INTRODUCTION

Neonatal respiratory distress is the most common neonatal emergency and the main cause of admission to the neonatal intens ive care units (NICUs). More than 50% of cases are followed for neonatal pneumonia, transient tachypnea and meconium aspiration (**El Nagar, 2009).**

Neonatal respiratory distress occurs in approximately 5% of full term neonates, and in over 50% of very low birth weight, and premature neonates, in which respiratory distress is being the leading cause of neonatal death **(Rudlof & Levene, 2003).**

The highest incidence of respiratory distress is inversely related to the degree of prematurity. However, it is estimated that 60-80% of neonates, born at 28 weeks of gestation will develop respiratory distress, 25% at 32 and 36 weeks of gestation and in about 5% beyond 37 weeks of gestation **(Kliegman, 2006).**

According to the Egyptian Demographic and Health Survey (EDHS) in 2000, infants' mortality is 64/1000 births, and neonatal mortality constitutes 25/1000 births, this indicates that more than one third of infants' mortality is happening in Egypt. According to the study done in Maternity and Gynecological Hospital and Children's Hospital at Ain Shams University Hospitals respiratory distress occurs in 13.6% of live births, and responsible for 23% of neonatal mortality **(Ministry of Health, 2005).**

Nursing care for neonates having respiratory distress requires closed monitoring and active nursing intervention. The pediatric nurse should be a highly trained and qualified to provide a standardized nursing care to neonates with respiratory distress at NICU **(Wilson etal., 2006).**

Appropriate measurement of quality of nursing care is an essential aspect for improving the quality of nursing care. There are several tools to measure the quality of nursing care. Observation is one of the methods used for measuring nursing actions **(WHO, 2003).**

Care of neonates with respiratory distress involves all the observation and intervention at the neonatal care unit. In addition, the nurse is concerned with the complex problems related to respiratory therapy. Continuous monitoring and close observation are mandatory because the neonate's status can change rapidly **(Hockenberry, 2005).**

The concepts of quality and how to achieve it are considered the key to survival. The goal for quality initiative has shifted from achieving accreditation to improve care and services philosophically **(Texas Health Resources, 2007).**

Whereas, quality in health care is defined as meeting or exceeding the neonates' needs and fulfilling his/her expectations, it is always the result of high intention, sincere efforts, intelligent direction and skillful execution, if

represented by a wisely choice of many alternatives **(Grossman & Valiga, 2005).**

The neonate has the right of quality nursing care. Nurses are key members of the neonatal care team and play a vital role in the delivery of quality neonatal services **(Lefrak & Porter, 2006).**

Health care environment consumers are taking a greater interest in their own health care and are seeking more and more information. Patients and families become more aware of medical errors, patient safety, surgical procedures, and general medical information. They are investigating their health care providers and facilities, and aware of the outcomes of surgical procedures, treatments, infection rates, malpractice claims and facility of accreditation designation **(Kliegman, 2006).**

Aim of The Study

This study aimed at monitoring the quality of nursing care given to neonates with respiratory distress in neonatal intensive care units at different health sectors in Cairo and Giza through:

A) Assessing neonatal nurses regarding the application of neonatal care standards for respiratory distress.

B) Determining the principal reason for non-compliance.

Review of Literature
Quality of Nursing Care

Concept of Quality:

Quality of nursing care is determined by the knowledge and skills of the nurses' assessment. In order to deliver high quality of care, the nurse must be able to perform effectively and competently in the application of theory and skills in the clinical situations. This should be guided by clearly defined standards that describe a common or acceptable level of patient's care or performance **(Clark & Copcutt, 2004).**

The competence of qualified and welltrained neonatal nurses in the care of distressed neonates make them not only excellent care providers, but also they have knowledge and skills, to make them good members of health care team, whose focus is a provision of high quality of nursing care besides playing role of traditional nursing care. These specially trained nurses will have a specific role in neonatology in providing tertiary care for neonates in N1CU and stabilize sick neonates being transferred to referral center. In due course of time with advancement in knowledge and skills, these nursing personnel should be able to provide help in follow up for distressed neonates **(WHO, 2003).**

The Egyptian Ministry of Health (EMOH, 2005) implemented a program to improve the quality of neonatal nursing care. This program included series of integrated

training courses, which provide necessary reference protocols and modules for neonatal nurses that can be used as standards containing agreed upon guidelines for their clinical practice **(Ministry Of Health, 2005).**

Quality in health services can be defined as fully meeting requirements of lowest cost or more specifically fully meeting the needs of those who need the service most at the lowest cost to the organization within limits and directive sets by higher authorities and purchasers **(Clark & Copcutt, 2004).**

Quality of care can be defined as the degree to which health care for patient increases the like hood of desired outcomes and is consistent with current professional knowledge, or it is the degree or grade of excellence with respect to medical and nursing services received by patient, administered in term of technical competence, appropriateness and acceptability (**WHO, 2003).**

The goal of quality initiatives has been shifted from achieving accreditation to improving care and services. Philosophically, quality has shifted from mandate to opportunity (**Texas Health Resources, 2007).**

Quality of care is the degree to which patient care service increases the probability to achieve the desired patient outcome, and reduces the probability of undesired outcome **(Hogan etal., 2006).**

Components of Quality:

Quality of care includes live major components such as: good professional performance by all health care practitioners, efficient use of resources, minimal risk to the patient of injury or illness associated with care patient satisfaction and compassionated care (**Timothy & Lisa, 2004).**

There are nine factors that determine the quality of patient care and those factors were redefined recently as dimensions of performance. These factors are appropriateness availability, continuity, effectiveness, efficacy, efficiency, respect, safety and timeless **(WHO, 2003).**

Quality Circles

The force for developing quality measurements may be come from two directions: the first is as a response to a perceived deficit or short coming with the services which is recognized via a complaint or in some cases a serious error. The second direction is by applying the principles of total quality management. Both approaches may utilize quality circles. A quality circle is a group of staff who meet periodically to solve any problems related to the care they deliver (**Newman, 2004).**

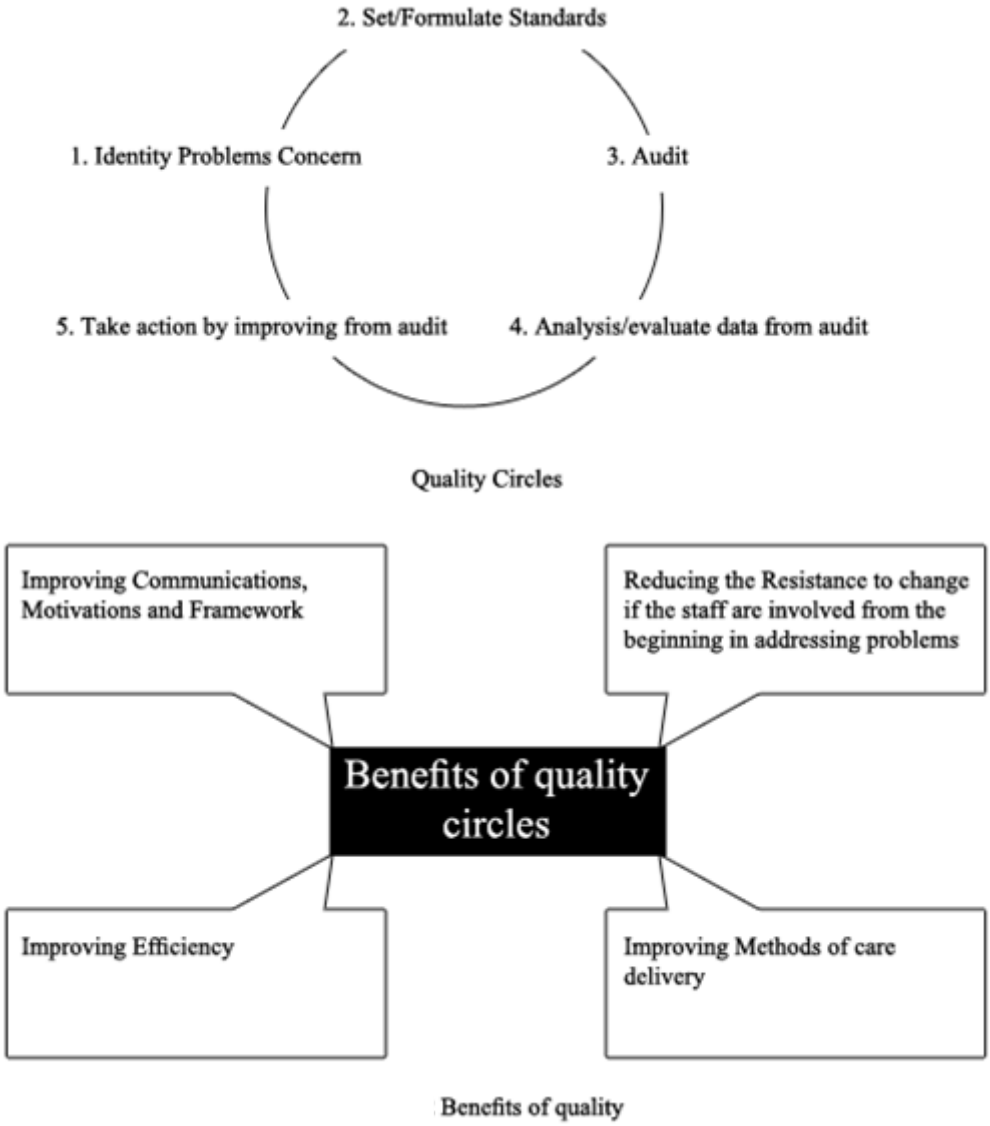

Figure (1): Quality circles and benefits of quality

Adopted from**: Carter, B. & Dearman, A. (2000):** Child health care nursing concept theory and practice, (2nd ed.), Blackwell Science: London, pp. 44-54.

Characteristics of Quality:

Characteristics of quality care are six namely, functionality, reliability, usability, efficiency, maintainability and portability (**Dona, 2005).**

Standards of the Quality of Nursing Care:

Standards of care become the basis for determining the level of delivered care and for quality improvement within the organization (**Martin, 2003).** While **Ellis and Hartey. (2001)** describe standards of care as an authority's statement that describes a common or acceptable level of care or performance by which the quality of practice can be determined. Moreover, **Martin & Lucas (2004)** defined a standard as the desired quantity, quality or level of performance established as a criterion against which worker's performance will be measured.

Standards allow nurses to carry out professional rules, it is serving as a protection for the nurse, the patient, and the institution where health care is given **(Woods, 2006).** A standard model of expectation is the expected behavior or conduct not an evaluation instrument in itself; but does provide a yard stick for measuring the quality services provided (**Hogan etal., 2006).**

Quality of nursing care is made by written standards that direct the way of the nursing care to be provided and the results that should be achieved from that nursing care. Standard in health care is defined as an agreed level of care required for a

particular purpose. Standard also is defined as a written value statement of rules, conditions, and acts on a patient, staff members, and the systems that are sanctified by an appropriate authority. Standards cannot be valid unless they contain criteria to enable care to be measured and evaluated in terms of effectiveness and quality. **(World Health Organization (2003).**

Characteristics of standards:

Katz and Green (2003) identified the characteristics of standards in the word "SMART" specific, so it is measurable, appropriate, reliable and timely. The standards within health care are influenced by several factors. These factors are professional codes of practice, consumer's requirements, departmental needs, and national targets (**Clark & Copcutt, 2004).**

Respect means the degree to which a patient is involved in his / her own care decisions and that to provide the services to do with sensitivity and respect for his/her needs, expectations and individual differences. Safety means the degree to which the risk of an intervention and the risk in the care environment are reduced for the patient and others, including the health care providers, while timeless means the degree to which care or intervention is provided to the patient at time, it is most beneficial and necessary **(Hogan etal., 2006).**

Types of Standards for Quality of Nursing Care:

The basic standard can be broken down into a list of criteria, a criterion being a measurable aspect of desired performances. The standards for quality of nursing care are usually divided into three sections as: structure standards, process standards and outcome standards (**Newman etal., 2004).**

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

1- Structure standards:

According to **Woods (2006),** structure standards focuses on the environment in which care is provided and resources such as physical and personal, facilities, equipment, organizational characteristics, policies and procedures.

2- Process standards:

This process needs to reach an outcome, by the nurse as a care provider. Whereas, the nursing process is described in 5 steps: assessment of the health status of the patient; diagnosis which is derived from health status data; planning or the goals implementation or nursing actions provided to patient participation, health promotion, and evaluation step lastly refers

to the client's process or lack of progress toward goal achievement (**Pillitteri, 2003).**

3- Outcome standards:

Each standard consists of a principle and a number of expected outcomes, these are the end result of care and performance. Outcome can be seen as the worthwhile of all the nursing measures, trying to ensure that what was planned and carried out was effective **(Agency for Health Care Research and Quality, 2007).**

High quality neonatal health care services can be provided in a variety of settings, and does not refer only to hospital based treatment. High quality care must be assured in whatever environment of neonatal health care takes place; the home, rural or urban health centers or well- equipped hospitals in large cities (**WHO, 2003).**

Measuring of nursing care assessment is the difference between the expected and actual performance of nurses to identify opportunities for 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 **(The Quality Assurance Project, 2007).**

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 records, interviews with nurses,

observation of nurses, observation of unit management and observer inferences **(Newman, 2004).**

Rush Medicus Quality Monitoring is a tool for measuring quality of nursing care. It is composed of six main objectives and 32 sub objectives with a master criteria list of 357, each sub objective contains 3 to 26 criteria considered relevant to its evaluation. It increases interest in attempting to improve the quality of care through feedback of clinical data, it is perhaps no surprise that there have been efforts to create complex systems to evaluate clinical performance. The apparent premise behind such performance measurement systems is to use them as administrative tools, either voluntary or regulatory, to broadly measure quality-improvement activities. Paneuf Nursing Audit is another tool for measuring quality of nursing care. These are 50 items' scale, which measure retrospectively the quality of care received for patients during a particular period of time **(Kevin B. Weiss etal., 2012).**

A measure of the quality of patient care provider was developed. It is based on the patient perspective, and the measure demonstrated evidence of reliability and validity of the standard, it describes nursing actions and 68 items are divided into six subsections. It is designed to measure the quality of nursing care received by particular patient and the final score in a measure of the quality provided by a unit **(Salt, 2011).**

Quality improvement is a major process of neonatal health care, It aims at improving neonatal health outcome and the related activities that contribute to neonatal care. Improving quality involves applying appropriate methods to close the gap between the current expected levels of quality as defined by standards **(Robin, 2006).** However, quality improvement is not easy; nurses need help to develop their knowledge and practices to be capable of providing quality services to neonates (**Lefrak & Porter, 2006).**

Respiratory Distress (R.D)

Neonatal respiratory distress is a life threatening condition in which death may occur if urgent measures are not performed to preserve life. Acute life threatening condition can result from serious illness or a serious injury. The serious illness can affect the respiratory system, which is responsible for the oxygenation of blood and CO_2 elimination. Breathing in oxygen free atmosphere is fatal in 5 minutes **(Aboughalaa, 2010).**

The most common etiology of neonatal respiratory distress is transient tachypnea of the newborn; this is triggered by excessive lung fluid, and symptoms usually resolve spontaneously. Respiratory distress syndrome can occur in premature infants as a result of surfactant deficiency and underdeveloped lung anatomy. Intervention with oxygenation, ventilation, and surfactant replacement is often necessary. Prenatal administration of corticosteroids between 24 and 34 weeks' gestation reduces the risk of respiratory distress syndrome of the newborn when the risk of preterm delivery is high. Meconium aspiration syndrome is thought to occur in utero as a result of fetal distress by hypoxia. The incidence is not reduced by use of amnio-infusion before delivery nor by suctioning of the infant during delivery. Treatment options are resuscitation, oxygenation, surfactant replacement, and ventilation. Other etiologies of respiratory distress include pneumonia, sepsis, pneumothorax, persistent pulmonary