

A situational analysis of essential newborn care in maternity homes of Ahmedabad Municipal Corporation area

Niyati Harshadkumar Zaveri¹, Bala D V²

¹Department of Community Medicine, Zydus Medical College, Dahod, Gujarat, India, ²Department of Community Medicine, Smt. NHL Municipal Medical College, Ahmedabad, Gujarat, India

Correspondence to: Niyati Harshadkumar Zaveri, E-mail: niyati0903@gmail.com

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ABSTRACT


Background: The Ministry of Health and Family Welfare of India has come up with this essential newborn care services (ENBC) to reduce the neonatal mortality rates, and it is provided free of cost at all Government Healthcare facilities. This study was done to see the impact of ENBC services. **Objectives:** The objectives of this study are (1) to evaluate the provision of ENBC services in all maternity homes under the aegis of Ahmedabad Municipal Corporation (AMC) and (2) to assess the availability of adequate human resources, infrastructure, and equipment. **Materials and Methods:** A study design is cross-sectional. The study was conducted at all maternity homes in AMC. Sampling technique is the purposive type. Observation of health-care facility infrastructure under which assessment of availability of essential drugs, infrastructure and ENC equipment, observation of type of care, eye care and umbilical cord care at birth, infrastructure etc was done. Written permission from the Institutional Review Board, NHLMMC, Medical Officer of Health, AMC, Dean, was taken. **Results:** It was found out that a total number of rooms ranged from 3 to 20, number of beds ranged from 8 to 36, and deliveries per year ranged from 90 to 1646. Two of the maternity homes had assisted deliveries and cesarean section facilities. All the maternity homes had 100% availability of the medical. Resuscitator was present in 75% of the maternity homes. 100% maternity homes were equipped with radiant warmers, 91.67 % had pump suction, weight scale was present in 100%, 83.33% had thermometer, and 91.67% had Hub Cutter. Cotton swabs, bag mask, gloves, mucus extractor, and needle syringe were present in all the maternity homes in our study. **Conclusion:** All maternity homes are providing sufficient ENBC. Only two maternity homes are providing cesarean section delivery. Essential infrastructure and service facilities are provided in all maternity homes except a few minor things like less nursing staff. Newborn care corner is present in all the maternity homes.

KEY WORDS: Essential Newborn Care; Maternity Homes; Newborn Care Corner

INTRODUCTION

Newborn care and resuscitation are an important starting point for any neonatal program that is required to ensure the

best possible start in life. The 1st week of life is most crucial for the survival of an infant. Childhood and infant mortality rates have been decreasing in India in the last decade, and the rate of neonatal mortality is still high. The 1st day and week of life are the most crucial for the survival of a child. The majority (75%) occur in the 1st week, particularly on the 1st day (25–50%).^[1-3] The risk of deaths in the neonatal period in developing countries is over 7 times greater than in developed countries. The risk of deaths in the neonatal period in developing countries is over 7 times greater than in developed countries. Out of these 4, die in the 1st week of life, 1 of 3 dying in 1st week, and dies in the 1st day of life.

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About two-third infant deaths each year occur within the first 4 weeks of life, and around two-third of those occur within the 1st week. The most frequent immediate causes of newborn death include infection and birth asphyxia which causes more than half of all neonatal deaths. Complications due to premature birth and congenital anomalies are also among the top five leading causes of death among neonates. The Ministry of Health and Family Welfare of India has come up with many strategies to reduce the neonatal mortality rates in India, one of which is essential newborn care services (ENBC), which is for basic newborn care and resuscitation. The services are provided free of cost at all government health-care facilities. The health-care provider is well trained to learn all the required care at birth, identify and manage common complications, and stabilize (if necessary) and refer/transfer newborns needing higher additional interventions.

The basic components of maintenance of ENBC are temperature maintenance, establishment of open airway and circulation, identification of newborn, Vitamin K injection, and initiation of breastfeeding. This study was done to evaluate ENBC in the maternity homes of Ahmedabad Municipal Corporation (AMC) and to find the gap in delivering the services in health-care delivery system.

Objectives

The objectives of this study are as follows:

1. To evaluate the provision of ENBC services in all maternity homes under the aegis of AMC.
2. To assess the availability of adequate human resources, infrastructure, and equipment.

MATERIALS AND METHODS

Study Design

This was a cross-sectional study.

Study Area

The study was conducted at all maternity homes in AMC.

Sampling Technique

Purposive sampling

Observation of health-care facility infrastructure under which assessment of availability of essential drugs, infrastructure and ENC equipment, Observation of type of care, eye care and umbilical cord care at birth, Infrastructure etc was done.

Ethical consideration

Written permission from the Institutional Review Board, NHLMMC, was taken. Permission of Medical Officer of Health, AMC, Dean, was also taken.

Verbal permission from medical officer of respective maternity homes was done.

RESULTS

In this study, a total number of rooms ranged from 3 to 20 and total number of beds ranged from 8 to 36. In this study, only two maternity homes had cesarean section facilities. Sabarmati maternity home had 0.75% and Khokhara had 25 % cesarean, until birth percentage was from 0 to 5 in different maternity homes [Table 1].

In our study, all the maternity homes had 100% availability of the medical officers and 50% of the maternity homes had no staff nurse vacancy. All the maternity homes had required class III and class IV workers [Table 2].

In our study, all the maternity homes had 24 × 7 electricity supply washbasin with soap and water, and newborn care

Table 1: Distribution of maternity homes according to infrastructure and deliveries

Name	Total rooms	Total beds	Normal deliveries (%)	Assisted deliveries%	Cesarean section	Still birth %
Danilimda	11	12	100	0	0	0
Khokhara	5	36	60.10	0	0	4.98
Behrampura	6	8	99.33	0	0	1.33
Vatva	3	12	100	0	0	0.33
Sabarmati	3	15	100	1.4	0	1.44
Sarkhej	20	20	100	0	0	4.69
Shahpur new	3	15	100	0	0	2.20
Shahpur Chakla	3	8	100	0	0	0
Gomatipur	5	12	100	0	0	0
Naroda	5	5	100	0	4.8	0.44
Chandkheda	9	12	80	0	0	1.25
Bardolpura	6	8	100	1	25	0

corner (NBCC), all the maternity homes were providing the had separate labor room and necessary laboratory services, phone call service, 1 maternity hospital did not have phone services. In our study, all the maternity homes had birth register, all the maternity [Table 3].

In this study, resuscitator was present in 75% of the maternity homes, 100% maternity homes were equipped with radiant warmers, 91.67% of maternity homes had pump suction, weight scale was present in 100% maternity homes, cotton swabs, bag mask, gloves, mucus extractor, and needle syringe were present in all maternity homes, blankets were present

Table 2: Distribution of maternity homes according to availability of staff nurse

Maternity home	Staff nurse number	Staff nurse vacancy
Danilimda	5	1
Khokhara	8	0
Behrampur	4	2
Vatva	8	1
Sabarmati	6	0
Sarkhej	8	0
Shahpur new	4	1
Shahpur Chakla	4	2
Gomatipur	5	2
Naroda	5	0
Chandkheda	7	0
Bardolpura	5	0

Table 3: Distribution according to availabilities of utilities and various services

Utilities	Frequency (%)
Electricity 24×7	12 (100)
Washbasin with soap and water 24×7	12 (100)
NBCC	12 (100)
Clean water supply 24×7	12 (100)
Labor room	12 (100)
Laboratory services	12 (100)
Immunization	12 (100)
Vitamin K prophylaxis	12 (100)
Birth register	12 (100)
Functional phone call service	11 (91.7)
AC	7 (58.33)
Generator	3 (25)
Refrigerator	6 (50)
Voltage stabilizer	2 (16.67)
Room heater	2 (16.67)
Computer and printer	8 (66.67)
Spot lamp	9 (75)

AC: Air conditioner, NBCC: Newborn care corner

in 66.67%, feeding tubes were present in 75%, and blood collection vials were present in 91.67% maternity homes [Table 4].

The minimum score was 5 and maximum was 9. Mean score of service satisfaction is 7.02 ± 0.94 . Most of the service provider gave score between 6 and 8 [Figure 1].

DISCUSSION

All maternity homes are providing sufficient ENBC, with a few problem areas like only two maternity homes are providing cesarean section delivery, less staff nurse. Essential infrastructure and service facilities are provided in all maternity homes except a few minor things. NBCC is present in all the maternity homes.

In this study, only two maternity homes had cesarean section facilities. Sabarmati maternity home had 0.75% and Khokhara had 25% cesarean, District Level Household And Facility Survey -III (2007–2008) Gujarat showed that 74.1% Community Health Centers designated as first referral units (FRUs), and among them, 17.8% FRUs offer cesarean section and 86% FRUs have newborn care services on 24 h basis.^[4] In our study, all the maternity homes had 100% availability of the medical officers and 50% of the maternity homes had no staff nurse vacancy. In a study by Shah *et al.*, similar findings were observed that post of medical officer was filled in 80% PHCs, in Gujarat.^[5] In a study done by Zaman and Laskar in Assam and Karnataka, the presence of nurse was found in 80% of PHCs in Assam and 50% of PHCs in Karnataka, but only 30% had class IV workers.^[6] In our study, all the maternity homes had 24 × 7 electricity supply and water while report on evaluation study of NRHM in seven states (2011). 79.1% PHCs had availability of electricity^[7] and 24 × 7 water supply, while a study done by Kumar and Dansereau found out that only 64% health facilities had 24% running water supply,^[8] washbasin with soap and

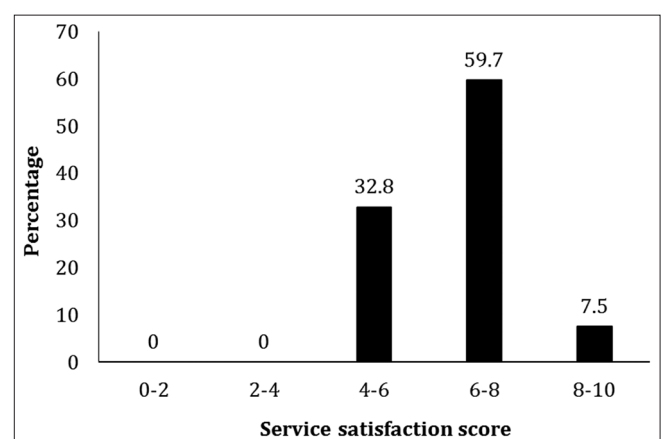


Figure 1: Distribution according to essential newborn care service satisfaction by the service provider (out of 10) ($n = 67$)

Table 4: Distribution according to NBCC equipment availability

NBCC equipment availability	Frequency (%)
Radiant warmer	12 (100)
Resuscitator	9 (75)
Weight scale	12 (100)
Pump suction	11 (91.67)
Thermometer	10 (83.33)
Examination light	10 (83.33)
Syringe cutter	11 (91.67)
Pre-warmed towel	3 (25)
Cotton swabs	12 (100)
Mucus extractor	12 (100)
Bag mask	12 (100)
Gloves	12 (100)
Needle syringe	12 (100)
Blankets	8 (66.67)
Feeding tubes	9 (75)
Blood collection vial	11 (91.67)

NBCC: Newborn care corner

water, and NBCC. Only one maternity hospital did not have functional phone services. In a study done by Sodani and Sharma in Bharatpur districts of Rajasthan^[9] and report on evaluation study of NRHM in seven states (2011), phone call service was found to be present only in 55%.^[7] In our study, all the maternity homes had birth register, and Biswas *et al.* carried out a study in West Bengal for the status of maternal and newborn care at FRU and found that records/registers were available but incomplete.^[9] It was observed that all the maternity homes had separate labor room available and necessary laboratory services available. Sodani and Sharma reported that 75% of the 24 × 7 PHCs have laboratory at the Bharatpur districts of Rajasthan,^[10] and Kumar and Dansereau showed that 69% of facilities had a separate labor room to provide delivery services to women. In this study, resuscitator was present in 75% of the maternity homes, while a study done in Sodani and Sharma observed that labor room was available at almost all the 24 × 7 PHCs, while none of the 24 × 7 PHCs have fully equipped newborn corner.^[10] In this study, 100% maternity homes were equipped with radiant warmers, 91.67 % of maternity homes had pump suction, weight scale was present in 100% maternity homes, 83.33% maternity homes had thermometer, and 91.67% had Hub Cutter. Sodani and Sharma, in their study, found radiant warmers at 15.8% of the 24 × 7 PHCs, newborn resuscitators at 26.3% of the 24 × 7 PHCs, suction pump at 52.6% of the 24 × 7 PHCs, weighing scale at 57.9% of the 24 × 7 PHCs, thermometers at 76.3% of the 24 × 7 PHCs, and Hub Cutter at 84.2% of the 24 × 7 PHCs.^[10] In this study, cotton swabs, bag mask, gloves, mucus extractor, and needle syringe were present in all the maternity homes in our study, blankets were present

in 66.67%, feeding tubes were present in 75%, and blood collection vials were present in 91.67% maternity homes. All maternity homes are providing sufficient ENBC, with a few problem areas like only 2 maternity homes are providing cesarean section delivery, less staff nurse. Essential infrastructure and service facilities are provided in all maternity homes except a few minor things. NBCC is present in all the maternity homes.

The strength of this study is that all the maternity homes working under the aegis of AMC area were covered, and the limitation of this study is that the private maternity homes are not covered under the study which are higher in number than the municipal corporation maternity homes.

CONCLUSION

All maternity homes are providing sufficient ENBC, with a few problem areas, such as only two maternity homes are providing cesarean section delivery, so service in maternity that can improve if all the maternity homes provide assisted deliveries and cesarean section services. There is less staff nurse, so all the vacancy for nurses should be filled. All maternity homes should have all the NBCC equipment which should be present at all the times. All the general equipment such as air conditioner, refrigerator, voltage stabilizer, spot lamp, computer, and printer should be available at all the times.

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