

# Assessment Nursing Care in Neonatal Respiratory Distress

Syndrome for Nurses at Intensive Care Unit in AL- Nasiriyah City Hospitals

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**Abstract:** Objectives: The study aims: (1) To Assess Nursing Care and (2) To Detect Association of Nursing Care (age, level of nursing education and nurses experience in the intensive care unit). Methodology: A descriptive quantitative design is carried out at Intensive Care Unit in AL- Nasiriyah City Hospitals include Bent Al-Huda Teaching Hospital, Muhammad AL-Mawsawi pediatric Hospital and Al-Hububi Teaching Hospital, the study period from 11rd of October 2016 to the 4th of April 2017. A non-probability (Purposive) of (100) nurses at intensive care unit to provide care for neonate with respiratory distress syndrome. To achieve the objective of the study the researcher has established the constructed questionnaire, which consists of two parts (1) sociodemographic data form that consist of 8-items (2) nursing care that consist of three domains. Reliability of this determined by using Cronbach reliability rate (0.81), also through a pilot study and the validity through a panel of (18) experts. The data were described statistically and analyzed through use of the descriptive and inferential statistical analysis procedures. Results: The findings of the present study indicate that assessment nursing care in neonatal respiratory distress syndrome for nurses at intensive care unit, since their relative sufficiency (75%) were under cutoff point (1.5), There is a significant relationship between quality of nursing care and demographic characteristics like (age, level of nursing education and nurses experience in the intensive care unit by P value < 0.05. Recommendations: The study recommended to provide Educational program for nurses toward nursing care of neonatal respiratory distress syndrome and Providing updating booklets, pamphlets and boosters for nurses to upgrading their knowledge about neonatal respiratory distress syndrome.

**Keywords:** Neonate, Nursing Care, Respiratory Distress Syndrome

## 1. Introduction

Newborn is delivered at preterm, term or full term and have no problems, some newborns may have medical problems related to factors that occur before birth such as any health problems or habits of the mother and certain birth defects are likely to lead to early delivery, the earliest premature infants are likely to have problems with transition to newborn life especially breathing problems caused by respiratory distress syndrome(1). Neonatal respiratory distress syndrome or neonatal RDS, also known as Hyaline Membrane Disease (HMD) may occur if the lungs are not fully developed in the preterm infant that causes a primary deficiency of surfactant and a reduce alveolar surface area available for gases exchange(2). Surfactant is a substance produce in the lungs which line the alveoli and prevents them from collapsing, it is abnormally secreted in sufficient quantities until approximately the 29-30th weeks of gestation and as a result most preterm infants born before this gestation will be surfactant deficient(3). Respiratory distress is one of the most common reasons a child is admitted to the neonatal intensive care unit, 50% percent of term infants and 29% of late preterm infants admitted to the neonatal intensive care unit develop significant respiratory morbidity; this is even higher for infants born before 34 weeks' gestation it is seen almost exclusively in preterm infants but may also be associated with multifetal pregnancies, infants of diabetic mother, cesarean section delivery, cold stress, asphyxia and a family history of respiratory distress syndrome(4). Caring is probably much more complex, therefore as nurses who are involved in improvement or implementation of evidence-based practice, must be faced with the question of how to

measure quality of care(5). Infants with respiratory distress syndrome have the best outcome it is essential that they have optimal supportive care including maintenance of a normal body temperature, proper fluid management, good nutritional support and support of the circulation to maintain adequate blood pressure and tissue perfusion, temperature, fluid and nutritional management radiant warmers can be used for initial stabilization in the delivery suite and for accessibility in the neonatal intensive care unit optimal management depends on the diagnosis and the degree of prematurity, we would advocate a stepwise approach to respiratory support with frequent reassessment and a low threshold for escalation of treatment(6).

## 2. Methodology

A descriptive quantitative design is carried out at Intensive Care Unit in AL- Nasiriyah City Hospitals include Bent Al-Huda Teaching Hospital, Muhammad AL-Mawsawi pediatric Hospital and Al-Hububi Teaching Hospital, from 19 Dec, 2016 to 16 Feb, 2017.

The data were described statistically and analyzed through use of the descriptive and inferential statistical analysis procedures.

Self-administrative questionnaire was constructed by the investigator for the present study through the review of available literature and related previous studies. The constructed questionnaire consisted of two parts: the first part is sociodemographic data form that consists of 8-items; the second part is nursing care that consist of two domains. These items were rated to two levels of Likert

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scale and scored as follows: I know (2), Don't know (1). Nurses' knowledge toward respiratory distress syndrome was calculated as two level and scored as follows: Pass = (1.50-2.00) and Fail = (1-1.49) with cutoff point (0.05) with pass score with relative sufficiency R.S (75%).

Relevancy, and adequacy of the questionnaire were done by using (18) of panel experts (four experts from College of Nursing University of Baghdad, one expert from College of Nursing University of Babylon, one expert from College of Nursing University of Thi-Qar, four experts from College of Medicine University of Thi-Qar, three experts from Kirkuk Teaching Hospital in Kirkuk City, four experts from Muhammad AL Mawsawi pediatric Hospital in AL-Nasiriya City), to determine the content validity of the instrument in order to achieve the present study's objectives.

The internal consistency of the instrument was determined through the pilot study and the computation of Alpha Correlation Coefficient (Cronbach's Alpha). The result of the reliability was ( $r = 0.810$ ) and such an estimation was

statistically adequate which means that the questionnaire had adequate level of internal consistency and equivalence measurability.

The data were collected through the utilization of the self-administrative questionnaire as a mean of data collection; the data were collected from (100) nurses at intensive care unit to provide care for neonate with respiratory distress syndrome. Filling the questionnaire takes approximately (25-35) minutes.

The data is analyzed using SPSS (Statistical Package for Social Sciences) version 21. Application of statistical analysis system and the application of Excel. Data analysis was employee through the application of descriptive and inferential statistical approaches, which were performed through the computation of the following: frequencies, percentage, and means of scores, standard deviation, relative sufficiency, alpha correlation coefficient and chi-square test.

### 3. Results

**Table 1:** Distribution of Nurses According to the Demographical Characteristics:

Basic Information		Groups	Frequency	Percent
Age		20 years &under	8	8.0
		21 – 25	61	61.0
		26 – 30	19	19.0
		31 – 35	4	4.0
		36 – 40	5	5.0
		Above 40 years	3	3.0
	Total	100	100.0	
Marital status		Married	57	57.0
		Single	43	43.0
		Total	100	100.0
level of education		Secondary nursing school	57	57.0
		Nursing foundation	21	21.0
		College of nursing	21	21.0
		High education in nursing	1	1.0
		Total	100	100.0
Residency		Urban	99	99.0
		Rural	1	1.0
		Total	100	100.0
Years of experience in the field of pediatric nursing		Under 2 years	50	50.0
		2-5 years	40	40.0
		6-9	5	5.0
		Above 9 years	5	5.0
		Total	100	100.0
Years of experience in the neonatal intensive care unit		Under 2 years	50	50.0
		2-5 years	40	40.0
		6-9 years	5	5.0
		Above 9 years	5	5.0
		Total	100	100.0
Continue...				
the nurse was participating in the training of neonatal intensive care unit		NO	18	18.0
	Yes	1-3 training	64	64.0
		4-6 training	10	10.0
		Above 9 training	8	8.0
		Total	82	82.0
	Total	100	100.0	
nurses have participated training in the field of neonatal respire- tory distress syndrome care		NO	49	49.0
	Yes	1-3 training	40	40.0
		4-6 training	8	8.0
		Above 9 training	3	3.0
		Total	51	51.0
	Total	100	100.0	

This table indicated that (61%) of the nurses within age group of (21 – 25) years. With respect to the marital status, the majority of the sample are married and they accounted for (57) nurses (57.0%) of the whole sample. Regarding to the level of education, the greater number of them secondary nursing school and they are accounted for (57) nurses (57.0%) of the sample. Concerning to the residency, the greater number of study sample were living in urban and account (99) nurses (99.0 %). Related to years of experience in the neonatal intensive care unit, the results indicated that a highest percentage of the study sample are under 2 years and they are accounted for (50)

nurses (50.0%). Related to years of experience in the field of pediatric nursing, the results indicated that a highest percentage of the study sample are under 2 years and they are accounted for (50) nurses (50.0%). Concerning to the nurse were able to participate in the training of neonatal intensive care unit, the greater number of study sample is (Yes) and large group of (1-3 training) and account (64) nurses (64.0 %). The majority of participate to training in the field of neonatal respiratory distress syndrome care of the study sample within is (Yes) and large group of (1-3 training) and they are accounted (40) nurses (40.0%).

**Table 2:** Knowledge Relating to Observation and Monitoring of Child Care (cut off point = 1.5, R. S=75%).

No	Items	Nurses Answer				M.S	R.S	Assess
		know	F	Don't know	F			
1	Necessary Monitor blood glucose.	33	33.0	67	67.0	1.33	66.5	F
2	Necessary Monitor respiratory rate.	86	86.0	14	14.0	1.86	93	P
3	Unnecessary Monitor pulse rate.	18	18.0	82	82.0	1.18	59	F
4	Does not favor measure the child temperature.	84	84.0	16	16.0	1.16	58	F
5	Must be measure the oxygen ratio in the blood continuously.	37	37.0	63	63.0	1.37	68.5	F
Continue .....								
6	Observe cyanosis and monitor of the child.	77	77.0	23	23.0	1.77	88.5	P
7	Observe and monitor tube of (CPAP) from the puncture or warp.	12	12.0	88	88.0	1.12	56	F
8	Unnecessary to observe the color of the skin.	54	54.0	46	46.0	1.46	73	F
9	It does not require observe and monitor the child consciousness.	95	95.0	5	5.0	1.05	52.5	F
10	A nurse monitoring the water level in the humidifier chamber of oxygen cylinder.	35	35.0	65	65.0	1.35	67.5	F
11	Check the water level in heat chamber of (CPAP).	19	19.0	81	81.0	1.19	59.5	F
12	Change the baby's position continuously to prevent the bed sore.	43	43.0	57	57.0	1.43	71.5	F
13	Do not we should observe and monitor signs of dehydration.	74	74.0	26	26.0	1.26	63	F
14	Do not we should observe and monitor chest movement.	72	72.0	28	28.0	1.28	64	F
15	Monitor signs of hypothermia such as (Decrease activity – cool extremity).	32	32.0	68	68.0	1.32	66	F
16	Maintaining umbilical cord clean.	79	79.0	21	21.0	1.79	89.5	P
17	Monitor the temperature of the water in a humidifier chamber (CPAP).	41	41.0	59	59.0	1.41	70.5	F
18	Incubator temperature monitoring.	38	38.0	62	62.0	1.38	69	F
19	Should be encourage the mother to breastfeed, even though the child was dyspnea.	65	65.0	35	35.0	1.35	67.5	F
20	Should not be observe and assess the newborn response to therapy.	82	82.0	18	18.0	1.18	59	F
21	Maintaining the confidentiality of the child information.	89	89.0	11	11.0	1.89	94.5	P
22	Encourage mother's skin-to-skin contact by kangaroo position .	34	34.0	66	66.0	1.34	67	F
23	Documentation of all procedures and duties carried out by the nurse in the child chart.	99	99.0	1	1.0	1.99	99.5	P

**f =frequency, M. S= mean score, R. S= relative sufficiency, P=pass, F=fail**

This table shows that information of study group is (pass) in items (2, 6, 16, 21 and 32), while (fail) in all items of study group.

#### 4. Discussion

The results of the study are shown in table (1). The majority of the study sample are at age (21- 25) years. And they are accounted for (61) nurses with percent (61%). This result agrees with Loutfy et al., (2014), who show that the majority of study sample with age (20-30) (7).

Concerning to the educational levels, the greater number in the secondary nursing school. the majority of the sample (57) nurses and they accounted for (57%) of the total sample. This result disagrees with Loutfy et al., (2014), that show the majority of study sample with bachelor's degree in nursing (38)(7).

According to the subject's marital status, the majority of the sample are married (57) and they accounted for (57%) of the total sample. This result agrees with Elsayed et al., (2013), who show that the majority of study sample are married (48)(8).

Regarding residency, results show that the majority of study sample are living in urban and account (99) for nurses (99.0 %).

Related to years of experience in the neonatal intensive care unit, the results indicate that the highest percentage of the study sample have experience less than 2 years and they are accounted for (50) nurses (50.0%). This result agrees with study done by Ahmed &Abosamra, (2015), who show that the majority of study sample have years of experience less than five years (68%)(9).

Related to years of experience in the field of pediatric nursing, the results indicate that the highest percentage of the study sample have experience less than 2 years and they are accounted for (50) nurses (50.0%). This result

agrees with Elsayed et al., (2013), who show that the highest percentage of the study sample are under 5 years and they are accounted for (22) nurses (8).

Concerning the nurse is participating in the training of neonatal intensive care unit; the most of the study sample are answer (Yes) and account (82) nurses (82 %).

The majority of nurses have participated training in the field of neonatal respiratory distress syndrome care, the most of the study sample are answer (Yes) and they are accounted (51) nurses (51.0%). This result disagrees with Elsayed et al., (2013), who show that participation in the training program with sample group (No) and they are accounted for (41) nurses (8).

Related to table (2); nurse knowledge relating to observation and monitoring of child care domain, this table show nurse have poor knowledge about nursing monitor of respiratory distress syndrome. This may be due to large numbers of patients and a shortage of nursing, resulting in an inability to follow patients (Researcher). this result agrees with study done by Elsayed et al (8). This result also agrees with study done by Mikšová et al (10).

## 5. Conclusions

5.1. In the light of the main study, it is concluded that most result registered (fail) assessment and poor nursing knowledge about (practice to use personal protection equipment and tools, practice toward observation and monitoring of child care and practice toward child management and nursing care) that resulted in poor nursing care toward neonatal respiratory distress syndrome.

5.2. In addition, the result shows that there is a significant association between (age factor, level of educational, years of experience in the field of pediatric nursing and years of experience in the neonatal intensive care unit) and nurses' knowledge toward nursing care in neonatal respiratory distress syndrome.

## 6. Recommendations

- 1) Educational program for nurses toward nursing care of neonatal respiratory distress syndrome.
- 2) Providing updating booklets, pamphlets and boosters for nurses to upgrading their knowledge about neonatal respiratory distress syndrome.

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