



Maternal Health Scenario in the slums of Meerut, Uttar Pradesh: Implications for Program & Policy

Motherhood—a blessing or curse

The risk of a woman dying as a result of pregnancy or childbirth during her lifetime is about one in six in the poorest parts of the

world compared with about one in 30,000 in Northern Europe. Such a discrepancy poses a huge challenge to meeting the fifth Millennium Development Goal to reduce maternal mortality by 75% between 1990 and 2015¹. India contributes to 26% of the global burden of maternal deaths with nearly 136,000 women dying annually² due to causes related to pregnancy and childbirth. The major causes of maternal deaths are hemorrhage, puerperal sepsis (infections after delivery), complications of abortion, obstructed labor, and hypertensive disorders associated with pregnancy³. In Uttar Pradesh alone, 21,450 maternal deaths occur every year⁴.

Uttar Pradesh, which is the second largest state in terms of urban poor population, houses nearly 11 million urban poor⁵. Of the 340,000 pregnancies that occur every year among this population, only 2% receive complete ANC⁶. Home deliveries continue to be the norm with only 16.7% delivered in a health facility and only one fourth of total births being attended by a skilled birth attendant (doctor/nurse/LHV/ANM/other health personnel).

Maternal deaths are clustered around labour, delivery, and the immediate postpartum period, with obstetric haemorrhage being the main medical cause of death. Skilled attendance during delivery, access to emergency obstetric care and postnatal care (PNC) are cost effective and life saving investments for mothers. The extent of services available and availed during complications related to pregnancy, delivery and postpartum indicates the state of obstetric morbidity and mortality⁷.

Background of the study

In order to assess the status of maternal, neonatal, child and reproductive health in the urban slums of Meerut city, Uttar Pradesh^a, Urban Health Resource Center (UHRC) conducted a study in collaboration with the Johns Hopkins Bloomberg School of Public Health, USA and Chatrapati Sahuji Maharaj Medical University, Lucknow. The study included use of both qualitative and quantitative methods. A household survey was conducted between October 2007 and March 2008. The survey covered 15,025 women who had a live or still birth in the three year preceding the survey. Hereafter, these women are referred to as “recently delivered women (RDW)” and were drawn from 44,888 households across 45 slums within the city^b. The scope of the survey was very similar to the Demographic Health Survey (DHS)/ National Family Health Survey (NFHS) except we collected more detailed information on newborn care and was adapted to capture information specific to the urban slum context.

What did the survey find?

Indicators representing the status of maternal health in the slums covered by the study fared poorly. Essential obstetric care which intends to provide the basic maternity services to all pregnant women by ensuring early registration of pregnant women, at least three ante-natal checkups for taking preventive and promotive steps and to detect complications early for prompt action, skilled attendance at delivery, and post-natal check ups to monitor the post-natal recovery⁸ was suboptimal in the study area.

Only 60% pregnancies were registered with a health facility

- ❑ Of these, 59.4% pregnancies were registered within first three months, 21.7% between 4-6 months and 18.9% after six months of gestation.
- ❑ Among those who registered, private facility/provider was the preferred place of registration for more than 40% pregnant mothers. Around one-fourth mothers approached a government facility and another one-fourth of mothers registered with a NGO run health facility.

Early registration of pregnancy with a health care provider facilitates assessment of health and nutritional status of the mother and to obtain their baseline information on blood pressure, weight etc. An early contact with a health provider also helps to screen for complications early and manage appropriately by referral as and where required⁹.

Overall coverage of complete Antenatal Care (ANC)^d was low at 6%

- ❑ Only 53.2% of the pregnant mothers received any antenatal check-up^e and only 27.2% received the recommended 3+ check-ups.
- ❑ Components being covered under antenatal check-up included weight (24%), height (4.8%) and BP measurements (32.1%), abdominal examination (41.8%), ultrasound (27%), urine (27.6%) and blood test (21.4%) and providing de-worming and chloroquin tablets (<1%).

Antenatal care, the care that a woman receives during pregnancy,

- Meerut was selected for the trial, in view of presence of large urban slum population (highest among cities in Uttar Pradesh). Situation analysis of the slums revealed existence of unlisted slums, pockets of underserved slum population and underutilization of existing health services.
- The indexed women were the one who had a live birth during the last 36 months preceding the survey.
- Based on our survey, registration implied recording of the pregnancy with ANM/AWW or other health worker. This did not necessarily imply check up being carried out at the time of registration.
- Complete Antenatal Care for a pregnant mother includes at least 3 antenatal check-ups, 2 doses of TT injection and consumption of 90+ IFA tablets prior to the expected date of delivery.
- An antenatal check-up includes weight and height measurement, blood pressure, abdominal examination and diagnostic tests including urine test etc.

helps to ensure healthy outcomes for women and newborns.¹⁰ ANC is a key entry point for a pregnant woman to receive a broad range of health promotion and preventive health services, including nutritional support and prevention and treatment of anemia and other infectious diseases associated with reproductive health¹¹. Periodic antenatal check-ups help in early detection, management of complications, timely advice and appropriate referral. This can help improve maternal and neonatal survival.

- ❑ About 70% of the pregnant women received at least one TT injection; still nearly 30% of the women were left out.

If the mother is not immunized with the correct number of doses of tetanus toxoid vaccine at the appropriate time (with second dose at least one month prior to expected date of delivery), neither she nor her newborn infant is protected against tetanus at delivery. Non receipt of timely dose of TT can result in maternal and neonatal tetanus which is associated with high case fatality¹².

- ❑ Less than 30% pregnant mothers received any IFA supplements out of which only 10.4% received the recommended dose of 100 tablets.
- ❑ Of those who received any tablets around 79.5% consumed it for the recommended 100 days.

Iron and folate supplementation helps prevent iron deficiency in pregnant women. Iron deficiency can lead to severe anemia, which is associated with preterm delivery, inadequate intrauterine growth, and maternal and fetal deaths¹³.

Private health facility was the preferred choice to seek ANC

- ❑ 72.5% of the women who received ANC approached private health facilities for antenatal check-ups and TT vaccinations.
- ❑ Government health centres were the main providers of IFA tablets (50%) followed by private facilities (39%).
- ❑ An important reason for not availing health services from government facilities was absence of or poor functioning of public facilities in the vicinity. Service usage of public facilities by pregnant women was low also because of shortage of staff especially lady doctors; shortage of medicines including IFA tablets; lack of diagnostic services; poor referral system; unfavorable timings of the facility that does not suit the working slum women; long queues in the higher level facilities; impolite attitude of health centre staff towards slum women; and lack of privacy.

Pregnant mothers seek quality health care services that are easily accessible. In the absence of satisfactory public health care facilities, they approach private facilities.

Home delivery continued to be the first choice

- ❑ Overall 68% of the mothers delivered at home. Only 32% of the deliveries were conducted in a health facility - 5% in government institutions and 27% in private facilities.
- ❑ Almost 40% of the home deliveries were conducted by untrained 'Dais' and 51% by trained birth attendants or TBAs.
- ❑ Only 7% of the home deliveries were conducted by a staff nurse and 2% of the deliveries were conducted by qualified doctors.

- ❑ A disposable delivery kit (DDK) was used in 40% home deliveries.
- ❑ *Dais* (Traditional birth attendants) were the first point of contact during pregnancy because they are more accessible, perceived to have more experience, are affordable and cater to the family's preference for a lady birth attendant.

Since many complications cannot be predicted, professional care during delivery is the key to healthy outcomes for both the mothers and newborns. The Government of India's Reproductive and Child Health (RCH) Program emphasizes the need for mothers to deliver babies in hygienic conditions under the supervision of skilled birth attendant who can manage normal deliveries, identify complications, and refer mothers in the event of an emergency¹⁴.

Only 40% of the mothers received postnatal care (abdominal examination and counseling on diet, breastfeeding and newborn care)

- ❑ Of the mothers seeking PNC, only 8.3% went to a public facility while 51.7% went to a private facility and 39.8% received care in the home.
- ❑ Over half (52.5%) of the service providers were qualified (MBBS) doctors followed by trained *dais* (21.1%), untrained providers including *dai* (16.7%), nurse/lady health worker (9.1%) and relative/neighbor (0.6%).
- ❑ Around 34% received abdominal examination and 17% were counseled on maternal diet, breastfeeding and newborn care.

The RCH program emphasizes postnatal contact of mothers with a health worker as early as possible, especially within the first 24 hours, then again within two to three days after delivery to ensure appropriate care for complications and to improve survival of both mother and child. It also recommends counseling on nutrition, breast care and breastfeeding, newborn care practices, and family planning¹⁵.

Care seeking for pregnancy, delivery, and postnatal complications was low

- ❑ Common health problems reported during pregnancy included severe fatigue (30%), anemia (19%), headache (16%), swelling of the body (16%), reduced fetal movement (5%), vaginal bleeding and bad smelling vaginal discharge (2%) and convulsions (1%). However, treatment was sought more frequently for vaginal bleeding (83%), reduced fetal movement (78%), bad smelling vaginal discharge (69%) and anemia (61%). Around 5.7% sought care in the home, 12.6% in public sector and 81.5% in private sector. Further in the private sector, 79.6% approached qualified providers (MBBS/ANM/LHV) and 17.1% sought treatment from unqualified providers.
- ❑ Obstructed (30%) and prolonged labor (12%) were the key complications during delivery for which treatment was sought by 92.2% mothers. Almost 50.5% sought care in the home, 5.6% in public sector and 43.5% in private sector. In the private sector, 56.6% mothers sought care from qualified doctors, 18.8% from unqualified providers and 23.9% from trained TBA.

- ❑ Abdominal pain after delivery (15%) was the major health concern and 70.9% sought some care. Around 17.7% sought care in the home, 7.7% in public sector and 74.6% in private sector. Within the private sector, 69.2% mothers approached qualified providers and 22% sought care from unqualified providers.
- ❑ Preventive healthcare was not perceived necessary in the absence of any complications. Some important reasons for poor health seeking included limited knowledge on symptoms that call for medical attention, multiple demands on the mother's time, limited decision making ability within the family and lack of family support.
- ❑ Due to an ineffective public health system, most of these slum women sought care from private health facilities that entailed an additional expenditure. Affordability was an issue and healthcare seeking was therefore limited to emergencies only.

The majority of maternal deaths, as well as a significant burden of long term morbidity occurs during child birth and postpartum period. Timely identification and prompt care seeking is crucial to prevent maternal morbidity and mortality¹⁶.

Program implications of the findings for urban health program in UP and India

The survey findings highlight the need for simple, affordable, and cost effective interventions that can be implemented to improve maternal healthcare in the slums. These interventions can be classified into technical interventions and operational interventions.

Technical interventions include promoting safe motherhood practices at the household and community level in the slums.

Focus on increasing the percentage of pregnancies getting registered and receiving complete antenatal care: The study highlighted a major gap in the percentage of pregnancies getting registered (60%) and those receiving complete ANC (6%). Less than 30% of the pregnant women received the recommended 3+ANC check-ups and similar percentage received recommended IFA dose. Only 70% of the women received any TT injection. This situation demands an urgent intervention to generate awareness among the pregnant women and the elderly women in the family on the importance of availing necessary antenatal care to avoid any complications and enjoy a safe delivery. Equally important is to facilitate their encounter with a professionally qualified service provider.

Need to promote safe deliveries among the slum women: The survey findings revealed that the majority of deliveries were being conducted at home by untrained dais. In only 40% of the home deliveries DDK was being used. Although government programs emphasize institutional deliveries, two major factors impede the process. First, absence of well equipped and staffed public health facility in the vicinity and second, a high cost is involved in availing private health facilities. It is therefore imperative to initiate intensive efforts to ensure safe deliveries even at home since upgrading public health facilities would require a substantial time. Therefore the following strategies can be adopted as more immediate technical measures to promote safe deliveries:

1. Training of 'dais' or untrained birth attendants on a periodic

basis to adopt safe delivery practices including cleanliness, recognition of danger signs, and timely referral. As per the RCH program, *dai* training is an interim measure for areas where less than 30% deliveries are being conducted by skilled provider.

2. Expand the availability of Disposable Delivery Kits (DDK) that contain the necessary material to follow the 'Five Cleans'^f for safe delivery, and promote its compulsory use by 'dais'¹⁷.
3. Effective utilization of existing schemes under RCH program including Janani Suraksha Yojana (JSY) that not only ensures institutional delivery but also provides cash assistance to meet the cost of delivery¹⁸.

Dedicated efforts to improve post partum care of mothers and newborns: The study revealed only 40% of the mothers availing postnatal care in the slums. To control post partum complications, it is essential that the mother has an early contact with a health provider for regular check up and detection of danger signs if any. In addition to physical examination, PNC also involves counseling on maternal diet, importance of exclusive breastfeeding and awareness on newborn danger signs. Therefore it is important that the mothers be made aware of the importance of complete and timely postnatal care. Proper and regular counseling by dais and slum based health volunteers can help improve availing postnatal care by the mothers.

Need to facilitate early identification and prompt treatment of complications during pregnancy, delivery and post partum: The care seeking behavior among the pregnant women and mothers underline an urgent need to generate awareness among them to be able to recognize the danger signs during pregnancy and post partum. Although care seeking for danger signs was high among the slum women, majority sought care from unqualified service providers. Mothers should be made aware of the danger signs associated with pregnancy e.g., severe fatigue, anemia, swelling of the body, reduced fetal movement, vaginal bleeding and bad smelling vaginal discharge. Early identification of danger signs of illness can ensure that mothers seek care from health facility in time. It is also important that the mothers approach qualified health providers for treatment. Slum based health volunteers can play an effective role as a link worker between the pregnant women and the health facility.

Operational interventions include promoting behavior change among the community to avail pregnancy, delivery and post partum care services and building linkages with health facilities.

Behavior Promotion: Findings revealed that a substantial percentage of mothers are not getting their pregnancies registered with a health facility, do not avail complete antenatal care and are not seeking treatment for complications. This highlights the urgency to enforce the need to seek healthcare during pregnancy, delivery and during the postnatal period as well as any complications arising throughout this period. Key strategies that can be adopted to influence behavior change are:

1. Individual and group counseling with mothers, elderly women and/or key decision makers in the family to promote recommended practices.
2. Effective use of IEC material like pictorial cards, street shows

f: Five Cleans include clean surface, clean air dried hands, clean cord tie, clean blade and clean cord stump

and puppet shows to generate awareness among the women

Public health facilities made accessible to mothers during pregnancy, child birth and postnatal phase: The major gaps that emerged with regard to public health facilities included poor physical accessibility, irregular supplies and absence of adequate staff including lady doctors. Findings highlight that the majority of mothers are not seeking appropriate care because of absence of reasonable and effective public health delivery systems in the slum vicinity.

Also pregnant mothers do not receive the recommended dose of IFA on account of irregular supplies and only 70% are receiving any TT injection. This is one of the major reasons that can be attributed to anemia during pregnancy. In addition to lack of services, absence of lady doctors was another factor that impedes health seeking by slum women. The following steps can be taken to strengthen the existing government health facilities:

1. Relocation of public health facility to a place that is easily approachable to the slum women.
2. Upgrade of facilities including availability of diagnostic tests and regular supply of IFA tablets and other necessary medicines
3. Recruitment of adequate staff including lady doctors, lab technicians and ANMs
4. Regular technical and behavior training for the staff to identify complications and referral cases as well as promote quality treatment of patients.

Investment in these areas will alter the poor image public facilities have and attract the urban poor to avail health services without adding an extra burden on their limited financial resources.

Capacity building of dais and slum based volunteers to strengthen the link between community and service provider: Dais are the first point of contact in majority of pregnancies. They along with slum based volunteers should be trained on key components of maternal health. These include the importance of registering a pregnancy, timely and complete antenatal care, birth preparedness, identification of complications, importance of institutional delivery and postnatal care. These volunteers can act as the link between the pregnant mothers and health facility and ensure proper care and treatment for the mother.

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Effective implementation of government schemes and programs: There are a number of government schemes and programs for the benefit of slum women. One such program is Janani Suraksha Yojana (JSY)⁹. Effective implementation of the program can ensure that these women receive appropriate services without adding any extra financial burden when they seek health care during pregnancy.

Forging Pro-poor Partnerships: Survey findings highlighted private facilities to be the common choice for seeking healthcare among pregnant women. This resource can be capitalized by building partnerships with private clinics and health providers to fill in the infrastructure, supply, and personnel gaps that currently exist in the government run facilities. Running of evening out patient departments (OPDs) in the government facilities by private care providers, conducting outreach camps for maximizing coverage and minimizing missed opportunities for TT vaccinations, and preparation for referrals in case of obstetric emergencies, can prevent the worst health outcomes in these slums¹⁹.

Creative alternative health financing mechanism to overcome financial limitations: The study has shown that the slum women neglect seeking treatment because of financial limitations. Innovative approaches need to be implemented in these slums to ensure that cost of treatment does not hinder their health seeking. Some key strategies that can be employed are:

1. Alternative health financing program like subsidized health insurance schemes
2. Risk pooling through community health funds to ensure financial support in cases of emergencies. One such initiative is the upcoming National Urban Health Mission that highlights risk pooling as an effective approach to combat health emergencies.
3. Voucher schemes that can enable poor women to access maternal healthcare services free of cost from accredited private health clinics²⁰. The services provided under the voucher could include antenatal care (three check ups and diagnostic services), delivery services (normal, complicated and caesarean), and postnatal care (two check ups).

9. Janani Suraksha Yojana integrates cash assistance with antenatal care during the pregnancy period, institutional care during delivery and immediate post-partum period in a health centre. The slum women can avail the services and receive cash assistance of Rs.1000/- to cover any incidental expenses arising during pregnancy and child birth. This benefit also ensures that they deliver in health institutions.

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