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UTILIZATION OF MATERNAL HEALTH CARE SERVICES IN HIGH FOCUS STATES OF INDIA

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ABSTRACT:
 Maternal health has continuously been a key matter of concern across the globe. In some developing counties like India, utilization of maternal health care services is not appropriate as per requirement, which in the long run leads to maternal deaths triggering a challenge to attain improve maternal health. Utilization of maternal health care services like ante-natal care (ANC), delivery care and post-natal care (PNC) in 'High Focus States'(HFS) prerequisite a distinctive attention as these states encompass the bulk of population of the nation and group of HFS states are also very backward in terms of numerous socio-economic and demographic indicators. The current study has attempted to focus on the utilization of maternal health care services by women of age group 15 to 49 years and also by their demographic and socio-economic characteristics. DLHS-3 (2007-08) data has been used. Simple bivariate and multivariate analyses like binary logistic regression are used for study.

KEYWORDS: *High Focus States, ANC, PNC, and Maternal Health.*

INTRODUCTION
 Maternal health is the health of women during pregnancy, childbirth and the postpartum period. "High Focus States" (HFS) in India encompass a major share of population of India and need special attention to overcome the backward condition of some socio-economic indicators. High Focus States differs from other states of India because they have low socio economic conditions, high population, high total fertility rate, wide gender literacy gap, low status of women besides many other factors which are responsible for high mortality and infants deaths in these states. Due to lack of delivery health attendants, lack of proper management and careful treatment and less utilisation of maternal health care services in HFS states, these states record poor performance in maternal health. In India, the eight socio-economically regressive states recording high label of fertility and mortality have been stated by a term called as the "Empowered Action Group" (EAG) states as established by the Ministry of Health and Family Welfare, Government of India, in 2001. The states are namely Bihar, Chhattisgarh, Jharkhand, Madhya Pradesh, Odisha, Rajasthan, Uttarakhand and Uttar Pradesh. They have been given different category to give special focus by observing and assisting the achievement of national health goals in which these EAG groups are demographically lagging behind along with EAG states Assam is also included in National Rural Health Mission (NRHM) as High Focus States of India.
 High Focus States account for about fifty percent of country's population, sixty percent of birth, seventy one percent of infant's death, seventy two percent of under five deaths and sixty two percent of maternal deaths (AHS, 2013). Noticing the fact that maternal mortality is high in India and particularly in HFS states, National Rural Health Mission (NRHM) was launched by Government of India on 2nd April 2005. The mission is aimed to deliver effective attention to health of mother and infant especially

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among the rural residents of the country in addition to major emphasis in the states having deprived health consequences and insufficient community health arrangement and less engagement of human skills.

The foremost target of "NRHM" is to deliver easily reached, inexpensive, responsible, in effect along with consistent primary health care accommodations made specifically for deprived and BPL families of rural areas and helpless sections of the residents. As in urban areas women are more aware about their health than the rural women and in north India share of rural people residing in villages are more compared to urban areas. Under the initiative of NRHM, ASHA has been included to make the rural mission more accountable, effective and easily accessible for those women who are in need of emergency care or who wants to avail the services in a proper and right manner. The mission was initiated with the aim to refining access to 'ante natal care' during prenatal period, trained attention from ASHA workers or trained personnel all the way through birth of child besides care and maintenance in the weeks when baby is delivered. ASHA workers are particularly helpful for those women who have been relying on untrained personnel but want to take guidance from properly trained person and find difficulty in accessing any health services from health centre. Despite the fact that maternity is frequently optimistic and pleasing sense of accomplishment, but the case is not even always for all women, like for several mothers motherhood is linked with pain, bad health and sometimes death also is not unusual. The most important straight reasons of maternal indisposition along with death consist of internal bleeding, contamination, high blood pressure, many abortions, and clogged labour (WHO, 2010). ASHA helps women in knowing about her health, family planning methods, and guide mother in taking proper care of infants. (MoHFW, 2005). Advising women on all aspects of obstetric care, accompanying expecting females and children requiring treatment, first aid medical care for minor weaknesses, in addition to all these ASHA arrange for figures relating to births, deaths and gestations, etc. Basically ASHA is trained to help women of rural areas in making them aware about taking care in main aspects of basic health so that maternal health of rural India especially of High Focus States should be brought back on track. (H.Reddy, 2012). The condition of MMR in these states are ; Bihar/Jharkhand (312), Madhya Pradesh/Chhattisgarh (335), Orissa (303), Rajasthan (388) and Uttar Pradesh/Uttarakhand (440) per lakh respectively. In terms of TFR, value is varying in the range of 3.0 to 3.9 in these states (MoHFW report 2010). Unevenness in performance is due to greater variations in the culture, ethnicity, religion, customs, race, class along with difference in many other background characteristics among the states themselves, except in the southern and eastern states position of women is exceptionally bad in northern state. Label of education is low in these High Focus States points towards their subordinate role in the household affairs which results in women lacking empowerment to take decisions, including decision to use reproductive health services.

OBJECTIVE AND DATA SOURCE

The objective of the paper is to identify how the background factors (socio-economic) are affecting utilisation of maternal health care in High Focus States of India. DLHS-1(1998-99), DLHS-2(2002-03), and DLHS-3(2007-08) are the data source for this work along with AHS, 2013 report.

AREA OF THE STUDY

For this paper for analysing maternal health condition High Focus States are taken. They are namely, Rajasthan, Uttar Pradesh, Uttarakhand, Bihar, Jharkhand, Odisha, Madhya Pradesh, Chhattisgarh and Assam.

Various background factors and utilisation of health care services by women

Various socio-economic determinants like education of women and her husband, religion, caste, social class, wealth index of the family, working status of women ,her residence, along with her age at first bith, family size, sex preference of the child, contact to health workers her quality of food intake are crucial factors affecting her health and her attitude towards utilisation of services. Many background factors affects directly the utilisation of services by women, but the fact is that all expecting mothers

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equally need "ante-natal care" during her pregnancy phase attended by trained health workers. As complications related to pregnancy are considered to be the leading causes of maternal deaths (WHO, 2012 cited in R K Singh and Patra, 2013).

Women nutritional and diet intake during pregnancy becomes important not only for mother's health but for the proper growth of the baby as well. Various socio-economic tradition and women pattern of work along with her status in the family up to a large extent determines her health care behaviour (Ghosh, Arabinda. 2011). Demographically, High Focus States show poor record of literacy among women, in addition to their higher reliance on husband and elderly in the family, their behaviour of ignoring issued related to their reproductive health because of they have been traditionally been treated as vulnerable section of the society. All these factors altogether affects the utilisation of health care behaviour among women.

Bivariate analysis is used so as to find out the linkage between utilisation of maternal health care facilities and various socio-economic and demographic indicators. Logistic Regression has been used as it is more suitable technique to analyse and understand the relationship between a set of predictor variable and a dependent variable that is dichotomous. The predictor variable or the independent variable be either categorical or in interval scale. The logistic regression is one of that specific a functional relationship between dichotomous dependent variables and categorical independent variables. Through logistic regression the odds of dependent variables and the parameters for logistics are more easily interpreted if they are given by odds ratio. The basic used for logistic regression is

$$P = 1/1+e^{-z}$$

In logistic regression both significance level and odds ratios are used to see the impact of independent variables on dependent variables. Reference value is selected for each set of dependent and independent variables and then the possibility of the event to take place is determined by analysing both the reference indicators and the remaining indicators.

Table 1: Results of Logistic Regression getting ANC by Background Characteristics

Characteristics		Exp.(B)	significance
Age group	15-24®		
	25-29	1.0737	0.0202
	30-49	0.9405	0.0206
Place of residence	Rural ®		
	Urban	1.1460	0.0293
Education	Literate®		
	illiterate	0.7044	0.0109
Social group	SC/ST®		
	OBC	1.1365	0.0189
	General	1.3597	0.0318
Religion group	Hindu ®		
	Muslim	0.8209	0.0174
	Others	1.0373	0.0416
Economic status	Poorest®		
	Poorer	1.2897	0.0230
	Middle	1.6038	0.0333
	Rich	2.3961	0.0589
	Richest	4.9956	0.1775
Birth order	1®		
	2	0.7614	0.0169

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	3	0.6716	0.0162
	4+	0.5138	0.0126

Source-DLHS 3

Age group 25 to 29 has more prevalence of any ANC than the age group 20-24 which is taken as reference value. While for age group 30-49 ANC is less likely to succeed. However, ANC is more likely to take place in urban areas than rural areas. Among literates, there is more chance of receiving ANC than illiterates. For people of different social groups the chance of receiving ANC is more for General category followed by OBC and then among SC/ST. Among people of various religious groups Muslims are less likely to receive anti natal care than rest of the groups.

Level of ANC varies among people of different wealth quintile. The chance of receiving ANC is more as the wealth possession of population increases. As the probability of receiving ANC is most for the richest class than the rich class and poorer class. The odds ratio for richest class is 4.99 which are four times more than the reference value. An expecting mother can get anti natal check-ups during her nine months of pregnancy by visiting doctors, health workers in medical facilities, by calling the trained health personnel to home, by being in touch of Auxiliary Nurse Midwives. In addition to this, the frequency of check-ups and timing of first anti-natal check-ups are important for the health of mother and baby both.

The straight suggestions for pregnancy is that the time when pregnancy is known and conformed, ante natal check-ups should be scheduled at four weeks interval, for the seventh months followed by check-ups at an interval of two weeks during the last two left months and weekly as the date of delivery comes near (Pichard,1980). At least four anti natal check-ups, one after first three months, the second after the first six months, the third after the eight months and the fourth one after nine months(Park and Park, 1989).

Lack of anti-natal care leads to many reproductive health complications for pregnant women affecting her health together with her child's health. Direct obstetric deaths sometimes happen which happens due to obstetric complications of the pregnant stage which includes pregnancy, postpartum, delivery due to treatment from untrained personnel, not taking suggestion from skilled health personnel about pregnancy or any disease from which women is suffering from or due to some other events intricately related to and impacting mother's health.

Table 2:   Results of Logistic Regression getting PNC   by Background Characteristics

characteristics		Exp(B)	significance
Age group	15-24		
	25-29	1.010666*	0.020841
	30-49	0.950046*	0.023988
Place of residence	Rural®		
	Urban	1.166024	0.029498
Education	Literate®		
	illiterate	0.899196	0.0172
Social group	SC/ST®		
	OBC	1.023538	0.020009
	General	1.054972	0.026293
Religion group	Hindu®		
	Muslim	0.892385	0.02905
	Others	0.815664	0.039382
Economic status	Poorest®		
	Poorer	1.129969	0.025124
	Middle	1.2378	0.030311
	Rich	1.384475	0.037596

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	Richest	1.73408	0.058842
Birth order	1®		
	2	0.929024	0.021362
	3	0.928753	0.024271
	4+	0.967294	0.026304
ANC	No®		
	Yes	0.547864	0.009951
Safe delivery	No®		
	Yes	2.79459	0.07923
Institutional delivery	No®		
	Yes	3.588235	0.112657
Place of delivery	Public®		
	Private	1.376511	0.038035

Source-DLHS 3

As shown in the above table, age group, place of residence, education, social group, religion group, economic status, birth order, all influences "ante natal care", "post-natal care", institutional delivery. In High Focus States, urban areas have more prevalence of "post-natal care" than rural areas as odds ratio is 1.16 for urban areas. Infrastructural facilities like road connectivity, hospital services throughout the day, awareness and accessibility are more for urban residents than urban residents. Education of mother greatly impacts the post –natal check-ups) as illiterate mothers have less chance of getting health check-ups after delivery than literate mothers (Tulasidhar, V.B.,1993). The care after baby delivery also varies among different age groups. If we look at the social group, odds ratio for general and other backward classes are more than the reference value. Muslims and other groups are less likely to take utilisation of health care facilities and consequently less care of mother as compared to Hindus that is reference group. As the economic status increases and chances of taking post- natal care also increases. From the table it can notice that as the economic status increases the value or the odds ratio also increases. For those mothers who have birth order more than one or have more than one child are less likely to get post-natal check-ups. Those mothers who have not taken ANC are less likely to take post-natal care. Mothers who have safe delivery are most likely to take PNC. Similarly, mother's getting more institutional deliveries are most likely to get PNC. Women who have delivered in private institutions than public institutions are more likely to get care after delivery than those mothers who are being delivered in public hospitals. Usually it is common among women of rural areas that they do not give priority to their health. After delivery, family's attention naturally goes on to the new born baby thus resulting into very minimum concern for mother's health. The problem arises and increases in such situations as mothers hesitates to go for seek advice from doctor for ill health but when the health of her baby is not well, she becomes very conscious and forces the whole family to so that her baby could get the required care and proper medicine from doctors. Mother's themselves rate their health less important than the health of her baby. Unless and until, her bad health is not impacting her baby she does not prefer to give importance to her own health.

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Table 3: Logistic regression showing institutional delivery among women of High Focus States

characteristics		Odds Ratio	Std. Err.
Age group	15-24®		
	25-29	1.073929	0.0241056
	30-49	1.111123	0.0311728
Place of residence	Rural ®		
	Urban	1.528622	0.0410418
Education	Literate®		
	illiterate	0.7469732	0.0161915
Social group	SC/ST®		
	OBC	1.170046	0.02528
	General	1.50905	0.0402296
Religion group	Hindu ®		
	Muslim	0.5989721	0.0164924
	Others	0.7499002	0.0455312
Economic status	Poorest®		
	Poorer	1.303939	0.0332674
	Middle	1.646395	0.0451629
	Rich	2.234478	0.0661713
	Richest	3.91788	0.1419692
Birth order	1®		
	2	0.5927722	0.0144355
	3	0.4726141	0.0132479
	4+	0.4018434	0.0117843
ANC	No®		
	Yes	2.032218	0.0418384
PNC	No®		
	Yes	9.852992	0.1750131

Source-DLHS 3

Women who have received institutional delivery is more in the age group of 25 to 29 and increases as age group increases. While it is less for the reference value of age group 15-24. In urban areas pregnant women are more likely to receive "institutional delivery" than expecting mothers in rural areas. Education also plays a very crucial role in making women understand the importance of her reproductive health as from the regression table we see that women who literate are more likely to go for institutional delivery than those women who are illiterate. Similarly among women of various social groups the possibility of going for delivery in health centres are more for women of general category followed by OBC women and least probability is for SC/ST women. Among women of various religious groups chances of seeking delivery from trained personnel is more for women of richest wealth possession followed by women possessing rich wealth. Some of the orthodox customs of religion came as obstacle in receiving ANC. Among those women who have less wealth or are poor have less chance of preferring Institutional delivery. It also depends on the birth order or parity of the child women usually prefers institutional delivering when they are delivering for the first time.

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Table 4: Logistic Regression showing PNC in High Focus states.

EAG State	Exp(b)	Significance
Uttarakhand®		
Rajasthan	1.057071	0.0506568
Uttar Pradesh	1.445871	0.0642669
Bihar	0.9220219	0.0434627
Assam	2.072736	0.1587219
Jharkhand	2.219314	0.1201542
Odisha	1.859843	0.0937363
Chhattisgarh	0.6410176	0.0332211
Madhya Pradesh	2.666263	0.1400545

Source-DLHS 3

From the logistic regression table it can be noticed that among all the nine states chances of going for post-natal care is highest in Madhya Pradesh and high in Assam and probability is lowest in Chhattisgarh and low in Bihar. Condition of women after her baby delivery as far as her care is concerned could be said to neither too good nor too bad in the states of Uttar Pradesh, Rajasthan and Odisha.

Table 5: Logistic Regression showing ANC in High Focus states.

EAG State		
Uttarakhand®		
Rajasthan	1.680857	0.066419
Uttar Pradesh	2.68849	0.098765
Bihar	2.757488	0.106079
Assam	2.055566	0.129985
Jharkhand	3.70971	2.968582
Orrisa	2.368202	0.098692
Chhattisgarh	8.977141	0.428055
Madhya Pradesh	6.830754	0.32949

Source-DLHS 3

The chances of going for institutional delivery are more likely to take place for the states of Rajasthan and Chhattisgarh and less likely for the states of Odisha and Madhya Pradesh. In Uttar Pradesh and Assam as well institutional delivery is more likely to happen than the referenced state of Uttarakhand.

Table 6: Logistic Regression showing institutional delivery in High Focus States

EAG State		
Uttarakhand®		
Rajasthan	3.803735	0.194857
Uttar Pradesh	1.068998	0.05126
Bihar	2.472201	0.124463
Assam	1.819387	0.161727
Jharkhand	2.536378	0.146494
Orrisa	0.8705116	0.048899
Chhattisgarh	3.976494	0.216956
Madhya Pradesh	0.465832	0.028444

Source-DLHS 3

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CONCLUSION

It can be concluded that there are noteworthy disparities in the application of ante-natal facilities in High Focus States of India. As a whole, females in the age groups 34-49 years are considerably less likely to receive at least three ANC as compared to 15-24 years women. Likewise, women having 'higher birth order' or those women who have high parity children are expressively having less probability of receiving at least three antenatal cares. Those women who belong to urban areas are more likely to receive antenatal care than the women of rural areas. Urban women are more aware about their reproductive health as they are more attached to mass media which is a strong source of information. Education has been found as an important predictor in the utilization of maternal health care facilities as educated mothers are more likely to receive health services. There is a large difference in the utilization of ante-natal care services among the different cluster of Indian society As population who are economically wealthy are more likely to receive "ante natal care". Those sections of the population who are poor and are unable to get the existing medical care facility, the most nearest reason could be that they are less aware of the available ante-natal care services provided by public and private service providers. On the other hand, fortunate sections of the society enjoy all the facilities. Thus, the gap between service provider and the facility seekers have not reduced substantially.

The states which have "high fertility" and "high mortality" are called as EAG states and called as 'High focused states" in NRHM. These states recode not only bad socio-economic conditions but the basic reason for this is that these states face acute poverty compared to the remaining states of India. The plight of women is considerably miserable which could be witnessed in their health state. Good health of the mother is not only important for the child who depends emotionally, physically on her mother but the whole household is benefitted and if the mother has bad health, this would also affect and impact the family in a bad way(Das, Sibabrata. 2005).

Special attention is need to be given to those women who are from uneducated background, women of SCs and STs, women belonging to these sections have shown a comparatively poor record in their health care utilisation during their pregnancy and after birth of the baby. This indicates that these women are not getting or reaping the benefits made for them by the government both at the central level and at state level.

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