



ISSN Print: 2394-7500  
ISSN Online: 2394-5869  
Impact Factor: 5.2  
IJAR 2016; 2(6): 730-734  
www.allresearchjournal.com  
Received: 21-04-2016  
Accepted: 22-05-2016

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## Assess the knowledge regarding assessment of high risk neonates among staff nurses and nursing students in selected hospitals at Nellore, AP

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### Abstract

**Background of the Study:** The high risk neonate can be referred as a newborn, regardless of gestational age or birth weight, who has a greater than average chance of morbidity or mortality because of conditions or circumstances superimposed on the normal course of events associated with birth and the adjustment of extra uterine existence.

In worldwide over 130 million childrens are born in every year and 4 millions preterm babies per year develop intra ventricular hemorrhage. About 45% to 85% of premature infants with moderate to severe IVH develop major cognitive deficits .Whereas in India about 30-40% neonates are born LBW. Approximately 80% all neonatal death and 50% of infant death are related to LBW. The baby with a birth weight of less than 2000 gm is more vulnerable and need special care, about 10% of all LBW babies require admission to the special care nursery. Nurses are the primary managers of all the routine care and in early identification of high risk fetuses, of almost important at the level of perinatal morbidity and mortality are to be reduced.

**Objectives:** To assess the knowledge regarding assessment of high risk neonates among staff and nursing students.

**Methodology:** Descriptive cross-sectional design was adopted to assess the knowledge regarding assessment of high risk neonates among staff and nursing students in selected hospitals at Nellore. A sample size of 15 staff nurses and 15 nursing students were selected through non probability convenience sampling. The data was collected by using structured knowledge questionnaire .The data was analysed by using descriptive and inferential statistics.

**Results:** With regard to level of knowledge regarding assessment of high risk neonates, majority of the staff nurses 8(53.3%) had adequate knowledge and majority of the student's 10(66.7%) had moderately adequate knowledge

**Keywords:** Assessment of high risk neonates, knowledge, Staff nurses, Student nurses

### Introduction

At birth the newborn is given a rapid, yet thorough, assessment to determine any apparent problems and identify those that demand immediate attention .This examination is primarily concerned the evaluation of cardiopulmonary and neurological functions .The assessment includes the assessment of an APGAR score and an evaluation for any obvious congenital anomalies or evidence of neonatal distress. Delivery room are equipped with a special resuscitation areas and the newborn should be stabilized before transported neonatal intensive care unit.

A thorough systematic physical assessment is an essential component in the care of the high risk infant. Subtle changes in feeding behavior, activity, color, oxygen saturation, or vital signs often indicate an underlying problem .The low birth weight, preterm infant, especially the very low birth weight or extremely low birth weight infant is ill equipped to withstand prolonged physiologic stress and may die within minutes of exhibiting abnormal symptoms if the underlying pathologic process is not corrected. Changes in the infant's status are noted through ongoing observation of the infant's adaptation to the extra uterine environment.

Observational assessment of the high risk infant are made according to the infants activity; the critically ill infant require close observation and assessment of respiratory functions including pulse oximetry, electrolytes, and evaluation of blood gases . With the aid of continuous, sophisticated cardiopulmonary monitoring, nursing assessments and daily care may be co-ordinated to allow for minimal handling of infant to decrease the effect of environmental stress.

The high risk neonate can be defined as a newborn, regardless of gestational age or birth weight, who has a greater than average chance of morbidity or mortality because of conditions or circumstances superimposed on the normal course of events associated with birth and the adjustment of extra uterine existence.

Early identification of high risk fetuses and optimal care of high risk fetuses and neonates are matters of almost important if the level of perinatal morbidity and mortality are to be reduced. Threats to wellness and indeed life can occur at any time prenatally, perinatally, and postnatally between the time of viability of the fetus to 28 days after birth.

The terminologies used to describe the high risk neonate are low birth weight infants those who weight 2500 gms or less at birth regardless of gestational age. Many newborn of low birth weight can be categorized as small for date's infants, whose birth weight falls below the 10%. These terms are used regardless of whether birth is at or near term. Small for gestational age or small for dates infants have intra uterine growth retardation. Newborn can be classified also as being appropriate for gestational age. Large for gestational age newborn are those whose weights are above the 90% on intra uterine growth charts.

Premature infants regardless of birth weight are those delivered before 37 weeks from the first day of the last menstrual period. Prematurity and low birth weight usually occur together, both carrying a high birth rate of morbidity and mortality unless optimal care is given to maintain life. Full-term infants are those born between 37 and 42 weeks of gestation. Post mature infants, those born after a prolonged gestation, regardless of birth weight, show attained in growth and development that surpass those seen in the normal full-term infant.

In the assessment and monitoring of high risk neonate mainly involved the maintenance of a controlled thermal environment, monitoring of heart rate, respiratory rate and blood pressure, collection of specimens.

The causes of the high risk neonate can be considered as birth weight less than 2000gm gestational age less than 36 weeks, severe birth asphyxia with 5 minutes APGAR score of 3 or less Rh incompatibility, gross congenital malformations, maternal diabetes mellitus, respiratory distress, or any other systematic problems of the neonate unwell or unwed or unwilling mother.

The high risk neonates can be marked as the conditions of the birth weight less than 1800 gm or gestational age less than 34 weeks, delayed passage of meconium and urine, inability to suck and swallow, reduced activity and excessive crying, marked changes in skin color, cold baby or febrile baby, rapid breathing more than 60 breath per minute, chest retractions and alae nasi movements, superficial infections with purulent conjunctivitis, oral thrush, umbilical sepsis, pyoderma, abscess, persistent vomiting, watery diarrhea, abdominal distension bleeding from any site and any features of injury, convulsions and abnormal movements, delayed capillary refill time, sudden loss of weight. The physiological problems like alternation of respiratory functions, immaturity of CNS, disturbances of circulatory functions, impaired thermoregulation, inefficient gastrointestinal and hepatic functions, impaired renal functions.

The most common problem related to physiologic status in the high risk neonate are closely associate with the state of maturity of the infant and usually involve chemical disturbances and consequences of immature organs and

symptoms. Because high risk factors are common to several speciality areas, particularly obstetrics, pediatric and neonatology.

Formerly, weight at birth was considered to reflect a reasonably accurate estimation of gestational age. That is, if an infant's birth weight exceeded 2500gm, the infant was considered to be mature.

The complications are seizure, bronchopulmonary dysplasia, obstetrical complications, neurological findings, in new born infants after pre-and perinatal complications.

The nursing care of the preterm babies are at birth efficient resuscitation and thermo regulation, immediate cord clamping, administration of vitamin K 0.5mg intramuscularly. The NICU should be free from infection should be ensured by aseptic measures and effective hand washing. Baby can be placed in prone position during care. It helps to less crying and reduced chance of aspirations. Unsupervised prone position may cause sudden infant death syndrome, maintains of nutrition and hydrations, preventions of infection, early detection of complications, maintains of stable body temperature, gentle rhythmic stimulations.

### Need For the Study

As per Enwerone L Aryea (2010) in worldwide over 130 million childrens are born in every year and 4 millions preterm babies per year develop intra ventricular hemorrhage. About 45% to 85% of premature infants with moderate to severe IVH develop major cognitive deficits and approximately 75% of there will need special education.

The incidence and evaluation of sub ependymal and intraventricular hemorrhage study of infants with birth weight less than 1500gm. Incidence of SEH/IVH in live borne preterm infants from 25- 57q. The incidence of significant hearing loss in our population was between 0.75%.

As per Athanase Kiromera (2009) In India about 30-40% neonates are born LBW. Approximately 80% all neonatal death and 50% of infant death are related to LBW. These low birth weight babies are more prone to malnutrition, infection and neuro developmental handicapped condition. High incidence of LBW babies in our country is due to higher number of babies with intrauterine growth retardation rather than pre term babies. The baby with a birth weight of less than 2000 gm is more vulnerable and need special care, about 10% of all LBW babies require admission to the special care nursery.

Preterm infant less than 36wks, gestational age account to 70%-90% of total necrotizing enterocolitis cases often caused by bacterial infection resulting in bowel necrosis. Extremely low birth weight infants are of greater risk for intestinal perforation or necrosis resulting in a nearly 50% mortality or some degree of neuro developmental impaired among surves, the rate of necrosis has remained the same over the last 20 years.

As per Bharath Ramistly (2012) since the late 1980 s, the incidence of retinopathy of pre maturity has remained about 20%. However, some studies show a wide variables range of 10%-84% among lower GA infants. Over than 18 year period in Andhra Pradesh, the rate of retinopathy of pre maturity in preterm survivors of NICU discharge increased from 78.2% between 1992-1997 to 80% between 2004-2009 and was inversely proportional to GA ranging from close to 90% at 23 to 25 wks GA and dropping to 76% at 27 wks GA.

**Problem Statement**

A Study to Assess the Knowledge Regarding Assessment of High Risk Neonates among Staff Nurses and Nursing Students in Nmch, At Nellore.

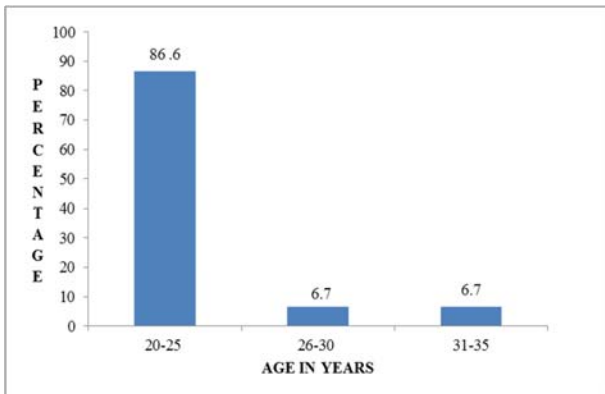
**Objectives**

- To assess the level of knowledge regarding assessment of high risk neonates among staff nurses
- To assess the level of knowledge regarding assessment of high risk neonates among nursing students
- To compare the level of knowledge regarding assessment of high risk neonates between staff nurses and nursing students.
- To associate the level of knowledge regarding assessment of high risk neonates among staff nurses with their selected socio demographic variables.
- To associate the level of knowledge regarding assessment of high risk neonates among nursing students with their selected socio demographic variables.

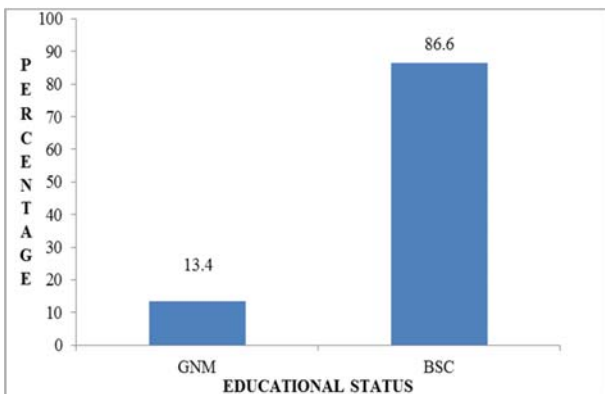
**Methodology**

Descriptive crosssectional design was adopted to assess the knowledge regarding assessment of high risk neonates among staff and nursing students in selected hospitals at Nellore. A sample size of 15 staff nurses and 15 nursing students were selected through non probability convenience sampling. The data was collected by using structured knowledge questionnaire. The data was analysed by using descriptive and inferential statistics.

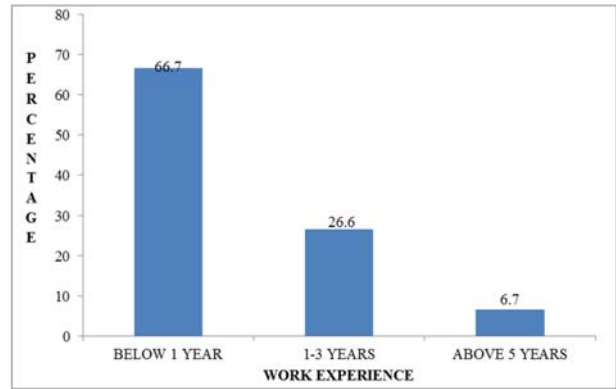
**Results**



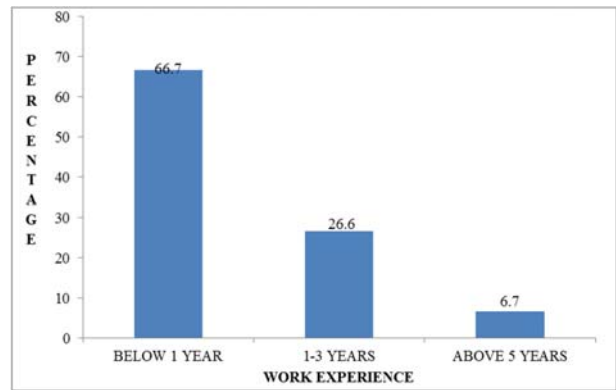
**Fig 1:** Percentage distribution of staff nurses based on Age.



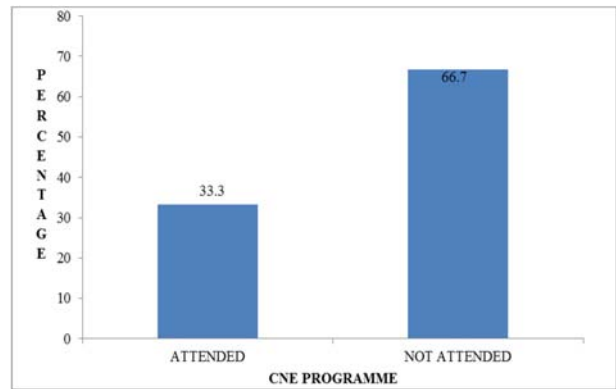
**Fig 2:** Percentage distribution of staff nurses based on educational status.



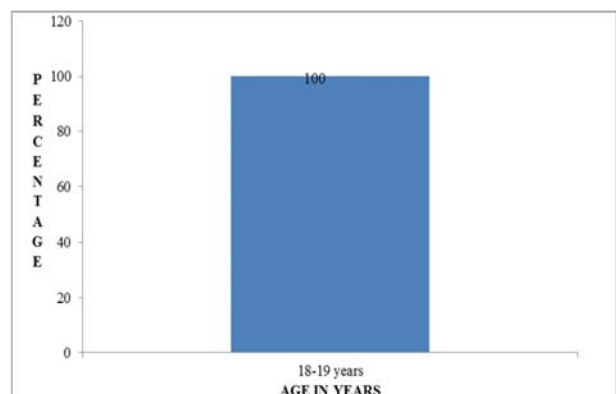
**Fig 3:** Percentage distribution of staff nurses based on professional experience.



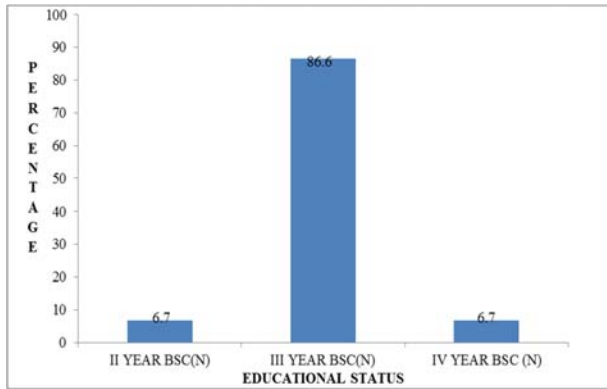
**Fig 4:** Percentage distribution of staff nurses based on source of information.



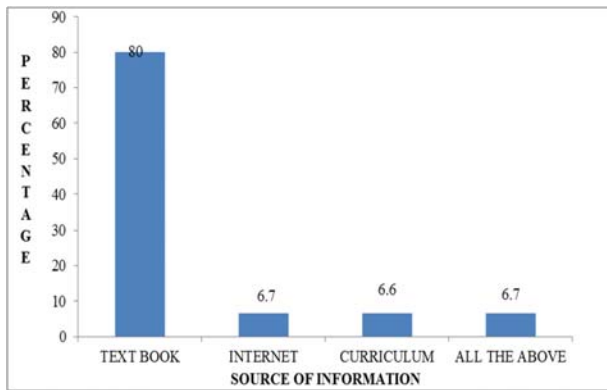
**Fig 5:** Percentage distribution of staff nurses based on CNE programme attended.



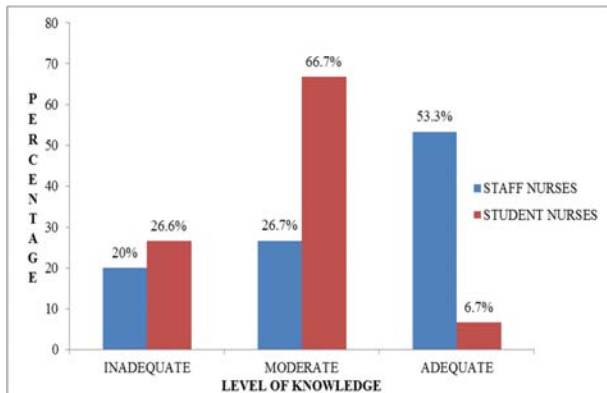
**Fig 6:** Percentage distribution of nursing students based on age.



**Fig 7:** Percentage distribution of nursing students based on educational status.



**Fig 8:** Percentage distribution of nursing students based on source of information.



**Fig 9:** Percentage distribution based on level of knowledge among staff nurses and nursing students.

**Discussion:** The findings of the study have been discussed under the following sections with reference to the objectives and hypotheses in light of other studies.

**Findings related to demographic variables of staff nurses and student nurses**

- With regard to age of staff nurses, majority 13(86.6%) of them are between 20-25 years, whereas in nursing students 15(100%) of them are between 18-19 years.
- With regard to gender of staff nurses, 15(100%) of them are females.
- With regard to educational status of staff nurses, 13(86.6%) of them are studied BSC (N) whereas in nursing students 13(86.6%) of them are studying III year BSC (N).

- With regard to professional experience of staff nurses, 10(66.7%) of them had less than 1 year experience.
- With regard to source of information of staff nurses, 11(73.3%) of them received through internet, whereas nursing students 12(80%) of received from text books.
- With regard to CNE programme of staff nurses, 10(66.7%) of them not attended whereas nursing students, 15(100%) of them not attended workshop on assessment of high risk neonates.

**Findings related to Level of knowledge regarding assessment of high risk neonates among staff nurses and nursing students**

With regard to level of knowledge of staff nurses, 8(53.3%) of them had adequate knowledge, whereas in nursing students 10(66.7%) of them had moderately adequate knowledge.

**Comparison of mean knowledge score and standard deviation between staff nurses and nursing students**

With regard to comparison of Mean knowledge, score and S.D between staff nurses and nursing students. Among staff nurses, mean knowledge score is 31.5 with standard deviation of 9.24 where as in nursing students, the mean knowledge score is 27.9 with standard deviation of 7.54. The staff nurses mean knowledge score is higher than the nursing students. Hence staff nurses have better knowledge when compare to nursing students.

Findings of the study was consistent with study conducted by Mi bari, maullah (2012) conducted a descriptive study to assess and compare the theoretical knowledge of paediatric staff nurses and student nurses on assessment of high risk neonates. The study sample consisted of 56 nursing staffs and 44 students. The results shows that knowledge assessment of high risk neonates of the nursing staffs was 19% and that of the student nurses was 5%. The study results that there was insufficient knowledge on assessment of high risk neonates between nursing staffs and the student nurses, indicating the necessity of education regarding assessment of high risk neonates for both nursing staffs and student nurses.

**Findings related to association between the Level of knowledge regarding assessment of high risk neonates among staff nurses with their demographic variables**

With regard to association, there is a significant association between the level of knowledge regarding assessment of high risk neonates among staff nurses with socio demographic variables like Workshop attended.

**Findings related to association between the Level of knowledge regarding assessment of high risk neonates among nursing students with their demographic variables**

With regard to association, there is no significant association between the level of knowledge regarding assessment of high risk neonates among nursing students with their selected socio demographic variables.

**Conclusion**

Hence, the study concluded that staff nurses have adequate knowledge regarding assessment of high risk neonates. Therefore, there was a lack of aware of practicing of identification and assessment of high risk neonates among students nurses in selected hospitals at Nellore. There was necessity to give instructional module on assessment of high risk neonates among student nurses to improve their knowledge, attitude and practices related to care of high risk neonates

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