mix between women ward nurses and neonatal nurses this is why the result of ratio is high). The international nurse: baby ratio according to NANN(National Association for Neonatal Nurses, 2009) standard of staffing for neonatal units, the recommendation is 1:1 nurse to baby ratio for unstable newborns requiring complex crtical care, 1:1-2 nurse to baby ratio for newborns requiring multisystem support, 1:2-3 nurse to baby for newborns requiring intermediate care, 1:3-4 nurse to baby for newborns requiring continuing care, and 1:6-8 nurse to baby for newborns requiring only routine care.

The result of this study showed that there was a positive relationship between the staffing and quality of care and the performance of neonatal nuses as shown in table (5.59). There is evidence that quality of care is affected by staffing as shown in the study of Needleman, Buerhaus, and Mattke (2002) who found that there was a positive relationship between staffing and the outcome of surgical patients. Pallas et al (2004) found that there is a relationship between staffing and improving quality of care among hospital nurses. Gitlow (2001) mentioned that among the barriers of quality in health organizations is the shortage in human resources. Bolton (2003) found that there is a relationship between the staffing and the quality of nursing care from perception of patients in 40 hospitals in the U.S.A. Moreover Mustafa (1999) found that there is a relationship between the staffing and the quality of care in the hospitals studied. Moreover, McCue, Mark, and Harless, (2004) found that there was a relationship between staffing and mortality ratio, and complications among patients.

6.4 Performance standards of neonatal nurses

The focus on job performance is essential. Performance is not behavior or knowledge but rather the results of behavior and knowledge. In this study the results showed that the level of neonatal nurses' performance standards' application was moderate in the following standards (quality of practice, education, and collaboration) while they were high in (professional practice, ethics, resources utilization, and leadership). NANN (2004) emphasized that the neonatal nurse should focus on the process of providing nursing care

to newborn and their families, meet the individualized need for each newborn, respects the right of newborn and family, works in coordination with other healthcare providers to render care to newborn, continue education within neonatal specialty, provide high quality of care while utilizing available resources, recognizes ethical issues regarding neonatal care, and establishing policies and procedures and functions within (Nurse Practice Act) of the state. Moreover, Ali (2007) found that neonatal nurses' performance was high in the neonatal unit. On the other hand Mosa (2002) found that the performance of the nurses in the intensive units was poor in the domains of implementing of nursing care, meeting patients and family need, keeping privacy of patient, performing managerial activities, but the performance in domain of continuing education was high.

6.4.1 Quality of practice standard:

The result of this study showed that the application of quality of practice standard is moderate (74%). Marquis& Hutson, (1996) mentioned that the key component of nursing practices is the nurse's ability to process information, to make sound judgment upon which professional practice can be used. Also they promote a holistic approach to patient care by taking in consideration the physiological, psychological and social needs of patient.

Clinical nurses may choose to grasp the challenge to pursue quality, set standards and monitor their care in realistic way, or they may allow others to regulate their practice. High quality of care is responsibility of every one involved in the process, the recipients of care, the providers and professional staff (Marquis & Hutson, 1996).

For the continuous quality improvement concept to succeed, quality must be a priority at all levels within organization. Staff must be encouraged to improve care. There must be multidisciplinary and interdisciplinary reviews of systems and services with efforts focused on the improvement of process and systems (Wise, 1995).

6.4.2 Educational Standard:

The result of the study showed that application of educational standard for neonatal nurses was moderate (77%). Aruzzese (1996) stated that because the health care delivery in hospitals become complex, the need for continuous skilled training becomes also increasable. JCAHO (2004) and Ward and O'Brien (2005) supported that the division of nursing ensures development of educational programs to support the deliver of high quality nursing care.

The American Nurses Association (ANA, 1991) emphasized on the ongoing educational activities for nurses, because it helps in enhancement of practice relevant to their responsibilities, professional growth, and maintaining competency in their respective positions.

6.4.3 Professional Practice Evaluation Standard:

The result of this study showed that the level of application of professional practice evaluation standard for neonatal nurses was high. Broohhan, (1994) mentioned that because the ultimate cure and welfare of patients depend on nursing function, the

assessment of nurses' performance is always needed. The frequent and continuous evaluation of nursing practice according to criteria established in the goals of the organization can motivate nurses for better work performance. Marsland (1992) pointed out that evaluation is the process of providing and indispensable practical tool for advancing professional nursing standards. The main purpose of this appraisal, as illustrated by Swan (1999) and Gillies (1996), is to promote the performance assessed through continuous guidance, promotion, counseling, training, termination, retention, and selection of education.

6.4.4 Collaboration Standard:

The result of this study showed that the application of the collaboration standard was moderate. Kalisch and weaver (2009) mentioned that nursing depends on teams to carry out its mission and objectives, and when nurses work on effective teams, they are more productive and less stressed, the quality of the care they deliver is higher, there are fewer errors, and patients are more satisfied.

Effective health care involves teams of health care professionals working together to bring their skills to bear on a particular health problem or patient in order to achieve health care goals. Literatures suggest that team interaction, collaboration, communication, and coordination have an important effect on the quality of nurses' work life and, more importantly, affect the quality of care and outcomes of patients (Hall, Doran, and Treunno, 2005).

6.4.5 Ethics Standard:

The result of this study showed that the application of ethics standard was high. Monterosso, Kristjanson, and Sly (2005) pointed that the primary role of the nurse is to advocate on behalf of the patients, particularly when patients are unable to decide or speak for themselves. In the neonatal nursery, patient advocacy is unique because parents are viewed as advocate for their infants. Parents however, are limited by their knowledge in the area of neonatology. Therefore, the role of patients advocate is assumed by health- care professionals; in particular, by nurses, and the significance of the role of neonatal nurses as patient advocate reinforce the importance of providing parents with honest information about condition and prognosis of their infants.

The process of ethical decision making is a collaborative between health care providers and parents of neonates, the parents must be able to weigh the risks and benefits to the infant of the proposed treatment and express their wishes based on their own values and the information they possess, and a collaborative effort will be made to address these wishes (NANN, 2001).

6.4.6 Resource Utilization Standard:

The result of this study showed that the application of standard of resource utilization was high. Joint Commission International Accreditation (2008) and the NANN (2004) emphasized on the role of neonatal nurse regarding the resource utilization involving

educating families about services provided by the hospitals, and the community resources and how to access them.

6.4.7 Leadership Standard:

The result of this study showed that application of standard of leadership was high. Hall , Doran, and Treunno (2005) emphasized on the fact that in order to achieve the quality of care and patients desired outcome the nursing profession requires leaders who can transform practice cultures so the essence, uniqueness, and outcomes of professional practice can be realized. Moreover, NANN (2004) stressed on the role of the neonatal nurse as a leader when taking care of neonates, those roles include: engaging in team work, maintaining healthy environment, teaching others, exhibiting creativity and flexibility through time of change, directing the coordination of care across setting and among caregivers, and participating in a professional organization.

6.5 Demographic Variables and Application of Standards of Performance

The study showed those older nurses 41 and more have more experience years (16 and more) and they applied standards more than the younger and less experienced nurses especially in the following standards (quality of practice and resource utilization). Dean and Scott (2006) found that that performance of quality practice decreases with age. Moreover, Samman, Cuttini, and Casotto (2007) found a relationship between age of neonatal nurses who were above 40 years and their positive attitudes toward ethical decision making in neonatal units. On the other hand, Ali (2007) found that the age of nurses had no effect on the performance of the neonatal nurses.

Place of residency, and gender of neonatal nurses had no association with standards of performance applications. Cozen (2008) showed that there are differences in the way men and women work in the medicine and other professions in favor of women who are more patient centered than men.

The result of this study showed that the 2 and 3 years diploma nurses applied professional practice evaluation and ethical standards more that those nurses who have bachelor degree or more. Ferry, Clevin, and Beterland (2000) stated that, the neonatal nurse require life long learning and knowledge and skills updating to provide competent practice. (Hall, and et al, 2005; and Ali, 2007) emphasized on the importance of the educational level of the nurses on their performance. Hyett (1998) also mentioned that staff nurses had more skills in neonatal units than practical nurses.

In this study, it was found that the more experienced nurses (16 years or more) applied standards of performance more than less experienced nurses. This result may be related to the fact that nurses through their experience they gain knowledge that enable them to enhance their performance. Mclaughlin and Kaluzny (2006) emphasized that nurses learn from experience and they become capable to view their performance and develop strategies to enhance it. Moreover, variation and complexity of neonatal cases admitted to the units will enforce nurses to improve their qualifications and educations (p.188). Moreover, Mosa (2002) found that there is a positive relationship between the performance of nurses and the years of experience of intensive care units nurses.

The results of this study showed that there was a relationship between nurse: incubator ratio and application of standards of performance. Callaghan, Crtwright (2003) found that there was strong relationship between the infant to staff ratio and the morbidity and mortality rate of infants in neonatal unit, and this is true when we consider the higher workload with higher patient to staff ratio; the nurses in this case will have various skills to carry out their duties in their units. Moreover, Pallas, Thomson, Hall, and Pink (2004) found a relationship between the occupancy rate and the productivity of the nurses working in cardiovascular care unit; they found that the more occupancy rate in the different units, the less nurses' productivity for the nurses, especially, when there is no balance between the number of patients assigned to a nurse.

Summary

The results of this study showed that there was a relationship between some of studied variables and neonatal nurses' application of standards of quality care, among those variables were age of nurses, years of experience, and level of education of the neonatal units, and other organizational factors related to staffing in the neonatal units. Several studies supported that those variables may affect the quality of care of the nurses, and play great roles in affecting nurses' performance of nurses. On the other hand there were no relationships between other variables such as place of residence and gender of neonatal nurses.

Chapter Seven

Conclusion and recommendations

This study is the first study that describes the level of standards of quality care and neonatal nurses' performance in West Bank/ Palestine. The results of this study showed that the overall level of application of standards of quality care standards was moderate in the following standards (newborn assessment, neonatal nursing care, medication management and use, family education, infection control, and qualification and education). There was a relationship between absence of some of procedure guidelines and nurses' application of standards of quality care at neonatal units.

The neonatal nurses who are older, had more experience years, and had more educational degrees applicated standards of quality care more than younger, less experienced and had less educational degrees nurses. Moreover, there was a correlation between nurses: incubator ratio and application of standards of quality care. On the other hand there was no significant difference for place of residence, and gender, and application of standards of quality care.

The overall of application of standard of performance was moderate in the following standards (quality of practice, education, and collaboration). On the other hand was high in the following standards (professional practice evaluation, ethics, resource utilization and leadership).

The neonatal nurses who are older, had more experience years, and had 3 years diploma degree applicated standards more than younger, less experienced, and had 2 years diploma degree or BA degree. There was no significant difference between application of performance standards and place of residence or gender of neonatal nurses.

Based on the findings of this study, the following research, management and training recommendations are suggested:

Research recommendations:

- More studies should be conducted on different units in the governmental hospitals to assess standards of quality of care and performance of nurses.
- Replication of this study in non governmental hospitals using random samples to compare findings. In addition, further exploration or identification of similarities and differences would be helpful.
- Conducting the same study and include other organizational variable that may affect the quality of care and performance of neonatal nurses.
- Conducting an assessment or observational studies for reviewing of medical records, policies, and job description, together with interviewing managers.

Management recommendations:

- Providing continuing supervision for nurses in the neonatal units related to their performance
- Hospital management has to collect all the standards of quality care and standards of performance to be available to all care providers working in the neonatal units at any time by developing of standards of quality care and procedures manual for neonatal units that is accessible to all staff.
- The standards of quality care and performance should be reviewed regularly and developed according to international standards for quality of care and performance.
- Quality experts with wide experiences should be assigned in governmental hospitals to insure and monitor application of standards. Those experts should have well defined responsibilities and authorities.
- Developing of quality improvement team in neonatal units.
- Developing quality improvement projects for neonatal units to enhance quality in the neonatal units
- Evaluating the quality of nursing care through outcomes analysis activities.
- Focusing on the implementing infection control standards.

Training recommendations

- Providing neonatal nursing training programs for all nurses and enforcing nursing care standards in all neonatal units in the governmental hospitals in the West Bank.
- Providing continuous education that is based on systemic needs evaluation for neonatal nurses.
- Providing quality improvement training programs for all nurses working in neonatal units.

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Appendix (1)

Al-Quds University
Faculty of Health Professions
Nursing Department
Jerusalem-Abu Dies

بسم الله الرحمن الرحيم

جامعــة القدس
كليــة المهــن الصحيــة
دائرة التمـريض
القدس-أبوديـس

الرقم : ج.ق/د.ت.د.ع/11/ 08/10-09

التاريخ: 2008/10/20

حضرة الدكتور عمر أبو عرقوب

مدير مركز المعلومات الصحية

وزارة الصحة

السلطة الفلسطينية

تحية طيبة وبعد،

أرجو من حضرتكم التكرم بالسماح للطالبتان *داليا طوقان* وسماح بوزية بالحصول على معلومـــات تتعلق بالمستشفيات الحكومية (الأقسام، عدد الأسرة، نسبة الاشغال ... الخ). وذلك كمتطلب خاص برسائل الماجستير الخاصة بهن.

وتفضلوا بقبول فائق الاحترام،،،

منسقة برنامج ادارة التمريض

أسمى الإمام

نسخة : الملف.

Appendix (2)

السلطة الوطنية الفلسطينية
وزارة الصحة
الإدارة العامة للمستشفيات في
محافظة الضفة الغربية / نابلس
رقم ٠٩-٣٨٥٩٥٦
ت ٣٨٤٧٧٣-٣٨٤٧٧٤
ص ب ١٤

نحو خدمات صحية أفضل

التاريخ: ٢٠٠٩/٥/٣١
الرقم: ٢٠٠٩/١٣١

الأخ مدير مستشفى   المحترم

تحية فلسطينية وبعد ،،

<u>الموضوع : توزيع استبيانات من أجل الحصول على المعلومات</u>

يرجى العلم بالموافقة على السماح لطالبات المذكورات أدناه / ماجستير ادارة التمريض بجامعة القدس بتوزيع استبيانات في المستشفيات الحكومية بغرض الحصول على المعلومات من أجل استكمال متطلبات الماجستير .

١. الدالية داليا طوقان وستقوم بتوزيع الاستبيانات بقسم حديثي الولادة وموضوع رسالتها " تقييم معايير جودة الرعاية التمريضية واداء ممرضات اقسام حديثي الولادة في المستشفيات الحكومية " .

٢. السالية ايمان جادو وستقوم بتوزيع الاستبيانات بقسم العناية المركزة وموضوع رسالتها " العوامل التي تؤثر في جودة الرعاية الصحية في اقسام العناية المركزة / الضفة الغربية " .

يرجى تسهيل مهمتهم

مع الاحترام ؛؛

مدير عام الإدارة العامة للمستشفيات
د. نعيم ص

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Appendix (3)

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1. □ □ □ □ □ □ □ سلفيت □

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6. □   □ 1- 5   □ 6- 10

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√ في الخانة المناسبة علماً أن 5 = موافق   4 = موافق، 3=

محايد، 2= غير موافق، 1= غير موافق بشدة

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Appendix 4

A questionnaire of standards of quality care

Dear Sir/Madam
We are trying to assess the standards of quality care and nurses' performance in neonatal units. Please mark the appropriate answer to which degree you agree or disagree with the following variables
5. Strongly agree   4. Agree   3. Neither agree nor disagree   2. Strongly disagree
1. Disagree

Statement	5	4	3	2	1
Standard one: Newborn nursing assessment					
1. Initial assessment of newborn includes physical examination.					
2. In your department the content of assessment based on applicable protocols.					
3. Nursing care needs are determined by the assessment.					
4. Nursing assessment findings are always documented.					
5. Newborns are always assessed for response to treatment.					
6. There is coordination between nursing assessment and medical assessment					
7. Nursing assessment process is enough to determine the care needs for newborns.					
Standard two :Neonatal Nursing care					
8. All newborns are cared according to their needs.					
9. Neonatal nursing care based on uniformed protocols.					
10. The neonatal nurse use nursing care plan for all newborns					
11. Nursing care Plan is actually applied.					
12. Nursing care plan is documented in the chart.					
13. There are clear guidelines for nursing care procedures in the unit.					
14. All neonatal nurses receive training for applying these procedures					
15. There is a procedure guide for caring of newborn in emergency					
16. There is a procedure guide for caring of newborn on life support mechanical ventilator.					
17.There is a clear protocol for administering blood products during caring of newborn					
18. There is a clear guide for preparing feedings in the unit.					
19. All types of milk is available in the unit.					
20. There is a clear protocol for intravenous fluid administration during nursing care of newborns.					
21. There is acoordination among nursing care plan and medical care plan.					
22. All protocols and procedures guidelines are followed by					

neonatal nurses during caring of newborns.					
Standard three: Medication Management and Use.					
23. There is a clear guideline for Medication use in the unit.					
24. All medications for newborns are available in the unit.					
25. The medication is stored according to manufacturing guide.					
26.The neonatal nurses know the side effect of all medications administered to newborns.					
27. The medication errors are always reported by nurses					
28. There is a form for medication error in the unit.					
29. All medications are documented in the chart.					
Standard four: Family Education					
30. You could identify the educational needs for families of newborns					
31. You educate families about how to participate in care decisions of their newborns.					
32. Families are informed about all procedures to be done to their newborns					
33. Families receive education regarding neonatal care after discharge.					
34. Families are educated for usage of community resources for ongoing care of their newborns.					
Standard five: Infection Control					
35. There is infection control protocol in unit.					
36. Infection control procedures are always followed					
37. There is isolation room for infected cases in the unit.					
38. The spoiled linens and laundry are handled in a proper way in the unit.					
39. Soap and disinfectants detergents are always available in the unit.					
40. There is always assigned cleaner in the unit.					
41. Disposable wastes are properly handled by the neonatal nurse					
42. A specific neonatal nurse is assigned to take care of infected newborn.					
Standard six: Neonatal Nurse Qualification and Education					
43. You have enough knowledge in Neonatal nursing care.					
44. You have enough skills in neonatal nursing care.					
45. You received in-service training regarding neonatal nursing care.					
46. You have specific scientific degree in neonatal nursing care.					
47. your knowledge in neonatal care is consistent with the actual need of newborn					
48. The neonatal head nurse always provides opportunities for clinical improvement in the unit.					
49. There is always a continuous evaluation of the neonatal nurses regarding their skills and knowledge.					

Statement	5	4	3	2	1
50. The neonatal head nurse provides time for continuing education regarding neonatal care.					
51. You have participated in any educational programs regarding neonatal nursing care in the last year.					

Third Part: A questionnaire of standards of performance

Statement	5	4	3	2	1
Standard one: Quality of Practice					
1.The neonatal nurse identifies quality aspects during nursing care					
2. The neonatal nurse participates in developing policies, procedures, and practice guidelines for the unit.					
3 .The neonatal nurse uses continuous quality-improvement activities to initiate changes in nursing practice.					
4. The neonatal nurse uses quality-improvement data to initiate health care delivery system changes, as needed.					
5. The neonatal nurse identifies indicators used to monitor quality and affect neonatal care.					
Standard two: Education					
6. The neonatal nurse participates in ongoing educational activities related to clinical and theoretical knowledge and professional issues.					
7. The neonatal nurse seeks experiences that reflect current clinical practice to maintain current clinical skills and competence.					
8. you apply the neonatal knowledge and skills in the clinical setting.					
Standard three: Professional practice evaluation					
9. The neonatal nurse Engages in performance appraisal on a regular basis, identifying areas of strength, weakness, as well as areas for professional development.					
10. The neonatal nurse seeks constructive feedback on an ongoing basis for the purpose of professional development.					
11. The neonatal nurse takes action to achieve professional goals identified during performance appraisal process.					
12. The neonatal nurse demonstrates knowledge of current professional practice standards, laws, and regulations regarding neonatal nursing care					
13. The neonatal nurse shares knowledge and skills with her colleagues.					
14. The neonatal nurse provides peers with constructive feedback regarding neonatal care and practice.					
15. The neonatal nurse interacts with colleagues to enhance one's own professional neonatal nurse practice.					
16. The neonatal nurse contributes in and supports the creation of a healthy work environment.					
17. The neonatal nurse contributes to an environment that is					

conductive to the clinical education of nursing student, other healthcare trainees, and other employees, as appropriate.					
Standard four: Collaboration					
18. The neonatal nurse continuously communicates with the family and other healthcare providers regarding neonatal care in a collaborative manner.					
19. The neonatal nurse collaborate with the family and other health providers in the formulation of overall goals and the plan of care regarding newborn.					
20. The neonatal nurse consults with other healthcare providers for neonatal care as needed.					
Standard five: Ethics					
21. The neonatal nurse maintains infant and family confidentiality within legal and regularity parameters.					
22. The neonatal nurse delivers care in a nonjudgmental manner.					
23. The neonatal nurse informs family for potential risks, benefits, and outcomes of healthcare regimens.					
Standard six: Resource Utilization					
24. The neonatal nurse evaluates infant safety, effectiveness, availability among practice options.					
25. The neonatal nurse assists family in identifying and securing necessary resources and services to address healthcare needs.					
26. The neonatal nurse assigns tasks bases on the needs and condition of the infant, the potential for harm, the stability of the infant's condition, and the complexity of the care.					
27. The neonatal nurse utilizes organizational and community resources to formulate multidisciplinary plan of care for infants.					
Standard seven: Leadership					
28. The neonatal nurse engages in teamwork, and a team builder.					
29.The neonatal nurse demonstrates a commitment to continuous lifelong learning for self and others.					
30. The neonatal nurse directs the coordination of care across settings and among health givers.					
31. The neonatal nurse promotes of profession through participation in professional organization.					
32. The neonatal nurse exhibit creativity and flexibility through time of change					
33. The neonatal nurse teaches others to succeed by monitoring and other strategies for developing of profession.					

Appendix (5)

Names of expert

1- Dr. Walid Al-Basha   A researcher American University (Jenin)

2- Dr. Amin Thalji   A neonatoligist (Ramallah)

3- Dr. Suheil Salha   A statistitian (Al- Najah University)

4- Dr. Ali Al- Shaar   (UNFPA} officer, (JCI) international editorial member.

5- Dr. Sumaya Sayej   A lecturerer (Al- Quds Universtiy)

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6- Miss Najwa Subuh   A lectureret (AL- Najah University)