Journal of Exclusion Studies
Vol. 2 No. 2, August 2012, 115-122
DOI: 10.5958/j.2231-4547.2.2.013

Research Article

Impact of Institutional Delivery on Child Survival

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ABSTRACT

Institutional delivery is instrumental in saving the lives of mothers and children. Children are the future of the nation and mothers are guardians. Mother and child are considered as a single unit up to five years of child's age. *In India, both child mortality (especially neonatal mortality) and maternal mortality are high. Out of every 100 children born in India, 7 die before reaching age 1, and approximately 5 out of every 1,000 mothers who become pregnant die of causes related to pregnancy and childbirth. India accounts for more than one-fifth of all maternal deaths from causes related to pregnancy and childbirth worldwide.* Institutional delivery reduces the infant mortality rate (IMR) as the healthcare institutions are equipped with required facilities and qualified human resource to handle adverse or critical situation arising at the time of delivery and after. *This study is based on primary data collected from the Aligarh district. The major indicators taken into consideration are antenatal care, place of delivery, early immunisation of the newborn, weight, initiation of breastfeeding, trend of giving first bath. Still, 26 per cent mothers and children are prone to death or serious complications, leading to infirmity. This study strives to discuss the scope and relation between institutional delivery and survival of children.*

Keywords: Institutional Delivery, Immunisation, Antenatal Care, Place of Delivery, Early Immunisation of Newborn, Weight, Initiation of Breastfeeding, First Bath

"Children are the future of the country and Mothers are the gardeners of the future"

INTRODUCTION

Globally, every year over 500,000 women die of pregnancy-related causes and 99 per cent of these occur in developing countries. The maternal mortality ratio (MMR) in India is 254 per 100,000 live births according to the Sample Registration System (SRS) Report for 2004–2006. This is a decline from the previous ratio of 301 for 2001–2003. MMR has a direct impact on infant mortality. Babies whose mothers die during the first 6 weeks of their lives are far more likely to die in the first 2 years of life than babies whose mothers survive. Only 47 per cent of women likely in India have an institutional delivery and 53 per cent had their births assisted by a skilled birth attendant. As many as 49 per cent of pregnant women still do not have three antenatal visits during pregnancy. Only 46.6 per cent of mothers receive iron and folic acid for at least 100 days during pregnancy (http://www.unicef.org/india/health.html). The institutional birth rate in India is extremely low even for those living within easy reach (5 km) of a hospital (http://www.biomedcentral.com/1471-2393/10/30). With a high MMR of 359/100,000 live births (SRS 2007–2009), Uttar Pradesh is one of the high-priority states where immediate steps are required to improve provision and quality of basic antenatal and emergency obstetric care (http://www.mohfw.nic.in/NRHM/CRM/CRM_files/5th_CRM/Statewise/Uttar%20Pradesh.pdf).

Mother–child health is universally acknowledged to be of intrinsic value and, therefore, constitutes an integral element of health. Each mother–child has been considered as a single unit. Mother–child health is the core element of health. Mother–child health narrates the health condition of the society. The health of mothers and children is a priority that emerged long back (WHO, 2005: XIII). The creation of public health programmes to improve the health condition of women and children has its origins in Europe at the nineteenth century. The healthy mothers and children were seen by the government at that time to be resource of economic and political ambitions (WHO, 2005: 02). The importance of mother–child health was considered to improve the human resource.

Pregnancy is not just a matter of waiting to give birth. Often a defining phase in a woman's life, pregnancy can be a joyful and fulfilling period for her both as an individual and as a member of society. When a pregnancy occurs, women, their partners and families most often experience a mixture of joy, concern and hope that the outcome will be the best of all a healthy mother and a healthy baby. Exclusion, marginalisation and discrimination can severely affect the health of mothers and that of their babies (WHO, 2005:41). Improvement of mother–child health is possible when all or maximum delivery take place under institutional delivery. It is an important area to work out because risk of death to give life is high. Many health problems are laid down in the critical hours of delivery to both mother and child, which may lead to death of mother or child or both. At the time of delivery, life is at the tip of the iceberg. Institutional delivery helps reduce IMR and MMR. Postpartum period and the time of delivery play a lion's share in maternal mortality rate. There are four other major causes of death are haemorrhage, infection, eclampsia, and obstructed labour. Postpartum bleeding can kill even a healthy woman within 2 h, if unattended. It is the quickest of maternal killers. An injection of oxytocin given immediately after childbirth is very effective in reducing the risk of bleeding. In some cases, a fairly simple but urgent intervention such as manual removal of the placenta may solve the problem. Other women need a surgical intervention or a blood transfusion, both of which require hospitalisation with appropriate staff, equipment and supplies (WHO, 2005).

Immediate and effective professional care during and after labour and delivery can make the difference between life and death for both women and their newborns, as complications are largely unpredictable and may rapidly become life-threatening. Both maternal and neonatal mortality are lower in countries where mothers giving birth get skilled professional care, with the equipment drugs and other supplies needed for the effective and timely management of complications (WHO, 2005).

The Government of India took steps to strengthen maternal and child health services as early as the first and second five-year plans. As part of the Minimum Needs Programme initiated during the fifth five-year plan, maternal health, child health and nutrition services were integrated with family planning services. The primary aim at that time was to provide at least a minimum level of public health services to pregnant women, lactating mothers and preschool children. In 1992–1993, the Child Survival and Safe Motherhood Programme continued the process of integration by bringing together several key child survival interventions with safe motherhood and family planning. In 1996, safe motherhood and child health services were incorporated into the Reproductive and Child Health Programme. This new programme seeks to integrate maternal health, child health and fertility regulation interventions with reproductive health programmes for both women and men. Besides other elements of maternal and reproductive health, the important elements of the programme include encouragement of institutional deliveries or home deliveries assisted by trained health personnel (prcs-mohfw.nic.in/writereaddata/research/470.doc).

INSTITUTIONAL DELIVERIES

The National Population Policy adopted by the GOI in 2000 reiterates the government's commitment to the safe motherhood programmes within the wider context of reproductive health. Among the national socio-demographic goals for 2010 specified by the policy,

several goals pertain to safe motherhood, namely that 80 per cent of all deliveries should take place in institutions by 2010, 100 per cent of deliveries should be attended by trained personnel and the maternal mortality ratio should be reduced to a level below 100 per 100,000 live births. However, the studies conducted in the country show that majority of the births, more particularly in the rural areas, are still delivered at home, and India has a long way to go to achieve universalisation of institutional deliveries (prcs-mohfw.nic.in/writereaddata/research/470.doc).

Various factors lead to the lack of optimum utilisation of health services primarily in the field of institutional deliveries that are available in the rural areas. These factors lead to an increased number of maternal and infant deaths. Studies on why the notion of institutional deliveries is ignored have found that it greatly exists in some of the illiterate parts of India, which is why there is a need to promote awareness about institutional deliveries. Factors that hinder the proper use of health services include:

Accessibility: Pregnant women in rural areas may not be having institutional deliveries due to the lack of accessibility to these services because of certain factors such as that of the hospital being located far, fear of expenses and lack of information on the quality of services.

Perception: Rural women are bound by age-old beliefs that delivery is something that should be occurring naturally and not under the supervision of a doctor or medical care.

Ignorance: Rural women are bound by the belief that illnesses must be tolerated and not fought against for better results. This belief makes them overlook postnatal and infant and child health and, therefore, have a substantial effect on the utilisation of maternal and infant healthcare services (http://babycare.onlymyhealth.com/need-promote-institutional-deliveries-in-india-1338272655).

Training for complications: The training given by the state government to the 'dai' is a practical 6-day training programme. It does not train the *dai* on how to treat or help women if they are infected or develop other complications. Under NRHM, medical officers, paramedical staff, ANMs and 24/7 staff nurses and even practising obstetricians are being trained with a good curriculum. *Dais* cannot identify risks with the kind of consistency needed to reduce MMR.

Cash incentive: Institutionalised deliveries are now being served by schemes to help pay for costs. The Shishu Yojana program under NRHM proposes cashless delivery for every woman. No mother should die for want of money. If a woman comes to a government hospital, she will be supported. The Janani Suraksha Yojana (JSY) conditional cash transfer scheme, Madilu postpartum kits and the Thayibhagya scheme are aids to help BPL women seek free care even in private hospitals.

Home cannot replace an equipped hospital: Identification of problems will be faster in an institutional delivery since it is carried out in equipped health centres. The poor in India live in houses with cow dung floors. Sanitation facilities are very poor. In addition, there is no continuous water or power supply. Clinical protocols cannot be maintained at home. These problems are taken care of in case of institutional deliveries. Organised referral and paramedic support staff are available for the patient.

Community awareness is low: The participation of the community is very less during a home delivery. Nobody expects a complication and hence no one is ready to handle anything other than ordinary procedures. We also find men to be insensitive to the needs of women.

Emergencies and Indian roads: Roads in villages are generally not conducive to fast travel needed for emergencies. In the case of complications, by the time a trained doctor can reach a home in an ambulance, there are chances that the woman might lose her life.

Accountability: Under NRHM, involving the district magistrate in auditing maternal deaths, the MCTS – maternal and child tracking system, 'Seemantha Karyakrama' — a PPP model to identify high-risk pregnancies, the Village Health and Nutrition Day (VHND) and the ASHA worker are measures that hold the healthcare system accountable for maternal care. This

is not the case in a community-based model where a mother-in-law would decide where to hold the birth and a husband could be careless in times of an emergency.

Social norms: The health-seeking behaviour of women in rural India is largely dependent on their literacy and awareness levels, decision-making power at home, literacy levels and health awareness of the head of the household, socio-economic status, and attitude of the husband towards maternal health. Since women's status is considered low, it may be better to get them into institutions where health staff with more social power can affect change, provided they are sensitised to the need for women's empowerment.

Given these constraints, institutional delivery with skilled birth attendants, round-the-clock obstetric care, free ambulance services, referral centres and antenatal services is necessary. A mixed model will not work in rural India. Institutional delivery is the sensible option because close-to-client intrapartum care is more easily delivered in a health centre (http://socialprotectioncommunity.in/wp-content/uploads_test/kalins-pdf/singles/why-institutional-deliveries.pdf)

RESEARCH DESIGN

This study examines the trend of institutional delivery in Aligarh district also and the significance of the institutional delivery on the child health.

The factors focused in this study are importance of *ante-natal care, place of delivery, early immunisation of the newborn, weight, initiation of breastfeeding and trend of giving first bath* with institutional delivery.

This study illustrates the relation of aforementioned factors with child health in reduction of morbidity and mortality. The data have been collected using schedule from households having mother and her child less than 1 year of age. Sample was taken from the 12 blocks of Aligarh district. The total size of the sample is 600. Fifty samples were collected from every block. Two households were selected from each village, one near and the other distant from the house of ASHA, of randomly selected sub-centres. Name of the blocks were Akrabad, Atrauli, Bijoli, Chandaus, Dhanipur, Gangiri, Gonda, Iglas, Jawan, Khair, Lodha and Tappal.

Place of Delivery

Figure 1 depicts that out of 600 sample size it was found that there were 157 (26 *per cent*) home delivery and 443 (74 *per cent*) of families went for institutional delivery. In other words, 26 *per cent* deliveries are in danger or unable to avail facilities at life-saving institution. Over 1,500 women die daily during pregnancy or childbirth worldwide, with India accounting for 22 per cent of the total. India's maternal mortality level is 16 times that of Russia, 10 times that of China and 4 times that of Brazil. In addition, about 1 in 70 girls who reach reproductive age in India will eventually die because of a pregnancy-related cause, compared with 1 in 7,300 in the developed world (http://www.pib.nic.in/newsite/erelease.aspx?relid=60975). Every 7 min one woman dies in India due to complications in pregnancy or childbirth (i.e., 77,000 deaths every year). The biggest cause seems to be haemorrhage at 38 *per cent*. Almost 11 *per cent* of deaths are due to infections. In India, 3 out of 4 deliver their

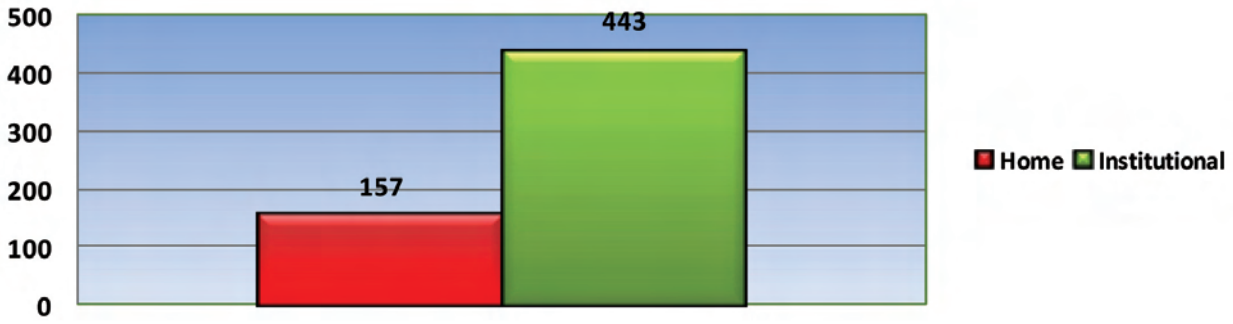

Figure 1: Place of Delivery

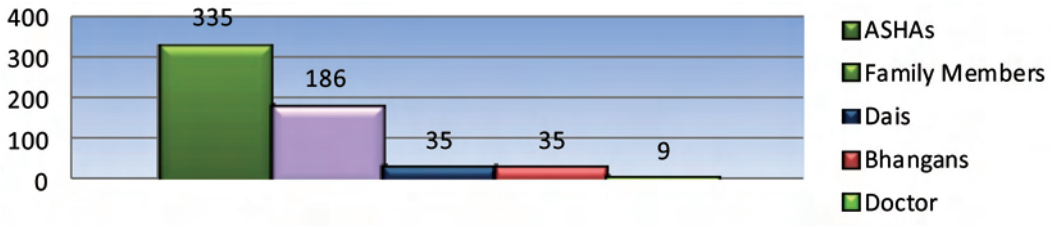

Figure 2: Call on Labour Pain

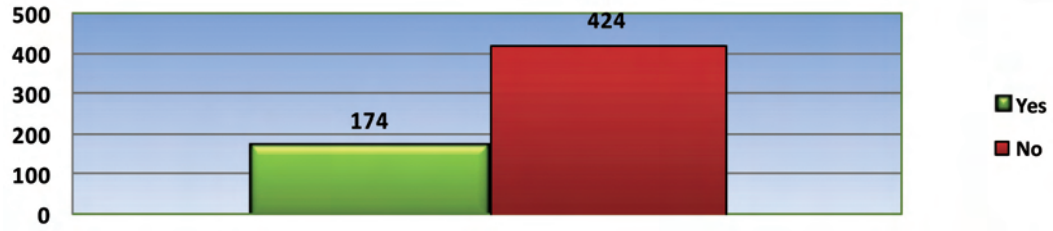

Figure 3: Knowledge about Five Cleans

babies in a health facility; and 3 out of 5 mothers receive a postpartum check-up within 10 days of delivery. Indeed, this is a remarkable achievement for a country that has struggled for decades — and continues to struggle — to make motherhood safe for its women (http://maternalhealthtaskforce.org/discuss/wpblog/tag/institutional-delivery/).

Call on Labour Pain

Figure 2 reveals who will the respondents call on the onset of labour pain.

335 (56 *per cent***) calls ASHA:** ASHA is a frontline health worker who is trained to refer and accompany with the pregnant women to the institution for delivery. It means that 56 *per cent* population is going to call right person at the right time. This is because of hard work of ASHA in the field.

186 (31 *per cent***) calls family members:** Decision of the family members depends on their tradition and their personal knowledge about the institutional delivery. Therefore, 31 *per cent* can go anywhere, either institutional delivery or home delivery.

35 (6 *per cent***) call *Dais*:** *Dais* always prefer home delivery because she has to earn her livelihood. They also propagate against institutional delivery.

35 (6 *per cent***) Bhangan:** Bhangans also earn from deliveries. They also prefer home delivery.

9 (1 *per cent***) will call doctors:** Meaning of doctor is local practitioner either in the same village or in a nearby village. Local practitioners may be quacks. They also prefer home delivery. At the last moment, only in case of complication will they advise for institutional delivery.

Only 56 *per cent* deliveries go for institutional due to the intervention of ASHA. ASHA is instrumental in providing antenatal care right from the detection of pregnancy till birth. This may be the reason to call ASHA in purview of the rapport established during the period of pregnancy. Initiation of early breastfeeding is also achieved at institution under the pressure and counselling of ASHA and other staff. This gives a positive start to exclusive breastfeeding, which is followed by ASHA in the future follow-ups. 31 *per cent* is uncertain whether to go for institutional or home. 13 *per cent* deliveries are going to be noninstitutional.

Knowledge about Five Cleans

Figure 3 shows that knowledge about five cleans are necessary for safe delivery. These are Clean Hand, Clean Surface, Clean Thread, Clean Blade and Clean Cloth. We found that of 528 informants, only 174 informants know about five cleans, which is 29 *per cent* of total

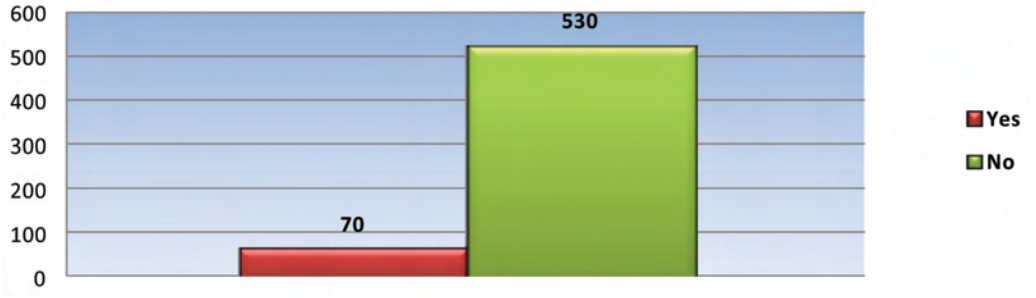

Figure 4: No. of Babies getting Immediate Bath after Birth

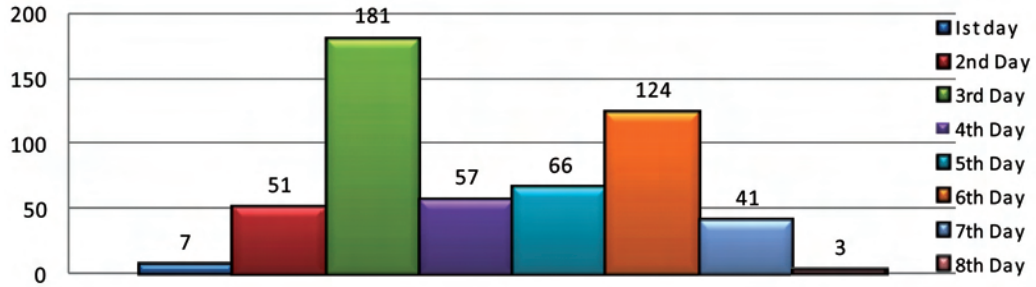

Figure 5: No. of Babies getting First Birth

sample size and the remaining 424 (71 *per cent*) do not have the knowledge about five cleans. This reflects the importance of the institutional delivery as a large percentage of the population is unaware about the five cleans, which may result into complications in case of deliveries at home.

Number of Babies Getting Immediate Bath after Birth

Figure 4 indicates that immediate bath just after birth puts the newborn at high risk. Giving bath to baby is among common practice in rural set up without imagining the ill consequences like hypothermia and pneumonia. The number of babies who are given first bath immediately after birth was 70 (11.6 *per cent*). In other words, 11.6 *per cent* babies are under potential risk of pneumonia and hypothermia resulting into death. In case of institutional delivery, there is almost zero risk as bathing just after birth may be checked.

Number of Babies Getting First Birth

Figure 5 reveals that of 600 babies, 530 babies were given bath first on day 7, on second day 51 babies, on third day 181 babies, fourth day 57 babies, fifth day 66 babies, sixth day 124 babies, seventh day 41babies and after seventh day 3 babies. According to the IMNCI protocols, the baby should be given first bath on or after 7th day. The figures presented explicitly show that only 44 babies are getting bath as per guidelines.

Immunisation

In India, immunisation has been a central goal of the healthcare system from the 1970s, first through the Expanded Programme on Immunization (EPI) in 1978 and later with the Universal Immunization Programme (UIP) since 1985. Figure 6 shows that unfortunately, out of 600 samples collected, 393 (65.5 *per cent*) babies were found to be properly immunised whereas 207 (34.5 *per cent*) babies were not immunised at all. Institutional delivery has its advantage in providing early immunisation with BCG, hepatitis vaccine and OPV at birth itself. In addition, the counselling through doctors and paramedical staff proves to be beneficial for achieving complete immunisation. This is one of the significant landmarks for child survival.

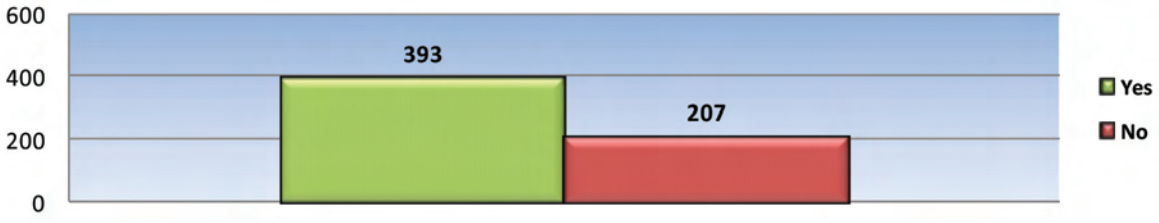

Figure 6: Immunization

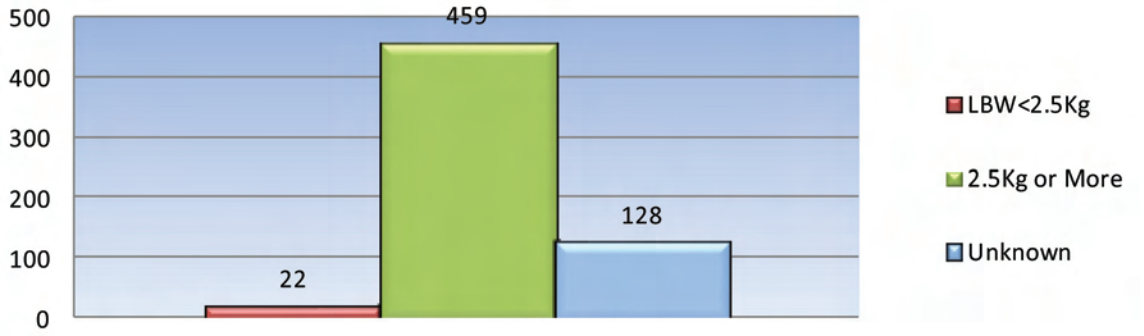

Figure 7: Weight of Baby

Weight of Baby

Figure 7 indicates that out of 600 babies, it was found that 22 (2 *per cent*) of them were low-birthweight (LBW; less than 2.5 kg). These low-birthweight babies were able to be tracked only in the case of institutional delivery. Subsequently, they got the proper intensive care needed at the institution. 128 (21 *per cent*) babies could not be tracked for weight as they were born at home rather than at any institution.

CONCLUSION

Every child has the right to live and avail needs that are most basic to existence including an adequate living standard, shelter, nutrition and access to medical services. Institutional delivery is being widely promoted because of its ability to promote child survival and reduce risk of maternal mortality.

The institutional delivery is instrumental for child survival. Every child needs to be born in an institution so that its survival is uncompromised. *Antenatal care strongly supports institutional delivery and enhances the survival rate. Institutional delivery ensures early immunisation, identification and proper care of low-birthweight babies, initiation of breastfeeding and reduces the risk of adverse condition in view of curtailing the harmful familial practices.*

Noninstitutional delivery still accounts for a major proportion of childbirths across the globe. Reason for people not accepting modern medical facilities for childbirth is either the cost involved in it or the perception that home delivery is completely safe. According to many of them, home deliveries are common cultural practice and there is no need to visit a health facility for the natural phenomenon. Major obstacles to institutional delivery and subsequently child survival, are poor quality of care, poverty, lower rate of literacy, old-age norms and beliefs, transportation costs and medical expenses.

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