



Original Article

The Impact of Special Care Newborn Unit on Routine Neonatal Care Practices and Survival of Neonates in 250-Bed General Hospital, Sirajganj

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Abstract

To address the high infant and neonatal mortality rate in Bangladesh, government has adopted policy to ensure care for neonates from community to tertiary level of health care delivery system. Our country has achieved 4 MDG targets well before 2015. However the pace of reduction of neonatal mortality is much lower than that of older children. For that reason government of Bangladesh through Ministry of Health and Family Welfare established Special Care Neonatal Unit (SCNU) at secondary and tertiary level facilities to improve management of sick newborn. The aim of this study was to evaluate the impact of creating SCNU at district hospitals on newborn care practices and to evaluate the contribution of SCNU in improved neonatal survival. It was an observational study conducted from May 2016 to October 2016 at 250-bed General Hospital, Sirajganj. Hospital database was accessed to note the number of neonatal admissions, number of referral to higher centers and neonatal mortality. A questionnaire was prepared to interview mothers of children admitted in SCNU and general pediatric ward. A total of 355 mothers were interviewed. There was a significant reduction in neonatal mortality rate after the establishment of SCNU. There was also significant improvement in the knowledge and awareness among mothers regarding various aspects of neonatal care because of the SCNU.

Key words: Special care neonatal unit, neonatal survival

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Introduction

Sirajganj 250-bed General Hospital along with 9 Upazilla health complexes delivers services to about one million pediatric population. In addition to general pediatrics ward, 250-bed general hospital also has one Special Care Neonatal Unit (SCNU), having 16 beds and functioning since November 2016. SCNU service is very much essential in reducing mortality and morbidity of

neonates which plays an immense role in reducing Infant Mortality Rate (IMR) and Under 5 Mortality rate as well.

About 130 million babies are born each year and about 4 million of them die in the neonatal period.¹ Nearly 99% of all neonatal deaths occur in low – middle income countries like Bangladesh, India etc. A combination of universal outreach and family- community care intervention at 90%

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coverage has been estimated to avoid 18 to 37% of neonatal deaths.² These interventions include family care of the newborn, essential newborn care, resuscitation of the newborn, care for low birth weight (LBW) babies and emergency newborn care. However, concurrent expansion and sealing up of clinical care for sick neonate is essential to achieve the reduction in neonatal death. Further, inequity is high for neonatal care requiring skilled clinical interventions. Strengthening the clinical services within the health care system is therefore a much needed and neglected component of comprehensive intervention for reducing neonatal deaths.

The newborn health challenge faced by Bangladesh is more formidable than that experienced by any other country in the world. For combating that challenge, creation of SCNU in District/ 250-bed General hospitals in the health care system by mobilizing internal resources is a unique idea. The purpose of this study is to assess the correct knowledge, attitude and practice of postnatal mothers regarding the newborn care and also to find out whether there is any improvement in child survival by delivering services through SCNU. SCNU in 250 -bed General Hospital, Sirajganj started functioning from November 2016 with 16 beds, having 4 senior staff nurses skilled

in neonatal care, 4 specialist doctors and one Associate Professor. It is a level II care place for sick neonates above 1500 gm birth weight who have physiologic immaturity, inability to maintain body temperature, or inability to take oral feeding, who are moderately ill with problems that are expected to resolve rapidly and are not anticipated to need subspecialty services on an urgent basis, or who are convalescing from intensive care and does not include mechanical ventilation, total parental nutrition and complicated procedure and major neonatal surgery.

Materials and methods:

It was an observational study done in SCNU of 250 -bed General Hospital, Sirajganj from May 2016 to October 2016. Hospital database was accessed to note the number of neonatal admissions, number of referral to higher centers and neonatal mortality. A questionnaire was prepared to interview mothers of children admitted in SCNU and general pediatric ward. A total of 355 mothers were interviewed. The possible biases that could have affected the responses were eliminated as much as possible. These responses were then appropriately coded for the purpose of descriptive analysis and were analyzed statistically.

Results:

There was a significant positive impact of SCNU in various aspects of neonatal care in 250-bed General Hospital, Sirajganj. Average admission rate of sick newborn before and after starting SCNU were 125 per month and 170 per month respectively. Total and early neonatal death was drastically reduced after starting SCNU and total number of referral cases to tertiary level also reduced after starting SCNU.

Table 1: Impact of SCNU in neonatal care

	Before establishment of SCNU	After establishment of SCNU
Average number of newborn admission per month	125	170
Average number of referral to higher center per month	19	5
Average number of neonatal death per month (mortality rate in %)		
-Total	38 (30.4%)	10 (5.9%)
-Early	27 (21.6%)	3 (1.8%)
-Late	11 (8.8%)	7 (4.1%)

Mothers were interviewed personally about the awareness of newborn care practices and it was found that majority of them were aware about it. This awareness was better among mothers of newborn admitted in SCNU than the mothers of neonatal ward.

Table 2: Awareness about newborn care practices among mothers of SCNU and general pediatric ward

Newborn care practices awareness (n=355)	SCNU	General Pediatric ward
Temperature maintenance	335(94.36%)	187(52.67%)
Cord care	300(84.50%)	125 (35.21%)
Importance of breastfeeding within first hour	285 (80.28%)	85(23.94%)
knowledge about vaccination	300(84.50%)	282(79.43%)
Knowledge about exclusive breastfeeding for 6 months	327(92.11%)	274(77.18%)
Burping Technique	305(85.91%)	289(81.40%)

Discussion:

In the recent past, several studies were conducted to evaluate the impact of establishing SCNU in district level hospitals in neonatal mortality rate.³⁻⁵ Establishment of SCNU also improves knowledge and skills of healthcare professionals resulting in better care. Feedback from patient's relatives also plays a significant role in identifying areas of improvement, leading to improvement of

health care delivery practices. A study done by Sen A et al in West Bengal showed that after establishment of SCNU there was an improvement in labour room practices, reduction in NMR and reduction of referral to higher centers.⁴ Our study showed similar trend. Our study also demonstrated that mothers of children admitted in SCNU are more knowledgeable about various aspects of pediatric health than mothers of children admitted

in general pediatric ward. One study conducted by Bhat V et al in South India showed that there were only 55% of mothers had knowledge about various aspects of neonatal care³ whereas in our study 84-94% of mother of neonates of SCNU possessed good knowledge about various aspects of care. According to our study, mothers of the baby who are admitted in SCNU are more knowledgeable than the mothers in general pediatrics ward. The facilities in SCNU should be provided as per guideline of UNICEF. Lack of manpower and heavy work load are the main factors for low performances in SCNU. These two factors can be resolved with the help of administration and higher authorities of the respective hospitals.

Conclusion

The millennium development goal (MDG) 4 of the United Nations millennium declaration calls for a reduction of two thirds of the under 5 mortality rate between 1990 and 2015, and already we have reached our goal. Our next challenge is SDG (Sustainable Development goal), where NMR should be reduced to 12/1000 live births and under 5 mortality rate should be reduced to 25/1000 live births. Availability of properly equipped and

adequately staffed SCNU facilities in all the district hospitals will help in achieving SDG goal within 2030 and also in achieving the declared commitment “ending preventable child deaths by 2035”.

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