EVALUATION OF HEALTH INSTITUTION PROVIDING DELIVERY SERVICES IN SEVEN DISTRICTS OF ASSAM

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ABSTRACT: INTRODUCTION: MMR in India has shown an appreciable decline from 398/100,000 live births in the year 1997-98 to 301/100,000 live births in the year 2001-03 to 254 per lakh live births in 2004-06 & then 212 per lakh live births as per the latest RGI-SRS survey report, released in July 2011. In Assam according to the SRS, RGI 2004-06 the MMR was 480 per lakh live births (highest in India) & has declined by 90 points to 390 per lakh live births (still Assam has the highest MMR) according to the latest RGI, SRS 2007-09 reports. Maternal health services have a potentially critical role to play in the improvement of reproductive health. There is little doubt that access to skilled assistance and well equipped health institutions during delivery can reduce maternal mortality and morbidity and improve pregnancy outcomes. **METHODS:** The study was conducted in seven districts of Assam namely Darrang, Golaghat, Sivasagar, Nalbari, Goalpara, Tinsukia and Morigaon. A structured format for assessing the facility was prepared for the evaluation. The questionnaire included all the important components like infrastructure, equipments, essential drugs, human resource and waste management. **RESULTS:** Amongst the institutions, 33(94.3%) of the institutions have beds for conducting the ANC examination amongst the pregnant women and only 16(45.7%) have bed screens dedicated for use during ANC for maintaining privacy. Foetoscope is available in only 11(31.4%) of the institutions. The assessment explored GNMs' (Labour room nurses) awareness of birth preparedness by asking them to name the essential preparations that a woman should make for a safe delivery.

KEYWORDS: ANC-MMR -Institutions-districts.

INTRODUCTION: Maternal and child health care system is intended to deliver quality health care services. The scope of health services varies widely from country to country and is influenced by general & ever changing national, state and local health problems, needs and attitudes as well as the available resources to provide these services.

Each year in India, roughly 28 million women experience pregnancy and 26 million have a live birth. Of these, an estimated 67,000 maternal deaths and one million newborn deaths occur each year. In addition, millions more women and newborns suffer pregnancy and birth related ill-health. For every maternal death another 20 women suffer from severe illness, injury or disability. Thus, pregnancy-related mortality and morbidity continues to have a huge impact on the lives of Indian women and their newborns.

MMR in India has shown an appreciable decline from 398/100,000 live births in the year 1997-98 to 301/100,000 live births in the year 2001-03 to 254 per lakh live births in 2004-06 & then 178 per lakh live births as per the latest RGI-SRS 2010-12. In Assam according to the SRS, RGI 2004-06 the MMR was 480 per lakh live births (highest in India) & has declined by 152 points to 328 per lakh live births according to the latest RGI, SRS 2010-12 reports but still Assam has the highest MMR.

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Maternal health services have a potentially critical role to play in the improvement of reproductive health.

There is little doubt that access to skilled assistance and well equipped health institutions during delivery can reduce maternal mortality and morbidity and improve pregnancy outcomes. Based on data from NFHS-1, a multivariate analysis of utilization of maternal and child health services in India and four major northern states concluded that utilization of maternal and child health services in rural areas is driven primarily by socioeconomic factors, such as education, media exposure, and standard of living, that create a demand for services and much less so by physical access to and availability of health and family welfare services.^[1]

Health system issues that need more attention in Assam Include:

- The patterns of inequalities that exist in the provision and utilization of maternal health services in Assam, and how they interact with structural inequalities that exist in society as a whole.
- Health seeking behavior of women.
- Provider attitudes that exist in maternal health care services.
- Understand the process of implementing policy and changing practice.

Neonatal mortality in India is 31/1000 live births (SRS-2011) and accounts for 50% of deaths of all children under 5. Three quarters of all the neonatal deaths occur during the first week of life and about 20% take place in the first 24 hours. This is also the period when most maternal deaths take place. Thus the provision of maternal & newborn care through a continuum of care approach, ensuring care during critical periods of delivery and post natal period, addresses the needs of the mother and the newborn through a seamless transition from home & village to facility and back again. Although reproductive and child health (RCH) services are provided for free or at nominal cost in public health centres in India, deliveries in private health centres have increased over time. While the percentage of deliveries in public health centres has increased from 15% in 1992-93 to 18% in 2005-06, the percentage in private health centres has risen from 11% to 20%.^[2]

MATERIAL AND METHODS: The study was conducted in seven districts of Assam namely Darrang, Golaghat, Sivasagar, Nalbari, Goalpara, Tinsukia and Morigaon. This activity was conducted in February 2013- October 2013. A structured format for assessing the facility was prepared for the evaluation. The questionnaire included all the important components like infrastructure, equipments, essential drugs, human resource and waste management. Accordingly 5 health institutions were identified in each district where deliveries are conducted (DH, FRU & 24X7) and the formats were filled. So a total of 35 health institutions were surveyed and analysis done. Regarding human resource, the number of doctors posted in a health facility as against the sanctioned posts was analyzed. Even if 1 post was vacant, it was considered as inadequate staff. Assessment visits occurred from February 06, 2013 to October 10, 2013. The duration of the assessment was 8 months and one time visits were made in the institutions. The district health authority responsible for planning and implementing the maternal health activities in the district were also interviewed in brief.

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RESULTS: Labour tables with foam mattress, macintosh and kelly's pad are available in only 88% of the health facilities. Important equipments like shadowless lamps, wheel chairs, trolley for patients, instrument trolley and suction machine is available in less than 80% of delivery centres. Most essential items like sterilized cotton & gauze, gloves, syringes & needles were not present in all the institutions.

Essential equipments	No. n=35(%)
Labour table with foam mattress, Macintosh and Kelly's pad	31(88%)
Shadowless lamp	23(66%)
Wheel chair	20(57%)
Dressing drum	32(91%)
Trolley for patients	20(57%)
Instrument trolley	23(66%)
I/V stand	34(97%)
Suction machine	27(77%)
Facility for oxygen administration	22(63%)
Sterilization equipment- autoclave	32(91%)
Separate BP apparatus in LR	21(60%)
Separate thermometer in LR	20(57%)
Functional attached toilet in LR	28(80%)
24 hour running water	35(100%)
Electricity supply with back up	33(94%)

TABLE 1: Table showing the availability of essential equipments in labour room in health institutions

Regarding essential equipments in the labour room, some serious issues were also observed like availability of wheel chairs (57%), separate BP instrument in labour room (60%), separate thermometer presence in labour room (57%), suction machine (77%).there are also issues regarding availability of labour table with foam mattress, macintosh and kelly's pad. Moreover, some labour tables are too old and needs replacement. The electricity power back up was available in 35 (100%) institutions but 3 (8.5%) institutions have power back generators that are not in working condition at the time of the visit. Operational telephone connection had been found in 22 (62.8%) of the health institution.

Regarding essential drugs, none of the drugs (Inj. Oxytocin, Inj. Diazepam, Tab. Nifedipine, Inj. Magnesium Sulphate, Inj. Lignocaine Hydrochloride, and Inj. Gentamycin) were 100 % available in all the delivery sites. Inj. Oxytocin was available in only 31 (86%) of the institutes. Tab Nifedepine was there in only 7(20%) of institutes. Only 14(40%) of the institutions are using partograph and out of these only3 (8.5%) are correctly using partograph. Amongst the institutions assessed 29(82.8%) of the institutions had availability of TT injections at the time of assessment. Around 4(11.4%) of the health institutions had stock out of the vaccine for the last 7 days and 2(5.7%) of the institutions have stock out since last 15 days.

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Amongst the institutions, 33(94.3%) of the institutions have beds for conducting the ANC examination amongst the pregnant women and only 16(45.7%) have bed screens dedicated for use during ANC for maintaining privacy. Foetoscope is available in only 11(31.4%) of the institutions. The assessment explored GNMs' (Labour room nurses) awareness of birth preparedness by asking them to name the essential preparations needed for a safe delivery. Also probed were ANMs' awareness of standard protocols to be followed during labour and delivery, including not conducting a vaginal examination if the woman is bleeding during labour, not using oxytocin to speed up delivery and using oxytocin or misoprostol for the active management of the third stage of labour.

The study also assessed the extent to which GNMs were aware that a woman should have her first postpartum checkup within a few hours or at best within two days of delivery and that a woman should have at least three postpartum check-ups. Findings show that the majority of GNMs 32 (91.4%) were aware of postpartum care practices; four-fifths of the GNMs knew that a woman should have her first check-up within a few hours or at best within two days of delivery. Findings show that the vast majority of ANMs were aware of best practices related to the immediate care of the newborn. For example, 93% of ANMs knew that the umbilical cord should be cut after 2–3 minutes of delivery, 99% knew that a newborn should be wiped dry and not bathed immediately and that 96% knew that it is not good to apply any substance on the cord stump.

Regarding human resource, the number of doctors posted in a health facility as against the sanctioned posts was analyzed. Even if one post was vacant, it was considered as inadequate staff. It was found that 23(66%) of the health institutions has adequate. the manpower status (staff nurses) of the individual health facilities assessed. Even if 1 post was vacant, it was considered as inadequate staff. The sanctioned post is itself inadequate. Only 31% of the medical officers of the 35 health institutions assessed are trained in EMOC and 54% are trained in neonatal resuscitation techniques. In the assessment it was also found that 66% of the GNM and only 38% of the ANM placed in the health institutions have received Skilled Birth attendant trainings.

There are fewer institutions 11(31.4%) had a visible IEC material on maternal health related to Pregnancy, ANC and JSY services in the institution campus. Only 8(22.8%) of the institutions had maternal health protocol available in the institution related to management of anemia, eclampsia and PPH.

Only 7 (20%) of the health institutions are providing diet facilities to the women who have delivered in the institutions and all those are the district level hospital. The cooks are appointed in the district hospital for providing diet to the inpatients but no special diets are provided to the postpartum ward patients. The kitchens are ill lighted and poorly maintained.

To determine the attitude of the hospital staff towards the mother and the child in the post natal ward, the beneficiaries were interviewed based on a scoring scale. The scores include as 0 - Rude, 1- unhelpful Good or bad at different times 2- Polite, helpful for assessing the doctors, nurses and the hospital staffs. From each institution being assessed, 3 nos of beneficiaries were interviewed totaling to a figure of 105. It was 79(75.2%) of the doctors and nurses are polite and 23(21%) are unhelpful.

DISCUSSIONS: Knowledge assessment of ANC care, amongst the nurses using a scoring techniques of score 0=Not aware, Score 1=aware but requiring prompting, score 2=fully aware. The indicators included knowledge of birth preparedness, maternal nutrition counseling, able to identify danger

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signs and referral can carry out immunization services and able to manage eclampsia using recommended protocol. The average institution level assessment score was to obtain the district level ANC care knowledge quality score. The highest ANC care were in Golaghat (82%), Sivasagar (78%) and Nalbari (76%). Knowledge of ANC care are averaged less than 75% in Tinsukia (65%), Morigaon (53%), Darrang (58%) and Goalpara (62%). Antenatal care provides an entry point for women to the health care system and presents an opportunity to evaluate the mother's overall condition, diagnose and treat infections, screen for anemia and HIV/AIDS and to provide a broad range of health promotion and disease preventive services.^[3]

The health Institutions are also weighed on the adherence to protocols on maternal care. It is composite score of 4 equal weight indicators. The indicators are 1) clinical protocols on ANC, Anaemia management, APH and eclampsia management 2) protocols on partograph use, essential newborn care, newborn resuscitation, 3) protocol used for breast feeding and danger signs and management. 4) Infection prevention protocols hand washing disinfection of equipment, disinfection of skin and waste management.

Issues regarding improper maintenance of records of referral and partograph usage were observed in many health institutions in the current study. This all issues reflects lack of care by responsible persons regarding record keeping at the labour room.

All the districts hospitals assessed are conducting SBA training for the peripheral GNMs and ANMs in order to strengthen the maternal care at the periphery. The trainees are provided training on all the aspects related to maternal health focusing on ANC, PNC, stages of labour, use of partograph and are also mentored for development on skills for conducting delivery. The training pace is however slow in all the districts and priority is not given to the delivery points. Hence rationalization of posting of SBA trained is not seen and post training follow up is absent. Skilled attendance at delivery is an important indicator in monitoring progress towards Millennium Development Goal 5^[4] and, has consistently been found to be associated to reduce maternal morbidity and mortality.^[5]

The Biomedical waste(BMW) Management practices observed in the health institutions based on the direct interview and visual inspection reveals that they were not in line with the government recommended IMEP practices. It was observed that in all the health institutions the in charge medical officers did not pay any attention to the BMW management practices because of their insufficient knowledge about the significance of the subject and their apparent lack of interest. In almost all the health institution, no person was assigned the responsibility of the BMW. Around 24(68%) of the health institutions has permanent cleaners and others are managing through contractual cleaners hired on monthly basis.

The assessment of the ancillary services was also scored on quality aspects. The services that were weighted as a part of ancillary services are 1) presence of blood bank, laboratory and pharmacy 2) Availability of autoclaving and sterilizing section 3) Ambulance and referral transport service. Ambulance were available in 29(82.8%) of the health institutions assessed. On cross checking of the ambulance log books it was found that only 12(34.2%) of the ambulances had been used for referring pregnant women to the higher referral institution in the last three months prior to the assessment. The use of health services in Uttar Pradesh is possibly lower due to non-availability of facilities at public health centers.

Though public health centers exist, often they are not adequately equipped. For example, 64% of primary health centers (PHCs) in Tamil Nadu had a newborn care unit compared with 15% in Uttar

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Pradesh. Similarly, 90% of PHCs in Tamil Nadu had a functional operating theatre, 87% had cold chain equipment and 62% had referral services for delivery, compared with 45%, 21% and 31%, respectively, in Uttar Pradesh (IIPS 2010). On further assessment it was found that 6 (17.1 %) of the health institution had at least record of one maternal death in the last one year.

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