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Utilisation of Institutional Delivery in Rural Madhya Pradesh

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Abstract:

The utilization of different maternal health care services has been improved in all the levels of Madhya Pradesh between the two Surveys 1998-99 to 2005-06. The improvement is particularly noteworthy in respect of institutional delivery in the State. However there is wide disparity in the levels of the utilization of delivery health care services. The utilisation of ante natal check-up is popular even among illiterates in Madhya Pradesh. But there is wide disparity in the utilization between illiterates and non-illiterates in the State. In case of institutional delivery pattern is similar in both the survey. As educational level improves, the use also increases. Out of those who did not avail of ante natal check-up substantially increases. There is a large number of women in Madhya Pradesh since majority of the women did not avail of any check-up. This is an indication that traditional beliefs about the pregnancy and childbirth are widely prevalent in rural Madhya Pradesh.

Keywords: Institutional delivery, Ante-natal car, Skilled health Professional, Health Facility, Utilisation.

1. Introduction

World Health Organisation (WHO) has estimated that around 5, 29,000 women die in the world due to pregnancy related causes each year and at least 9 out of 10 deaths are in the developing countries. A high proportion of these deaths occur in India and the ratio of maternal mortality in India is amongst the highest in the world - more than 500 deaths per 100,000 live births per year. About four-fifth of all maternal deaths are due to direct causes like obstetric complications of pregnancy (WHO, 2000).

It is a well-known fact that women rear children and manage family affairs and their death due to maternity-related causes is a significant social and personal tragedy. Studies demonstrating high levels of maternal mortality and morbidity in India and research identifying causes of maternal deaths have repeatedly emphasized the need for antenatal care and availability of trained personnel to attend women during labor and delivery (Fauveau et. al, 1988). The importance of tetanus toxoid injection given prior to the birth to reduce neonatal mortality has also been well documented (Bhatia, 1989).

Since a large proportion of neonatal deaths occur within the first few days after delivery, safe motherhood programs have recently emphasized the importance of postnatal care. Utilization of reproductive health services, in turn, is related to their availability and socio-economic, demographic and cultural factors such as women's age, education, employment, caste and exposure (Acharya and Cleland, 2000).

Madhya Pradesh, the second largest state of India with an area of 308,245 sq. km, came into existence on 1st November 1956. On 1st November 2000, Chhattisgarh region of the state was carved out to form the new state of Chhattisgarh. According to the 2001 population census, the population of the state was above 60 million, distributed into 45 districts. Levels of maternal and infant mortality in the state are exceptionally high. Study found that MMR (maternal deaths per 100,000 live births) was 605 while the IMR was 69.5 infant deaths per 1000 live births according to National Family Health Survey III. One explanation put forward for the poor health outcomes for women and children in the state is the non-use of modern health care services by a sizeable proportion of women. Studies have clearly demonstrated that utilization of available maternal health care services is very low in state (Chaurasia, et.al. 2004).

In this paper, we analyze the pattern of utilization of maternal health care services in Madhya Pradesh by elucidating various factors influencing the use of these services on the basis of the information available through the National Family Health Survey II. The fact that utilization of maternal health care services is essential for improving the maternal and child health services provides justification to the analysis. At present, very little is known about the current levels of the use of maternal health services in the state and the factors influencing the use of these services. This paper aims to fill up this gap through the analysis of the information available through the National Family Health Survey. It is hoped that the analysis presented in this paper will contribute towards better

understanding of the determinants of maternal and child mortality and morbidity in the state. The findings of the analysis are also expected to provide the evidence for appropriate interventions aimed at improving the utilization of maternal health care services in the state.

The previous two chapters presented the demand and supply context of institutional deliveries of the Madhya. The present chapter it is proposed to present the use of institutional delivery services reported in the programme statistics, the national family health surveys of 1998-99 and 2005-06 (NFHS-1 and NFHS-2), the fifty fourth round the national sample survey organization covering the institutional delivery care services, and the district surveys organized by the International Institute for Population Sciences.

The Indian population programme provides the maternal health care services as an integral part of its overall strategy. The components envisaged under the maternal health care services are listed below:

- 1) Ante natal care consisting of medical check-up and advice on diet and nutrition.
- 2) Immunisation against tetanus.
- 3) Distribution of Iron Folic Acid (IFA) tablets.
- 4) Assistance by traditional birth attendants.
- 5) Assistance by health professional during child birth.
- 6) Facilitating child birth in a health facility.

Though the family planning programme was started in the fifties in India, institutional delivery care services were introduced only in the sixties. Institutional delivery care services are provided through the network of health sub-centres, primary health centres as well as hospitals. Private medical practitioners and private hospitals are also involved in the provision of these services. Immunisation of pregnant women and distribution of Iron Folic Acid tablets are organized through immunization sessions in each village once a month on fixed days. The fixed day's arrangement of facilities for better compliance as the people tend to associate the specific days with the availability of the services, rather than dates which would have been difficult to keep the track of. The female health workers who participate in these sessions are also expected to register pregnant women and organize a medical check-up for them. All these services from government facilities are provided free of cost to everyone.

Over a period of 15 to 20 years, as part of the Universal Immunisation Programme (which mainly aimed at eradicating vaccine-preventable diseases among children) the anti-tetanus immunization programme of the pregnant women registered good progress in Madhya Pradesh. However the distribution of Iron Folic acid tablets was uneven because of the problems in supply.

2. Materials & Methods

2.1. Materials

This study will be based on secondary data taken from the National Family Health Survey 2005-06 and 1998-99. In NFHS information were collected from ever married rural women births during five years prior to the survey of Madhya Pradesh. In NFHS (1998-99) the sample size was 4345 where as in NFHS (2005-06), it was 3053.

2.2. Methodology

Utilisation of delivery care services like ante-natal care services, medical check-up, advice on diet and nutrition, immunization against tetanus, distribution of IFA tablets, training of traditional birth attendants, assistance by health professional during child birth, facilitating child birth in a medical institution would also be analyzed using cross-tabs and descriptive statistics.

3. Results & Discussion

3.1. Utilisation Levels in Madhya Pradesh and India

Study of two distinct regional groups of similar socio-economic status, residing in the same locality (Delhi slums) and exposed to the same type of health facilities. One group belonged to Tamil Nadu and the other to Uttar Pradesh. Though both groups shared strong faith in the efficacy of modern medicine (as indicated by the use of private services for illnesses), the women from the Tamil group were three times more likely to have delivered their child in a hospital compared to the women from Uttar Pradesh. Reasons cited for lower use by the women from Uttar Pradesh are: (a) fear of unfamiliar surroundings, (b) fear of sterilization after delivery in the hospital, and (c) the sheer inconvenience associated with the stay in the hospital. Basu further elaborated the thinking of the policy makers that "under present circumstances the policy prescription that would make most of the sense should probably be one that greatly improves the domiciliary (especially antenatal) services rather than a blanket attempt to increase hospital births Basu (1990).

The progress in the coverage of pregnant women through anti-tetanus immunization and distribution of Iron Folic Acid tablets in the Madhya Pradesh corresponding to India as reported in the programme statistics is presented in the table 1. It may be seen more detailed and reliable information about the use of different types of maternal health care services becomes available from the second and third National Family Health Survey of 1998-99 and 2005-06. These surveys has collected information about ante natal check-up by doctor/other health professional, immunization status, receipt of IFA tablets, skilled assistance at delivery and institutional delivery. As per the findings of these on all births to ever married women in the five years preceding these surveys, utilization levels has been very slow in Madhya Pradesh and India.

Unlike the utilization of anti-tetanus immunization of pregnant mothers, use of health facility or a trained professional for assisting delivery at home has been growing rather slowly. During the five years preceding the national family health survey, the level of

institutional deliveries have increased from 13 percent to 22 percent in the country as a whole. The use of skilled health professional during delivery increased only two percent.

In the Child Survival and Safe Motherhood (CSSM) programme implemented between 1998 and 2005 the specific inputs for safe motherhood consisted of immunization for pregnant women, prevention and treatment of anemia, ante natal care and early identification of maternal complications, delivery by trained personnel, promotion of institutional delivery in high risk cases and management of obstetrics emergencies. The objectives of Safe Motherhood component of the CSSM programme was achieved only partially. The coverage of pregnant women by anti-tetanus immunization improved only marginally from 35 percent in 1998-99 to 44 percent in 2005-06 preceding the five years survey.

Ante natal check-up could be the first contact between the pregnant women and the health system. If this first contact is with a doctor, it is likely to be more useful for the women. It is also an indication that the women are willing to take all possible precautions for a safe delivery and is aware of the facilities available in the modern preventive health care.

Studying quality of family welfare services and care in selected Indian States, found that clients perspective on quality of services appear to be an important determinant of their behaviour related to family planning use and utilization of health services. Their survey covered three Indian States Karnataka, Tamil Nadu and West Bengal. Besides interviewing eligible women, the survey also undertook exit interviews of patients and interviewed medical officers and staff of the PHCs. The survey found that there is wide inter-district variation in the level of knowledge and motivation of workers, organisational climate, and perception of clients about quality of service. It was revealed that majority of health workers in Tamil Nadu have high level of knowledge, motivation and skills. The quality of services in the State are perceived to be very good by majority of clients, which may partly explain the high levels of acceptance of MCH and family planning services. The survey recommended the need for more state-level in-depth studies on linkage between the perception of quality of services, particularly the behaviour of doctors and workers and utilization of services Verma, et. al. (1994).

Table 2 presents the percentage of pregnant women who received ante natal check-up by a doctor. It is seen from this table that in Madhya Pradesh only less than 10 percent of pregnant women have increased who received ante natal check-up by a doctor during the five years preceding the survey from 1998-99 to 2005-06. It's the most important factor to obstruct the improvement of institutional deliveries in the State as well as India. Despite in the fact, already mention in the fourth chapter eighty percent shortfall of obstetrics and gynecology doctor in Madhya Pradesh and sixty six percent in the country.

Increase in the level of institutional deliveries in Madhya Pradesh and country as a whole is particularly noteworthy. As mentioned in the first chapter, active promotion of delivery in medical institutions was never part of the maternal health programme (as it considered over-ambitious). Despite this, increase is taking place in the use of health facility for child birth in the State. As can be seen from the table 3 most of the increased use is occurring in private facilities during the five years preceding the survey. The significance of this development for the programme strategy will be discussed in the concluding chapter 5.

3.2. Health Professional Assistance during Delivery

The rapid demographic transition in the 1980s in Kerala. The study covered three districts, which ranged widely in fertility and mortality levels – Ernakulam, Palakkad and Malappuram. The authors concluded that a government-sponsored family planning programme could indeed make substantial dent in fertility control not only among the higher socio-economic strata, but even more so among the lower groups. Though the socio-economic changes (high literacy and land reforms) preceded the demographic transition, availability of services both in the public and private sectors contributed to the higher levels of acceptance Zachariah et al (1994).

Obstetric care from a trained provider during delivery is recognized as critical for the reduction of maternal and neonatal mortality. Births delivered at home are more likely than births delivered in a health facility to be assisted by health professional. Table 3 shows the type of assistance during delivery by residence distribution of live births in the five years preceding the survey of 1998-99 and 2005-06 in Madhya Pradesh and India.

A study of health services utilization in urban areas of Madras revealed that there are wide differentials in the use of health services between different classes. The study concluded that utilization of health services in low and very low classes was not enough to meet their enormous health needs. The reasons cited are (1) unawareness about free health services, (2) poor perception to seek health services for many health problems, and (3) poor income and their daily wage occupation. Maternal health services, which include pre-natal and post-natal care, are well perceived by the high and middle classes (Yesudian, 1998).

More than one type of health professional like skilled and un-skilled attendant assisted the delivery. Table 4 presents that deliveries are less likely to be assisted by skilled health professional (Doctor/ANM/Nurse/midwife/LHV/TBA) in urban areas as well as rural areas to be attendant by un-skilled health professional (Dai/relative/friend) in Madhya Pradesh and India. The utilization of skilled health professional delivery care services is inadequate in the State as well as Country. It shows the non-availability of Obstetrics & Gynecologists doctor may probably be the main reason why majority of the institutional deliveries are reported from private hospitals in the National Family Health Survey of 1998-99 to 2005-06. The minority of such deliveries took place in the public sector health facilities during the two surveys 1998-99 to 2005-0.

3.3. Reason for Not Delivering in a Health Facilities

Women who did not deliver their child in a health facility is one of the most of the important enabling factors which makes it possible for the women and the family who has perceived the need for assisting delivery health care. In the present table 5 an attempt is made to present the assistance institutional delivery care services and highlight the extent of the differentials in use between those who did not have a convenient access. Since significant proportion of women in rural Madhya Pradesh do not going to health facility for

delivery care, it is important to look at the reasons why pregnant women did not delivered in the health facilities in study State. It will be seen that 1.6 % to 8.3 % of women think that not necessary to visit health facility for delivery care. It may prima facie appear from this information that it may probably not the lack of knowledge of the services or the absence of a health facility which is the main reason for the low coverage of ante natal check-up, but because large number of women in the State still hold on to the traditional beliefs about need for preventive health care. Even though they are aware of the availability of the service they do not perceive as a health need.

It is also worth noting that about 5 percent of the pregnant women who did not delivered in health facility in Madhya Pradesh gave economic reasons. In Madhya Pradesh most of the deliveries assisted by private doctors considering that most deliveries in private health facilities. So there is an expense involved in assisting the delivery health care. Hence these women who have perceived the need for a delivery care services could not afford it.

The availability of transport and distance for visiting the health facility to respondent women who had childbirth during three years prior to the survey in the State is gradually improved. It will be seen from this table that the facility of all-weather road is available to be increased more than seventy percent in 2005-06 corresponding to 1998-99 in Madhya Pradesh. Reason for non availability of transport and marginalized the distance to the health facilities for assistance to institutional delivery care services is 6.5 % in the State. It's highlight the extent of the differentials in use between those who have a better physical access and those who have an inconvenient access the health facilities.

3.4. Educational Background of Respondents in Rural Madhya Pradesh

Education has an impact on the use of maternal health services which suggests that improving educational opportunity for women may have a large impact on improving utilisation of such services. Women at higher birth less likely to have deliveries assisted by modern professionals implies that parity should be one of the criteria for targeting and campaigns on the benefits of safe motherhood programs improved. Since women who are currently working are less likely to use the services, it is imperative to target this group during education campaigns. The health programs need to focus on attracting women with little or no education Verma et. al (2008).

Ante natal care has been a part of the delivery care services for over three decades. It received special emphasis in the Child Survival and Safe motherhood programme. Yet it is surprising that a large majority of those who did not avail of a check-up considered it as unnecessary. It is generally recognized that education plays an important role in changing traditional beliefs about health care. Table 6 presents the educational background of the pregnant women who availed of ante natal check-up in rural Madhya Pradesh. It will be seen that the utilisation of ante natal check-up is very popular among the women with all levels of education, including illiterates. In Madhya Pradesh there is a steady increase in the use of ante natal check-up as the educational status improves, starting from a low level of 44 percent for illiterates to up to 51 percent for high school. Read together with the reasons given by large number of women in Madhya Pradesh for not getting an ante natal check-up, it would be appear that low utilization levels of ante natal check-ups during the five years preceding the survey of 1998-99 to 2005-06.

This may prima facie indicate that in Madhya Pradesh have disadvantages arising out of illiteracy has been largely overcome by better programme efforts and the overall influence of socio-economic development. Weather the education factor is playing a significant role, as it is presumed, independent of other factors will be further probed in the subsequent chapters by controlling the effects of other factors.

Since it is observed that the levels of education also influence the anti-tetanus immunization in Madhya Pradesh, it would be useful for us to see whether this pattern is valid for the institutional delivery care services. It will be seen from the table 7 presents the coverage of two or more doses of anti-tetanus immunization among mothers by level of education. In case of ante natal care, anti-tetanus immunization is also well accepted by pregnant women in Madhya Pradesh, irrespective of level of education. Unlikely ante natal check-ups, the use of TT immunization is marginally increased births for which two or more doses of ant-tetanus immunization were received by the pregnant women is much common among the illiterates 25 % to 31 % in 1998-99 to 2005-06. In the high school level and above corresponding to improve up to 50 % in the five years. This could be because too far for the health facility availability of immunization services from visiting female health workers or at nearby health sub-centres.

Table 8 presents the utilisation of a skilled health professional for childbirth at home. It will be seen this table that in Madhya Pradesh the assistance of skilled health professional for home delivery also differ much among the women up to the level of middle school education. It is only when the women becomes at least a high school and above that the level drops because large majority of births then take place in health facilities.

As the level of education improves from illiteracy to middle school complete, there is increase in the use of a skilled health professional. But once the women has a high school education, the level actually drops, presumably because most of them go for institutional delivery in rural Madhya Pradesh during the all births in the five years preceding the survey.

Table 9 presents the utilisation of a health facility for childbirth by women with different levels of education. It will be seen that extent of utilization increases with the improvement in educational attainment during the five years preceding the survey 1998-99 to 2005-06. It was seen from table 7 and 8 that utilization of ante natal care and anti-tetanus immunization is high across different educational levels in Madhya Pradesh. But in the case of institutional deliveries the position is different. There is a wide difference between illiterate, middle school and higher education women in the utilization of a health facility for childbirth. For all types of maternal health care services in Madhya Pradesh by women with utilisation levels go up as woman gets more and more educated.

If the education level was not an important requirement in Madhya Pradesh for motivating people to utilise ante natal care and anti-tetanus immunization, how could it become relevant for institutional delivery? Is it because the illiterate (or less educated) women feel more at home with the local female health worker (who provides ante natal care) compared to the unfamiliar surroundings of the

hospital; or is the family unable to meet the expenditure involved in a hospital- delivery; is it due to the non-availability of a facility within reasonable distance, or is it just that they are not being advised by health workers about the advantages of an institutional delivery?. It could even be argued that the women/family has not perceived hospital delivery as a health need.

4. Conclusion

The information on the utilization of different maternal health care services, presented in the above paragraphs indicates that there has been improvement in all the levels of Madhya Pradesh between the two National Family Health Survey 1998-99 to 2005-06. The improvement is particularly noteworthy in respect of institutional delivery in the State. However there is wide disparity in the levels of the utilization of delivery health care services.

It is seen that the use of ante natal check-up is popular even among illiterates in Madhya Pradesh. But there is wide disparity in the utilization between illiterates and non-illiterates in the State. In the case of institutional delivery pattern is similar in both the survey. As educational level improves, the use also increases. Out of those who did not avail of ante natal check-up substantially increases. In absolute numbers, there is a large number of women in Madhya Pradesh since majority of the women did not avail of any check-up. This is an indication that traditional beliefs about the pregnancy and childbirth are widely prevalent in the State.

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Annexure: Tables

Type of service	NFHS -1998-99		NFHS -2005-06	
	M.P.	India	M.P.	India
Ante natal check-up	41.5	35.6	47.5	44.3
T T Immunisation	29.5	27.4	38.9	36.9
Received Iron Folic Acid tablets	20.7	21.1	30.5	29.1
Assisted by Trained Birth Attendant	22.1	14.2	21.4	18.4
Delivery in Medical Institutions	9.7	13.0	20.1	22.2
Delivery Assisted by Skilled health professionals	8.5	17.1	11.8	19.3

Note: 1) Utilisation levels based on all births to ever married women in the five years preceding the survey.
2) Ante natal check-ups based on women received TT injections and IFA tablets.
3) Delivery assisted by skilled health professionals based on Doctor/ ANM/ Nurse/ midwife/ LHV/TBA,

Table 1: Utilisation levels of Institutional delivery Care Services in Madhya Pradesh and India as per NFHS survey of 1998-99 and 2005-06. Source: NFHS 1998-99 and 2005-06, IIPS, Mumbai, 2002, 2007.

Type of service	NFHS -1998-99		NFHS -2005-06	
	M.P.	India	M.P.	India
By a doctor	37.7	50.1	46.0	60.0
By other health professional	19.5	21.9	52.3	31.1
Total ANC check-ups	2204	28809	2068	36442

Note: Received Ante Natal Check-up by Other Health professionals based on ANM, Nurse, midwife, LHV and TBA,

Table 2: Percentage of pregnant women who received ante natal check-up by a doctor and other health professional in Madhya Pradesh and India as per NFHS survey of 1998-99 and 2005-06.

Type of delivery services	NFHS -1998-99		NFHS -2005-06	
	M.P.	India	M.P.	India
Rural Areas				
Public sector health facility	4.1	5.0	7.9	7.9
Private sector health facility	1.8	4.8	2.0	8.3
Urban Areas				
Public sector health facility	12.2	8.8	16.4	11.2
Private sector health facility	7.2	11.3	11.4	16.9
Total				
Public sector health facility	6.4	6.0	10.1	9.0
Private sector health facility	3.3	6.5	5.2	11.0

Note: Place of Deliveries in
1) Public sector health facility based on all Govt. hospital/dispensary /UHC/ UHP/ UFWC/CHC/Sub-centre.
2) Private sector health facility based on all Private hospital/maternity/clinic/other Private medical /NGO/Trust hospital.

Table 3: Percentage distribution of live births in the five years by place of delivery in Madhya Pradesh and India as per NFHS survey of 1998-99 and 2005-06. Source: National Family Health Survey 1998-99 and 2005-06, IIPS, India, 2002, 2007.

Type of Assistance	NFHS -1998-99		NFHS -2005-06	
	M.P.	India	M.P.	India
Rural Areas				
Un-skilled	38.4	27.9	40.8	32.2
Skilled	5.6	9.8	8.3	14.8
Urban Areas				
Un-skilled	19.0	10.9	22.0	25.0
Skilled	16.1	19.0	21.5	14.1
Total				
Un-skilled	32.9	23.4	35.8	24.3
Skilled	8.5	12.2	11.8	19.3

Table 4: Percentage distribution of live births in the five years by Assistance of delivery in Madhya Pradesh and India as per NFHS survey of 1998-99 and 2005-06.

Type of service	NFHS -1998-99	NFHS -2005-06
Not necessary	1.6	8.3
Not customary	6.1	2.0
Costs too much	4.0	5.5
Too far/No transport	0.4	6.5
Poor quality of services	2.5	1.0
No time to go	2.1	1.7
Family did not allow	1.6	2.6
Better care at home	0.3	1.0

Table 5: Percentage of pregnant women reasons for not going to health facility for delivery care by residence in rural Madhya Pradesh as per NFHS survey of 1998-99 and 2005-06.

Educational status	NFHS -1998-99	NFHS -2005-06
Illiterate	43.1	44.3
Literate< middle complete	43.9	55.7
Middle school complete	64.6	64.9
High school and above	50.6	51.2
Number of cases	1686	1139

Table 6: Percentage distributions of births for which ante natal check-up was received by mother's educational background in rural Madhya Pradesh of NFHS survey 1998-99 and 2005-06.

Educational status	NFHS -1998-99	NFHS -2005-06
Illiterate	25.8	31.5
Literate< middle complete	36.0	48.8
Middle school complete	57.6	59.0
High school and above	49.4	51.2
Number of cases	1096	891

Table 7: Percentage distributions of births for which two or more doses of anti-tetanus immunization were received by mother's educational background in rural Madhya Pradesh of NFHS survey 1998-99 and 2005-06.

Educational status	NFHS -1998-99	NFHS -2005-06
Illiterate	4.2	4.6
Literate< middle complete	8.2	11.1
Middle school complete	18.1	20.7
High school and above	20.6	30.2
Number of cases	211	192

Table 8: Percentage distributions of births for which mother's received assistance of skilled health professional at home by educational background in rural Madhya Pradesh of NFHS survey 1998-99 and 2005-06.

Educational status	NFHS -1998-99	NFHS -2005-06
Illiterate	3.9	6.3
Literate< middle complete	7.6	15.3
Middle school complete	14.2	24.9
High school and above	19.8	37.2
Number of cases	227	251

Table 9: Percentage distributions of births during three years prior to the survey for which mother's utilised a health facility by educational status of mother's in rural Madhya Pradesh of NFHS survey 1998-99 and 2005-06.