



BARRIERS OF INSTITUTIONAL DELIVERY IN AN URBAN-SLUM OF DELHI

Obstetrics & Gynaecology

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ABSTRACT

Decreasing maternal mortality and morbidity in India is one of the most important and neglected public health goals of Indian health care system. This is mainly attributed to the fragmented maternal care delivery system in India which is rather dependent on co-axial interplay of both government and private health care systems for high quality maternal care. The trend in maternal mortality ratio (MMR) from a high of about 254 in 2004-06; 212 in 2007-09; 178 in 2010-12; 167 in 2011-13 and 130 in 2014-16 is a welcome trend. 2, however, a MMR of 130 per lakh live births is still too high as per international standards even today. What ails the maternal care in India and lack of universal institutional delivery is analyzed in this article as barriers still exists for universal institutional delivery even today.

Of an estimated 287,000 maternal deaths that occurred globally in 2010, India accounted for 56,000, or 19% of the global maternal mortality ratio. India has a high and stagnating MMR which needs urgent action. Strategies to decrease MMR should include a Universal Institutional Delivery system and needs strengthening the Indian Maternal Health care delivery system. It is high time that Institutional Deliveries should be made universal and comprehensive in India.

Further, evidence-based biomarkers for pre-empting the diagnosis of pre-eclampsia have emerged globally as a result of intensive research and these have not been used as a community screening tool in routine antenatal care in India. Therefore, there is an urgent need to use these evidence-based biomarkers such as (Soluble fms-like tyrosine kinase-1), VEGF (Vascular endothelial growth factor), PlGF (Placental Growth factor), for community screening of suspected pregnant mothers having pre-eclampsia, as they can pre-empt the diagnosis of PE and lead to gain in the lead time of diagnosis of PE, thereby leading to rapid diagnosis and improved management strategies

KEYWORDS

Pregnant mothers, Antenatal care, MMR (Maternal Mortality ratio), barriers of Institutional Deliveries, PE: pre-eclampsia, biomarkers of pre-eclampsia, sFlt1 (Soluble fms-like tyrosine kinase-1), VEGF (Vascular endothelial growth factor), PlGF (Placental Growth factor)

INTRODUCTION

Maternal Mortality has been showing a declining trend globally; Maternal deaths decreased from 526, 300 in 1980 to 342, 900 in 2008¹. Further, 287,000 maternal deaths that occurred globally in 2010, India accounted for 56,000, which is 19% of the world². Thus, decreasing maternal mortality remains an unconquered goal in India. The decrease of maternal mortality ratio in India has been rather sluggish and therefore ushers in a need to focus and act urgently on the causative factors. The trend of a decrease in MMR from a high of about 254 in 2004-06; 212 in 2007-09; 178 in 2010-12; 167 in 2011-13 and 130 in 2014-16 is a welcome trend; however, a MMR of 130 per lakh live births is still too high as per international standards even today.

Maternal care and delivery system in India is rather fragmented as she lacks an effective co-axial interplay of both government and private health care systems for high quality maternal care. The number of maternal deaths in India as per the RMNCH+A program was about 19% of global deaths which is quite alarming high and continues unabated!!!. Another unaddressed issue in maternal care in India, is the large variability of MMR in various states of India, such as a MMR of 201 in Uttar Pradesh/Uttarakhand as compared to 46 in Kerala (All India average was 130); this is quite alarming and an area of concern and reflects poorly on the heterogeneity of our Health Care delivery system in India. India has a long way to go to bring our maternal care to International standards as most Industrialized Nations have a MMR of around 8. Although the current MMR of 130 is showing a downward trend but it is far from being satisfactory.

Therefore, decreasing the maternal mortality and morbidity is the most important public health goal of Indian health care system. However, on the maternal side, these goals have remained quite elusive, albeit in the case of infants and children; India has been successful in bringing down the IMR substantially (IMR in 2007 was 51.6 and in 2017 has come down to 32).³

Another issue in our Health Care delivery system is; India has yet to

reach a universal Institutional Delivery system for all pregnant women. Firstly, only 79% of Deliveries in India are conducted in Hospitals; secondly, women who had completed 4 ANC visits were only 51% of the total pregnant mothers (NFHS-4)⁴ This was much better than 37% of NFHS-3. This brings to focus two issues, firstly, India has not achieved Universal Institutional Delivery goal and secondly because of lack of comprehensive use of angiogenic markers of pre-eclampsia, many pregnant women are dying even before diagnosis of toxemia is established (NFHS-4)⁴

A careful scrutiny of the causative factors which underlie the stagnating and a high MMR of India, is imperative now and urgent, so as to solicit a national coordinated action in all states. Though, anaemia (24%) and hemorrhage (23%) are the leading causes of MMR in India; pre-eclampsia accounts for 8-10% of pregnant mothers.⁵ Hypertensive disorders are important disorders of pregnancy which affect 10% of pregnant women globally and are responsible and nearly one tenth in Asia and Africa.

As discussed above, reduction of preeclampsia, eclampsia and its associated complications remains an unconquered goal in India, inspite of having angiogenic markers which can pre-empt the diagnosis of pre-eclampsia⁶. So, an important public health intervention which could save thousands of maternal lives in India has yet to gain entry, into our most important National Health Program for women; RMNCH+A and our split private – government health care system. Therefore, screening and optimization of treatment of pregnant women having pre-eclampsia is another important missed major objective of our health care system.

Care and compassionate care of pregnant women during pregnancy and adequate ante-natal care adequately diagnosing hypertensive disorders of pregnancy and their complications and further managing them adequately; could go a long way in saving the lives of Indian mothers! These remains important goals and objectives of RMNCH+A and Millennium Development Goals and sustainable development goals of WHO applicable to India and globally

Thus four factors emerge from the above discussion:-

1. India has a high and stagnating MMR which needs urgent action²
2. India needs 100% institutional deliveries to combat rather sluggish decreasing MMR⁴
3. As India does not have a Universal Institutional Deliveries, many pregnant women are dying because of domiciliary deliveries. Barriers for institutional deliveries remain unaddressed especially in poor and marginalised communities (NFHS-4) and needs to be addressed.⁸⁹
4. 8 to 10% of MMR is contributed by preeclampsia during Pregnancy.⁶ There is an urgent need to develop a community screening for pre-eclampsia (as evidenced based angiogenic markers of pre-eclampsia are available) which can pre-empt the diagnosis of toxemia of pregnancy leading to better outcomes.⁶ There is an urgent need to formulate comprehensive screening and treatment strategies of this disorder to reduce the overall prevalence of toxemia of pregnancy in India thus decreasing MMR

AIMS AND OBJECTIVES

1. To understand the barriers of domiciliary deliveries in an urban slum of Delhi.
2. To elucidate reasons for Institutional deliveries in the same region
3. To compare 1 and 2 and **formulate a hypothesis** and elucidate the

OBSERVATIONS

1st FGD Group: Women who opted for domiciliary delivery.

Name	Age	No. of children	Delivered at	Why?
(1) Mrs A	35 yrs	4	All 4 at Home	• Poor financial situation The out of pocket (OOPS) of Rs 1000/- under JSY is too low for a delivery to be conducted at a hospital. No money paid for institutional delivery in Govt. hospital of Delhi. No JSY. Then why to go? No Medicines are provided!
(2) Mrs B	30 yrs	5	All 5 at Home	• Family pressures Culture of community and town (Belongs to a town in Bihar)
(3) Mrs C	35 yrs	4 and pregnant now	All 4 at Home	No one at home to look after the kids. No money paid in Delhi Hospitals, then why to go? No medicines are provided
(4) Mrs D	28 yrs	3	All 3 at Home	• Felt no need to go to hospital. • Family also wanted home deliver. • No one to look after the kids.
(5) Mrs E	30 yrs	4	All 4 at Home	Poor financial situation. Felt no complication hence no need for hospital. 1000/- out of pocket expenditure given is inadequate. No money paid for ID at Delhi Govt. Hospitals. No medicines/support services
(6) Mrs F	20 yrs	2	At home	• Felt no complications.would arise at home; would visit hospital only if any complication arises! Why waste money?

2nd FGD Group: Women who opted for Institutional Delivery.

Name	Age	No. of children	Delivered at	Why?
(1) Mrs A	25 yrs	2	Hospital	No one to look after at home. Finds hospital safer.
(2) Mrs B	20 yrs	1	Safdarjang Hospital	Finds Hospital Safer. Family Insistence for Hospital
(3) Mrs C	30 yrs	4 and Pregnant	Hospital & Registered for the 5th Issue	Finds Hospital Safer Scared at home. Family support
(4) Mrs D	24 yrs	1 and Pregnant	Hospital & Registered for 2nd Issue	Finds hospital safer. Scared at home. Family support
(5) Mrs E	25 yrs	2 and pregnant	Hospital & Registered for 3rd issue	Felt some complication hence visited the hospital. Otherwise if things would have been normal, there was no need of the hospital
(6) Mrs F	22 yrs.	1 and pregnant	At Hospital & registered for 2nd issue	Finds hospital much safer. Second at home Family support

DISCUSSION

1st FGD Group – Women who opted for domiciliary delivery.

SPREAD SHEET ANALYSIS OF THE FGD'S DATA :

1st FGD Group – Women who opted for domiciliary delivery.

Why? (Factors Responsible)

• No money paid for ID in Delhi Hospitals -	1,1,1,	3/6
• No medicines provide free of cost	1, 1, 1	3/6
• Poor financial situation	1, 1	2/6
• Out of pocket expenditure with is unaffordable -	1, 1	2/6
• Family Pressures -	1, 1	2/6
• No one at home to look after other kids -	1,1	2/6
• No complication, hence no need for ID -	1,1	2/6
• Culture of Community & Town -	1	1/6
• Felt no need to go to hospital -	1	1/6
• Why waste money -	1	1/6

4. To implement the necessary recommendations to take urgent steps to minimize domiciliary delivery and increase the Institutional delivery, in the urban slum of Delhi "Sangam Vihar".

METHODOLOGY

This study was conducted in Feb-March 2010 in an urban slum, Sangam Vihar located in South Delhi.

Focused Group Discussions were carried out of pregnant women in 2 groups; the first group (Group 1st FGD) comprising of women who opted for domiciliary delivery; and second group (Group 2nd FGD) were women who opted for institutional delivery.

A random selection of 100 pregnant women was done in the start of this study.

Statistical Test used

A spread sheet analysis was done after the results of FGDs were available to choose important factors or reasons for domiciliary and institutional deliveries. These were then **compared to formulate a hypothesis** to elucidate the barriers of institutional delivery in an urban slum of Delhi.

2nd FGD Group – Women who opted for Institutional Delivery.

SPREAD SHEET ANALYSIS OF THE FGD'S DATA :

2nd FGD Group – Women who opted for Institutional Delivery.

Why? (Factors Responsible)

• Finds hospital safer -	1,1,1,1,1	5/6
• Family Insistence for ID -	1,1,1,1	4/6
• Scared at home -	1,1,1	3/6
• No one to look after at home hence prefers hospital - 1		1/6
• Felt some complication, hence visited. - 1		1/6

The above spread sheet analysis has identified certain factors in favour of institutional deliveries. **Factorial analysis of 1st FGD Group – Women who opted for domiciliary delivery**

To summarize, the main factors for pregnant mothers who opted for

domiciliary delivery are firstly not having enough money or lack of finance. Also, these women were not properly informed about the dangers of domiciliary delivery. Obviously, there is a felt need to improve community based IEC activities and communication in these areas and community talks and a proactive dialogue to be initiated with women's group such as Mahila Mandals who can play a crucial role. There is also a scope here for private ambulance services which could be arranged through community self-funding discussed *vide infra*. There are other important factors operating here such as family pressure and scare of high expenses involved at hospitals such as high costs of normal and caesarian section for delivery. This could be aggravated by dais who were actively seen operating in these areas.

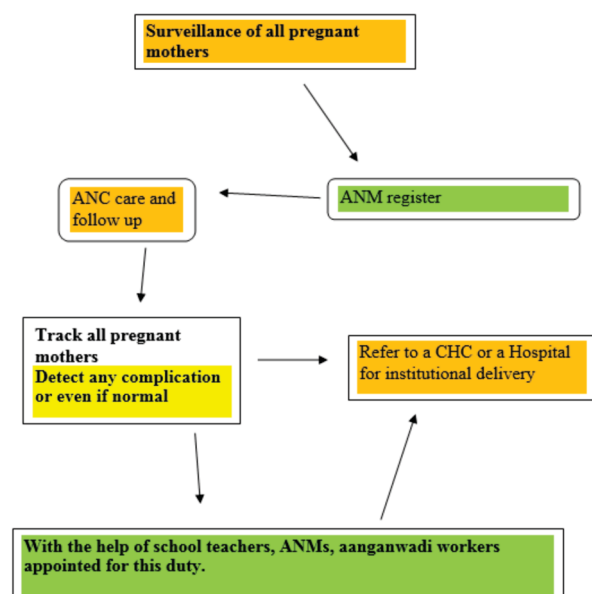
Factorial analysis of 2st FGD Group – Women who opted for institutional delivery.

To summarize, the main factors for pregnant mothers who opted for institutional delivery are that they felt that it was better to go to a hospital rather than taking a risk at home; what would happen if some complication arose at home such as excessive bleeding, obstructed labour or need for a caesarian section? However, even these women felt than domiciliary delivery was cheaper and more economical but still felt going to hospital was better. The crucial factor which seems to be operating here is the fear of a complication and family insistence to go to the hospital because of an earlier bad experience at home

RECOMMENDATIONS

From the above study, certain recommendations models can be subjected to increase the likelihood of institutional deliveries. In the first place to convert domiciliary delivery to institutional delivery, it is mandatory to tract all the pregnant women in the community or rural area. Hence surveillance and tracking system must be applied for this purpose :

Surveillance and tracking model :-



From the above factor analysis, the major issue prohibiting women from institutional delivery is finance. As out of pocket expenditure seems to be beyond budget, the model of CBHI (Community Based Health Insurance) would definitely be a good alternative. Mahila Mandals can play a major role here as they can track all would be domiciliary deliveries and keep track of money received from the community as CBHI.

Thirdly, there have been examples of increasing Institutional Deliveries in rural communities even in post- conflict rural communities such as war-torn Afghanistan.⁸ Raising institutional delivery in war torn communities: This was achieved by the use of intensive community mobilization, antenatal care provided by midwives and physicians, provision of free services and transport facilities at night, incentives to health providers. Maintaining privacy in the delivery room and high quality of services; all of these would increase the numbers of institutional deliveries.⁸

Fourthly, besides lack of money; community perception also makes an important contribution towards domiciliary deliveries. This could be addressed by community talks and dialogue with a co-axial interplay of mahila mandals.⁹

The above models and recommendations could be applied here also in Sangam Vihar which is an urban – slum of Delhi so as to raise the number of Institutional deliveries in this area.

REFERENCES

1. Hogan MC, Foreman KJ, Naghavi M, Ahn SY, Wang M, et al. (2010) Maternal mortality for 181 countries, 1980–2008: a systematic analysis of progress towards Millennium Development Goal 5. *Lancet* 375: 1609–23.
2. WHO 2012: www.who.int/gho/maternal_health/countries/ind.pdf. Maternal Mortality 1990-2015. WHO. Accessed on 3.07.2017
3. <http://niti.gov.in/content/maternal-mortality-ratio-mmtr-100000-live-births>. Accessed on 2.4.2019
4. <https://www.statista.com/statistics/806931/infant-mortality-in-india/>. Accessed on 2.4.2019
5. NFHS 4 Factsheet: National Family Health survey. rchiips.org/NFHS/factsheet_NFHS-4.shtml. accessed on 3.04.2019
6. www.nhp.gov.in/disease/gynaecology-and-obstetrics/preeclampsiaIndia accessed on 4.4.2019
7. Betsy Varughese, Rajesh Kumar, Neerja Bhatla, S.N Dwivedi, Manoj Dhingra, Renu Dhingra. Urinary Placental Growth Factor: A Promising Marker for Screening Preeclampsia. *International Journal of Scientific and Research Publications*, Volume 2, Issue 11, November 2012
8. A Hadi, T.Rahman, D. Khuram, J. Ahmed & A. Alam. Raising ID in war-torn communities: experience of BRAC in Afghanistan. *Asia Pacific Journal of Family medicine* vol.6 issue 1
9. Kristi Sidney, Rachel Tolhurst, Kate Jehan, Vishal Diwan, and Ayesha De Costa. 'The money is important but all women anyway go to hospital for childbirth nowadays' - a qualitative exploration of why women participate in a conditional cash transfer program to promote institutional deliveries in Madhya Pradesh, India *BMC Pregnancy Childbirth*. 2016; 16: 47.