Original Article

Factors Influencing Early Essential Newborn Care and Effect on Early Initiation of Breast Feeding

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Abstract

Objective: To assess the factors that influence the practice of early essential newborn care after birth and how much it increases early initiation of breast feeding.

Methodology: It was a retrospective study conducted in Services Hospital Lahore in the department of Obstetrics and Gynecology from 1 August 2016 to 31 August 2021. Total deliveries conducted were 30714. Early essential newborn care was conducted that included immediate drying after birth within 30 seconds of birth, skin to skin contact for at least one-hour, delayed cord clamping 1-3 minutes and early initiation of breast feeding within an hour of birth. EENC was done only on stable babies. Self-made proforma was used for the data collection and SPSS 26 version was used for the analysis of data.

Results: Total number of deliveries from were 30714. Out of them, 18231 were spontaneous vaginal deliveries and caesarean section were 3696. Early essential newborn care was carried out in 18452(60%) cases. In 41225(78%) cases in which EENC was done, breast feeding was started early after birth and was continued. In the factors helping EENC, in 17900(97%) cases doctors and nurses were trained. In 18452(100%), drugs and equipment were present and 10810(58.5%) patient were educated and were counselled for the significance of EENC. In cases where EENC was not done, main cause was COVID-19 in 2020 and 2021 where in 5321(43.6%) patients due to shortage of staff and social distancing EENC was not carried out.

Conclusion: Early Essential Newborn Care policies, environmental interventions, early initiation of breast feeding, and training of health care personnel can reduce neonatal mortality by preventing hypothermia, sepsis and asphyxia.

Key words: Early Essential Newborn Care, SVD- spontaneous vaginal delivery

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Introduction

Globally, an estimated 2.5 million newborns die in their first month of life at an average rate of 18 deaths per 1000 live births in 2017. About 7,000 children die every day that is 47% of all child deaths. Globally, the number of neonatal deaths declined from 5 million in 1990 to 2.5 million in 2017.1 Two third of neonatal deaths occur in first three days of life mainly from complications related to prematurity, birth asphyxia, and infections. Most of them are preventable deaths.[2] The introduction of Early Essential Newborn Care (EENC) in hospitals is associated with improvement of newborn care, reduced NICU admissions with hypothermia and sepsis and increased rate of exclusive breast feeding. Early essential Newborn Care is the care provided to neonates just after birth on the delivery table by skilled personnel, includes drying of baby within 30 seconds, assessing and stimulating breathing, skin to skin contact with mother, delayed cord clamping and initiating breast feeding within first hour of birth.[3] Birth is the main challenge for the neonate. After birth, first few hours of newborn are most crucial period for growth and health of an infant.[4] About 3 million lives could be saved each year with worldwide coverage of evidence-based solution by EENC.[5] Early Newborn Care

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prevents newborn from hypothermia due to immediate drying, skin to skin contact and delaying newborn first bath for one to several days and prevents from hypoglycemia due to early breast feeding. It also helps in management of asphyxia and prevention of sepsis by cord care and exclusive breast feeding.[6] Resuscitation and learning of ambo bagging of non-breathing babies prevent neonatal deaths.[7] Workshops are very helpful for learning and practicing the skills of different steps for resuscitation. The golden minute is critical for the neonate's survival. After 1- 3 minutes of birth, when the pulsations in cord stop, delayed cord clamping is done. It reduces the risk of anemia in newborn.[8] Breast milk is started within one hour of birth, which is known as early starting of breastfeeding.[9] This approach lowers newborn and paediatric morbidity and death while also increasing child survival.[10] Colostrum, the first milk, functions as a vaccine and is high in antibodies and nutrients that protect the newborn from illnesses. To reduce neonatal mortality, it is essential to train doctors, nurses and skilled birth attendants to conduct delivery by applying all the steps of early essential newborn care. Improve infection prevention practices. It will reduce the burden on neonatal unit by reducing admissions of neonates due to asphyxia, sepsis, hypothermia and hypoglycemia.

Methodology

It is a retrospective study conducted at Services Hospital Lahore in the department of Obstetrics and Gynecology from 1 August 2016 to 31 December 2021. Total deliveries conducted in this period were 30714, out of them 18231 were spontaneous vaginal deliveries and 3696 were caesarean sections. All the stable newborn babies by caesarean section done under spinal anesthesia were included. All babies who were not stable, had a delayed cry, cyanosis, limp, or needed immediate admission to the neonatal unit after birth were excluded. Early essential newborn care was given in vaginal deliveries as well as caesarean sections. Training was given to doctors and nurses about resuscitation, infection prevention practices and prevention of baby from hypothermia. Doctors and other staff members were trained for hand washing before delivery. The temperature of room was maintained at 25C. In winter heaters were used and in summer air conditioners were used. Just after delivery baby was thoroughly dried with sheath within 30 seconds on the abdomen of mother. Baby was placed in skin to skin contact after drying and covered with another dry sheath. Head was covered with cap. Cord was clamped and cut after 1 – 3 minutes, also when pulsations were stopped in cord. Baby was placed in this position for at last one hour. Within this time early initiation of breast feeding was started. Mothers were helped by nurses in attachment and making proper position for breast feeding. Immediate drying and skin to skin contact prevents baby from hypothermia. The temperature of newborn was maintained between 36.5C to 37.5C. Delayed cord clamping prevents from anemia and early breast feeding prevents from hypoglycemia and increases bonding. Caesarean sections in which spinal anesthesia was given, only in them was EENC practiced. The babies who were not stable, they were immediately shifted to neonatal unit. Every three-monthly workshop was conducted in the department to refresh the training of EENC to new house surgeons, post graduates and nurses. Self-made proforma was used for the data collection and SPSS 26 version was used for analysis of data.

Results

Table I shows the data of five and a half years. Due to COVID- 19, the number of deliveries and EENC was decreased in 2020 and 2021

Table I: Frequency of EENC in total deliveries (n= 30714)

Year	Deliveries	SVD	C/Section	EENC	%
August 2016	5462	2196	665	2861	52%
2017	11663	4100	2599	6699	57%
2018	11676	4382	3384	7766	67%
2019	10941	4525	4367	8892	81%
2020	8669	2204	1678	3882	45%
2021	4282	824	477	1301	30%
Total	30714	18231	3696	18452	60%

Table II: Socio demographic characteristics (n= 18452)

Age in years	Number	Percentage
15 – 25	6386	34.6%
25 – 35	10,045	54.4%
35 – 45	2021	10.9%
Parity		
1- 2	8639	46.8%
3-4	6532	35.3%
5 and above	3281	17.7%
Educational status		
Illiterate	7642	41.4%
Educated	10810	58.5%

The babies who were not stable due to meconium aspiration, delayed cry, cyanosis, and hypothermia were immediately shifted to neonatal unit.

Due to COVID 19, staff was less in number and more relatives were not allowed to stay with patient, so EENC was not done

Table IV: Shows the factors that are influencing EENC (n= 30714)

Factors favor EENC	Number	%
Educational status	10810	58.5%
Knowledge of EENC to patients	2642	14.3%
Training of doctors/nurses	17900	97%
Availability of drugs and equipment	18452	100%

Table V: Frequency of early breast feeding in mothers doing EENC after delivery (n= 30714)

Year	Total deliveries	Number of early breast feeding	%
1 August 2016	5462	4865	89%
2017	11663	9126	78%
2018	11839	9980	84%
2019	10987	9896	90%
2020	8595	5828	68%
2021	4284	1530	36%
Total	52830	41225	78%

Discussion

United Nations planned to end the preventable deaths of newborns globally from 22 deaths per 1000 live births to 17 deaths per 1000 live births by 2030 in Sustainable development goal.[11] In Pakistan, the aim is to decrease neonatal mortality to 12 till 2030. Early Essential Newborn Care helps to decrease neonatal mortality by skin-to-skin contact, which decreases hypothermia and increasing early initiation of breast feeding. In a study conducted in Philippine between 2008 and 2015, data of early essential newborn care was noted. Findings showed drying of baby within 5 seconds after birth, skin to skin contact, delayed cord clamping, timing and duration of initial breast feed and bathing postponed until 6 hours of birth, all were vastly improved. (<0.001)[12] In our study the percentage of EENC in five-and-a-half-year study was 60%. Regarding association of early breast feeding with EENC, study was conducted at Western Pacific region by Zhooli. Interviews were taken from 1383 mothers, asking about environmental assessment and early breast feeding during 2016 and 2017. Results showed that in39% of newborns early initiation of breast feeding occurred.[13] In our study, out of 52830 total deliveries, early initiation of breast feeding was 41225(78%). In a quasi- experimental study conducted in China in eight maternal and children's hospital in Mian Yang City and Deyang City in Western China, association of EENC with breast feeding outcome in vaginal deliveries was observed. Four hospitals were randomly selected. Assessment was done regarding immediate drying after birth, skin to skin contact, early initiation of breast feeding, duration of first breast feeding and exclusive breast feeding for 6 months. Data was collected at age of 1 month, 3 months and 6 months after delivery. Results of 1346 mothers and babies was collected. EENC was associated with earlier radian time to initiate breast feeding (25 minutes versus 33 minutes, P, 0.01) and longer time of first breast (41 minutes, 95% C1 2.10,6.22) and increased exclusive breast feeding at discharge. (74.5% versus 55.0%)[14] According to Brady K's research, skin-to-skin contact between the mother and the infant after birth enhances the rate of early breastfeeding initiation. Hypothermia, one of the risk symptoms of a baby, is also reduced.[15] In our study influencing factors of EENC were trained doctors and nurses 17900(97%), availability of drugs and equipment in 18452(100%), educational status of patients in 19810(58.5%) and knowledge of significance of EENC in patients in 2642(14.3%). Objective of study is to reduce neonatal mortality. According to the 2016 Ethiopian Demographic and Health Survey, infant death rate was 48 per 1000 live births, while neonatal mortality was 29 per 1000 live births.[16] According to Pakistan Demographic and Health Survey 2018, neonatal mortality is 41 per 1000 live births. By early essential newborn care, neonatal mortality can be reduced by managing asphyxia, sepsis and hypothermia.

Conclusion

Early essential newborn care policy, practice and environmental interventions were associated with increased breast-feeding outcome. To get maximum results of early initiation of breast feeding, newborns regardless of mode of delivery, should be given breast feeding within one hour of birth. Emphasis should be given to improving health policies and health worker practice. Training should be given to health care workers for safe delivery, infection prevention practices, assisting mothers for skin to skin contact and early initiation of breast feeding.

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