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Original Article

Quality of Immediate Nursing Care Provided to Newborn at Maternity Teaching Hospital in Erbil City

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ABSTRACT

Background and objective: Quality of nursing care and competent health care providers, particularly skilled birth attendants, are essential requirements for providing care for both mothers and newborns. The current study aimed to assess quality of nursing care provided immediately after birth to newborn by nurse/midwives at Maternity Teaching Hospital in Erbil city.
Methods: An observational study conducted during 2014. Samples of 25 nurse/midwives were purposively selected from nurses working at delivery room. Data were collected through the use of questionnaire format and observation checklist structured by researcher. The questionnaire format was used for interviewing nurse/midwives about (socio-demographic, professional background and nurses/midwives workload), while the checklist, which consisted of eight domains, was used for observing nurse/midwives during newborn care. A panel of experts checked the validity of the instrument when reliability was measured with computation of Pearson product moment correlation. Data were analyzed through the application of descriptive and inferential statistical tests.
Results: The results revealed that the highest percentage 40% of the nurse/midwives were graduated from preparatory midwifery school, 64% of the nurse/midwives haven't attended training course about immediate neonatal care. 100% of nurse /midwives do not washed their hands before and after performing each procedure and haven't any role in initiation of newborns breathing. There were not significant associations between overall quality of immediate nursing care and nurse/midwife's qualification, experience years and training course.
Conclusion: Quality of immediate nursing care provided after birth to newborn by most of nurse/midwives was poor. The study recommended improving nurse /midwives qualifications and skills, through training courses and application of a guideline for improving quality of immediate neonatal care at delivery room.

Keywords: Immediate nursing care; Newborn ; Delivery room.

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INTRODUCTION

The health of a nation is the wealth of the nation and today's children are tomorrow's adults. Birth is a major challenge to the newborn to transfer successfully from intrauterine to extra uterine life. Delivery and the first few hours of life are critical period for further growth and development of the infant. Newborn baby is considered to be tiny and powerless, completely dependent on others for life. Within one minute of birth the normal newborn adapts from a dependent fetal existence to an independent one [1]. Most babies are

born healthy and at term. The care they receive during the first hours, days, and weeks of life can determine whether they remain healthy or not [2]. Newborn care is very important for the proper development and healthy life of baby. It is crucial period in the lives. New born under-goes many profound changes at the movement of birth like respiratory change, thermal change and circulatory change [3].

The professional health care in general and nurses particularly play a vital role to ensure that the new born has best possible beginning of life and the nurse must be aware of the potential problems and be alert to the infant's changing condition and to intervene appropriately while being necessary [1]. In Erbil city the rate of infant mortality was 9.56 per 1000 live births in 2003 and this rate was increased to 23.9 per 1000 live births in 2011 [4].

Because nurse/midwife is the first health care provider who has direct contact with the neonate during birth and nurses will never know the quality of care they offer until it is being assessed. Therefore researchers thought that conducting of current study is important to assess the nurse's performance in the delivery room based on the standards of care developed by world health organization.

This study aims to assess the quality of nursing care provided immediately after birth for newborn at Maternity Teaching Hospital in Erbil City.

METHODS

An observational study was carried during 2014. The study conducted at delivery of Maternity Teaching Hospital (MTH) in Erbil city Kurdistan region / Iraq. The delivery unit in this hospital consists of 9 rooms, first room for pelvic examination, and the second room for hepatitis cases when the reminder rooms for normal vaginal delivery and each room contain 2-3 beds and 1-2 neonate bassinette. A non-probability purposive sample of 25 nurse/midwives working in three shifts of (morning, evening, night) at MTH recruited for the study. All nurses / midwives who were working at delivery room, giving immediate nursing care to newborn babies; delivered within 37 to 42 weeks of gestation by normal vaginal delivery and weighing 2.5 to 3.8 kg were included in the study. While neonates with prematurity, birth asphyxia; congenital malformation; have been born to mothers with (pregnancy induced hypertension, diabetes mellitus, HIV, Hepatitis B and Hepatitis C positive) were excluded from the study.

After review the related literatures and visiting the delivery room the study instrument were developed by researchers, including of two parts: first part was an interview form: A list of (10) items covered nurses/midwives' socio-demographic and working related data (age, levels of education, marital status, number of experience years in delivery rooms, interests in working at delivery room, number of training course in immediate newborn care, type of working shift, number of nurses/midwives' participated in the delivery of same newborn, number of delivery nurses/midwives' performed at each shift. Second part was a checklist: for collection data about quality of immediate nursing care in delivery room, this part included the data about the nursing care of newborns after delivery, which consisted of eight domains (preparation to receive the baby, initiation of breathing, thermal regulation, cord clamping, assessment ,medication, documentation, initiation of breast feeding).

The ethical approval was obtained from the Ethical Committee of College of Nursing after confirmation of confidentiality and anonymity of nurses / midwives. Nine experts checked the validity of the instrument.

Changes and modifications were made in respect to the experts' suggestions and recommendations for the questionnaire and checklist format. A pilot study was conducted on a sample of 5 nurses/midwives for testing the equivalence of the instrument. Reliability (stability) was determined and measured through computation of Pearson product moment correlation as the correlation was (0.97).

The checklist items of quality of immediate nursing care in delivery room were rated and scored according to the two points type scale are used for rating 40 items and scored as (2,1) for (Yes, No) respectively.

After obtaining the average of mean score of each item then the mean score of each domain calculated, followed by collection of mean score of eight domains and divided upon the number of domain for obtains quality of care, these levels were considered to be as a following: Good (adequate) (1.47-1.50) Fair (middle) (1.42-1.46) Poor (in adequate) (1.38-1.41). Test of significance Chi-square and p-value were used to determine the level of significance. Frequency and percentage mean, standard deviation, Pearson coefficient correlation (r -test) and Chi-square test were used in order to analyze and determine the significant association between nurses/midwives practices with demographic characteristics.

RESULTS

In the current study results as revealed in Table 1 the mean and standard deviation for the nurses/midwives age was 35.32± 8.330. Concerning qualification of the nurses/midwives, the highest percentage (40%) was graduated from the preparatory midwifery school. Majority (76%) of the nurses /midwives had experiences of working in delivery room from 1-10 years, and the highest percentage (64%) of the nurses/midwives had not attended any training courses.

Table 1: Nurses/midwives socio-demographic and professional data

Socio-demographic and professional data	n =25	
	F	(%)
Age groups		
24-34	11	(44)
35-45	11	(44)
46-56	3	(12)
M ± SD	35.32± 8.330	
Qualification		
Nursing college	2	(8)
Nursing institute	8	(32)
Preparatory midwifery	10	(40)
Preparatory nursing	2	(8)
Nursing school	3	(12)
Duration of working in delivery room		
1-10yr	19	(76)
11-20yr	3	(12)
21-30yr	3	(12)
Training courses Attendance		
0 times	16	(64)
1-5 times	4	(16)
6-11 times	5	(20)

Assessing quality of immediate nursing care provided to newborns at delivery room in according to nurses/midwives preparation for receiving the newborn Table 2 shows that highest mean score (2.00) was allocated to the item (Wears Gloves), the lowest mean scores (1.00) was allocated to activities items like (Washes hands with soap and water to receive the baby, Wear disposable gown and checking oxygen supplementation.

Concerning Quality of immediate nursing care for initiation of newborns breathing and thermoregulation Table 3 all the items were at the same level and all nurses/ midwives do not perform these activities.

Table 2: Quality of immediate nursing care at delivery room for preparation to receive the newborns by nurses/midwives

Preparation for receiving the baby	n =25 YES F	(%)	NO F	(%)	Mean Score
Hand washing	0	(0)	25	(100)	1.00*
Wear Disposable Gown	0	(0)	25	(100)	1.00
Wears Gloves	25	(100)	0	(0)	2.00**
Place the baby on clean surface	24	(96)	1	(4)	1.96
The warmer is put on	7	(28)	18	(72)	1.28
Oxygen is checked	0	(0)	25	(100)	1.00
Suction is in working condition	24	(96)	1	(4)	1.96
Suction tube is kept ready	16	(64)	9	(36)	1.64
Checking the resuscitation equipment	1	(4)	24	(96)	1.04
Bassinette is ready	10	(40)	15	(60)	1.40
Clean sheet is available	1	(4)	24	(96)	1.04

* = Lowest mean score (Lowest quality of patient care)
**= Highest mean score (Highest quality of patient care)

Table 3: Quality of immediate nursing care at delivery room for initiation of newborns breathing and thermoregulation by nurses/midwives

Items	N=25 YES F	(%)	NO F	(%)	Mean Score
Initiation of newborn breathing					
Wipes the baby and wraps in clean cloth	0	(0)	25	(100)	1.00
Ensure airway clearance	0	(0)	25	(100)	1.00
Stimulate breathing by massaging	0	(0)	25	(100)	1.00
Thermoregulation					
Put newborn skin to skin contact with mother	0	(0)	25	(100)	1.00
Put the newborn under warmer	0	(0)	25	(100)	1.00
Dry the baby	0	(0)	25	(100)	1.00
Clothing the baby	0	(0)	25	(100)	1.00
Covering the head	0	(0)	25	(100)	1.00

Caring for newborns cord in Table 4 highest mean scores (2.00) were allocated to the following activities (place newborn on the mothers abdomen and first cord clamping) and the lowest mean scores (1.08) were allocated to the activity (Second cord clamping).

Table 4: Quality of immediate nursing care at delivery room for newborns cord clamping and mediation administration

Items	n =25				Mean Score
	YES		NO		
	F	(%)	F	(%)	
Cord clamping					
Place newborn on the mothers abdomen	25	(100)	0	(0)	2.00
First cord clamping	25	(100)	0	(0)	2.00
Second cord clamping	2	(8)	23	(92)	1.08
Clamp the cord with sterile clamp	23	(92)	2	(8)	1.92
Cut the cord with sterile scissors	17	(68)	8	(32)	1.68
Mediation administration					
Administrating eye ointment	0	(0)	25	(100)	1.00
Vitamin k is given I.M	0	(0)	25	(100)	1.00

In according to newborn assessment responsibility in Table 5 it demonstrates that the highest mean scores (2.00) were allocated to the item (Measures the weight) and the lowest mean scores (1.00) were allocated to the following activities (Apgar score performed, Apgar score recorded, Measures the length, Checks the body temperature, Checks for congenital abnormality).

Table 6 indicates that all the items were at the same level and all nurses/midwives performed these activities of newborns documentation.

Furthermore in Table 7 concerning initiation of breastfeeding all the items were at the same level and all nurses/midwives do not perform these activities. Table 8 shows levels of overall quality of immediate nursing care for newborn baby. The highest percentage (68%) of the nursing care was at the poor level, while the lowest percentage (32 %) of nursing care was at fair level.

Table 5: Quality of immediate nursing care at delivery room for newborns assessment

Assessment	n =25				Mean Score
	YES		NO		
	F	(%)	F	(%)	
Apgar score performed	0	(0)	25	(100)	1.00
Apgar score recorded	0	(0)	25	(100)	1.00
Measures the length	0	(0)	25	(100)	1.00
Measures the weight	25	(100)	0	(0)	2.00
Checks the body temperature	0	(0)	25	(100)	1.00
Checks for congenital abnormality	0	(0)	25	(100)	1.00

Table 6: Quality of immediate nursing care at delivery room for newborns documentation

Documentation	n=25				Mean Score
	YES		NO		
	F	(%)	F	(%)	
Identification of sex	25	(100)	0	(0)	2.00
Address of parents according to the local policy	25	(100)	0	(0)	2.00
Nurses/midwives records all information documentation	25	(100)	0	(0)	2.00

Table 7: Quality of immediate nursing care at delivery room for newborns initiation of breastfeeding

Initiation of breastfeeding	n =25				Mean Score
	YES		NO		
	F	(%)	F	(%)	
Asking for initiate breastfeeding within first hour after delivery	0	(0)	25	(100)	1.00
Placing the baby on the breast in comfortable position	0	(0)	25	(100)	1.00
Ensuring the baby has sucked for 5 – 10 minutes in each breast	0	(0)	25	(100)	1.00
Assessing the baby for positioning of the breast feeding	0	(0)	25	(100)	1.00

Table 8: Overall quality of immediate nursing care at delivery room

Overall Quality of care	F	(%)
Poor	17	(68)
Fair	8	(32)
Total	**25**	**(100)**

DISCUSSION

Regarding nurses/midwives qualification and workload it shows that the highest percentages of the nurses/midwives graduated from the preparatory midwifery school. This finding is consistent with a study conducted [5] in India on nurse/ midwives working at delivery room and found that 32.2% of them had above secondary education. More than two third of the nurses/midwives had experiences of working in delivery room from 1-10 years. In regards to the nurses attending training course about caring for newborn, the highest percentage of the nurses/midwives had no training course. This finding is in contrast to [5] study which found that two-third of the nurses/midwives had attended refresher or training courses related to care of baby birth and resuscitation.

The highest percentage of nurses/ midwives who participated in the study was working at the night shift in the delivery room as most of deliveries happened at night time which needed more nurses/ midwives caring for mother and neonates.

Majority of the nurses/midwives performed the delivery alone without help of other nurse. However, this result disagrees with American Academy of Pediatrics and American College of Obstetricians and Gynecologists guideline [6] which recommends, two nurses attending every birth, one for the mother and one for the baby.

Concerning the quality of immediate nursing care provided to newborns at delivery room of MTH in regarded to preparation to receive the newborn it revealed that the

highest mean score was allocated to nurses/midwives gloves wearing while the lowest mean score was allocated to the other activities such as hand washing , disposable gown wearing and supplementary oxygen checking .This finding is in agreement with cross sectional study [1] carried out in Dharan hospital of Nepal at labor room on 814 normal deliveries and found that the highest percentage of the staff (99.9%) were wearing the gloves while only 24% of staff were wearing gown before receiving the newborn babies.

The efficacy of gloves in preventing contamination of health-care workers' hands and helping to reduce transmission of pathogens to health care providers during the process of delivery and this clarifies that gloves are unlimitedly provided to delivery room at MTH.

Concerning the immediate nursing care of newborns breathing initiation the present study found that all nurses / midwives did not perform these activities. This result disagrees with [7] study, which found that nurses dried more than 90% of infants. And with another study [1] which found that majority (100%) of nurses initiated newborns breathing. Regarding immediate nursing care for newborns thermoregulation the result indicated that all nurses did not perform these activities. This finding is in agreement with [7] study results that less than 10% only were allowed skin to-skin contact. This finding is in contrast with guidelines [8] stating that the baby should be kept warm, by skin-to skin contact with the mother for avoiding hypothermia. While it is in disagreement with comparative cross-sectional study [9] conducted in Pakistan on 30 delivery cases, which showed that the highest percentage of the thermal protection was 83.3%.

According to [10][11] for thermal regulation they recommend that all neonates after birth should be placed over abdomen of the mother after delivery. Immediately after birth the newborn should be protected by smooth towel but actually in delivery unit unskilled workers who take care of the baby usually perform this activity.

Regarding immediate care for the cord clamp at delivery room the researcher found that all the nurses/midwives practiced cord clamping appropriately.

Concerning the medication care for newborn care at delivery room all nurses/ midwives did not perform these activities. The result of the present study was supported by a comparative cross-sectional study done by [9] who found that eye care was zero percent. While a study [12] carried out in Canada contraries current studies finding and clarified that newborns routinely would receive two medications at birth: an intramuscular injection of vitamin K and an antibiotic agent for eye prophylaxis. According to routine policy in the delivery room of MTH the nurse/ midwives were not responsible for prescribing or giving Vitamin- K and eye ointment to newborns.

Concerning the assessment of the newborn by nurses/midwives the highest mean scores were allocated to the item of measuring the weight, and the lowest mean scores were allocated to the following activities: Apgar score performed, Apgar score recording, measuring the length, checking the body temperature, checking for congenital abnormality. The result of the present study is consistent with the study [7] findings, which revealed that more than 90% of infants were weighed. While it is in disagree with a purposive study [5] conducted in India and found that only one-third of the newborns were weighed at birth, although weighing at birth was considered an essential activity to determine high risk newborn and determination of extra care accordingly. Furthermore, according to the guidelines of

American Academy of Pediatrics and American College of Obstetricians and Gynecologists [6] it is recommended to check Apgar score at 1 minute and 5 minutes after birth.

Regarding the documentation by nurses/ midwives all the documentation items were at the same level and all nurses performed these activities. This is in agreement with [13] who explained that birth date, time, sex, etc. in the delivery room should be recorded. Documentation of newborn baby is a crucial skill for nurses/ midwives at delivery room. Complete, detailed records are important for clinical decision-making, for the coordination of ongoing care among providers, and as a source of quality improvement and research data. At delivery department in each delivery room the documentation was done completely for all newborns. However, the sense of urgency surrounding many resuscitations can make accurate, thorough documentation challenging. Preparation can make this essential task easier.

The present study showed that all the items about initiation of breast-feeding by the nurses/midwives were at the same level and all nurses did not perform these activities. This finding is in disagreement with [1] study that found breastfeeding initiation soon after delivery was 76.9%.

The benefits of breastfeeding for the health and wellbeing of the mother and baby are well documented. World Health Organization and American Academy of Pediatrics and American College of Obstetricians and Gynecologists [6] recommend that breastfeeding should be initiated within 1 hour of birth. Early initiation of breastfeeding within 1 hour provides benefits for both the baby and the mother. But this practice was neglected in the delivery room of MTH by all nurses/midwives. Concerning levels of overall quality of immediate nursing care for newborn the highest percentage of the nurses/midwives levels of the nursing care was 68.0 % which indicated poor (inadequate) level, and the lowest percentage 32.0 % was at good (adequate) level.

The findings of current study are in agreement with [14] who explained that poor quality of newborn care immediately after birth in many hospitals was widely reported. Nurses/midwives were not informed on universal guideline of immediate newborn care that could help them to participate actively in providing immediate care for the newborn. Application of the universal guideline during the process of labor increases the level of care in the delivery room for the newborn and mother.

CONCLUSION

Regarding quality of nursing care at delivery room (Preparation to receive the baby) the researcher found that all the nurse /midwives not washed their hands before and after performing each procedure at delivery room, concerning the initiation of breathing majority of nurse/ midwives they did not performed any activity like ensuring airway clearance and stimulating breathing by massage, regarding thermoregulation of the newborn by nurse /midwives don't perform it. Furthermore regarding newborn assessment only newborns body weight was assessed by the nurse/midwives while they never assessed Apgar score, body temperature and congenital abnormality. Moreover they don't encourage mother to initiate breastfeeding within first hour after delivery. Majority of nurse/midwives overall quality of immediate nursing care for newborn at delivery room was poor.

CONFLICTS OF INTEREST

The authors reported no conflicts of interest.

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