Correlates of Postpartum complication among the currently married Indian women

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Introduction:

In this paper an attempt is made to identify the possible risks of occurring postpartum complications among the Indian married women in relation to their selected demographic, socio-economic and health characteristics.

Though the safe motherhood initiative has been given priority in recent years, maternal morbidity and mortality still remain a major public health issue in most developing countries. Complications of pregnancy and childbirth are still the leading causes of death and disability among women of reproductive age in developing countries.

Aim: To study the postpartum complications among currently Indian married women.

Inclusion criteria:

a) Analysis is done on the based on the age group 15-49 years.

b) The data is restricted to married women who haven't give birth in the last two months from the date of interview and

c) Those women are considered who are currently married.

Data: The data availed from NFHS III (2005-2006) which provides information on women's health. A total of 32250 currently married women from 28 states of the country were chosen to examine the objectives of this paper. The 28 states were divided into six regions which are as follows**:**

1) **Northern region** includes Jammu and Kashmir, Himachal Pradesh, Punjab, Uttaranchal, Haryana, Delhi and Rajasthan.
2) **Central region** comprise of Uttar Pradesh, Chhattisgarh and Madhya Pradesh.

3) **Eastern region** consist of Bihar, West Bengal, Jharkhand and Orissa.
4) **North Eastern region** take into account Sikkim, Arunachal Pradesh, Nagaland, Manipur, Mizoram, Tripura, Meghalaya and Assam.
5) **Western region** constitute of Gujarat and Maharashtra.
6) Southern region covers Andra Pradesh, Karnataka, Kerala and Tamilnadu.

Data and Methodology:

The data were weighted by the number of eligible women in the household to correct for the chance of being selected for the survey.

The NFHS-3, India, carried out between 2005-06 by the ORC macro, USA and IIPS, Mumbai, collected information from a nationally represented sample of household and from each sample household on ever married women 15-49 on fertility, mortality, family planning and important aspects of reproductive health, nutrition and childcare. The survey follows a multi stage sampling design to select the eligible women for the interview. The research findings of the present paper are based on a nationally representative sample of 33882 currently married women in the age group of 15 - 49 years.

The data is analyzed using SPSS 18 and our analytical approach includes multivariate analysis. For this binary logistic regression has been used where dependent variable is dichotomous in nature. Logistic regression is used to estimate the net effect of each independent variable on the probability of occurrence of an event. The general logistic regression model expresses a qualitative dependent variable as a function of several independent variables. The logit becomes negative and increasingly large in magnitude as the odds ratio decreases from 1 to 0, and becomes positive and increasingly large as the odds ration increases from 1 to infinity. The logit regression coefficient for a category of a variable is interpreted in relation to the reference category. Exp (B) (coefficient for a category) gives the odds ratio, (i.e., ratio of odds for the specific category to the odds for the reference category) and its represents the multiplicative effect for one unit change in the independent variable X_1 on the odds of the response variable.

We have taken into account different demographic, socio economic and cultural indicators which will throw some light on the determinants of postpartum complication among Indian married women which are collected through primary survey. The explanatory variables were categorized in such a way that all the categories had sufficient cell frequencies for carrying out the analysis required. Finally, in order to capture the heterogeneity in socio-cultural conditions represented by different states, a variable reflecting region was also constructed.

We have categorized the explanatory variables in a model. The model represents the demographic, socio-economic, cultural and regional nature of the sample. Variables comprises of Age of the mother at the time of last child birth, Body Mass Index, Women education, Religion, Caste, Residence, Exposure to Media, Delivery by caesarean operation , Place of Delivery, Antenatal Care, Wealth Index, Habit of Chewing and Drinking and of course region as the last one additional parameter that gives relative effect to Postpartum complication.

Expected findings:

From the odds ratios from logistic regression analysis explanatory factors which reflects the experience of postpartum complication among the currently married women. The findings suggest that different parameters such as individual and family do indeed play a significant role in determining the postpartum complications but that the relative contributions of various explanatory factors differ by intensity of reproductive health behaviour.

Various parameters are taken into account to see the influence of different variables on the postpartum complications **(Table1)**. Higher the age of the mother at the time of last birth have lower complication of postpartum complications. Lower the Body Mass Index higher the probability of postpartum complications. Women not exposed to Antenatal care facilities have more than 10% exposure to postpartum complications. Religions have comparative more significant effect of postpartum complications than caste. Muslims women are 20% more prone to postpartum complication than the Hindu women whereas other religion women have only 14% more prone to these phenomena. Schedule Tribes have more than 21% more prone to postpartum complication than Schedule Caste women. Rural residences are more (24%) effected than urban counterparts. Poorest women nearly 31% more exposed to postpartum complication than richest women. Habits which include Drinking and chewing tobacco have significantly more than 19% chances of postpartum complications. Region have different trend as western and southern region have negative trend in comparison to northern region whereas central and eastern region have significant positive 10% and 21 % more prone to Postpartum complications.

Indian society is multicultural and multilingual, with a wide range in the income and standard of living among the population. From the findings of this paper, we observe that a number of policy

implications emerge. The potential policy implications are listed below:

(i) Strengthening of Services During Antenatal Period: The antenatal services can be strengthened to take account of the following important strategies to reduce postpartum complications: (a) to provide maternal education regarding safe motherhood, (b) to measure the necessary indicators (blood pressure, pregnancy history, height, weight, blood glucose level, etc.) in order to provide specific suggestions, (c) to identify status regarding malnutrition, (d) to identify by the category of high risk or low risk by age, parity, anaemia, and other factors, etc. In other words, if there is enough information about the pregnant women during the pregnancy, if adequate suggestions are provided during early stage and if the high risk pregnancies are identified at the early stage then the number and severity of complications will be reduced to a large extent.

(ii) Adequate Facilities during Delivery: In India, only a very negligible proportion of deliveries take place in hospitals/ clinics. Moreover, there is acute shortage of trained personnel in assisting deliveries or there is communication gap between the availability of services and their proper utilization. This has been a longstanding problem in the context of safe motherhood issues in India. This concern needs immediate attention.

(iii) Follow-up of Postnatal Complications: There is no appropriate mechanism to follow-up the pregnancies from antenatal to delivery and then from delivery to postnatal period. Due to lack of such care in the network of health system, most of the pregnancies suffer as a result of unnecessary time lags attributable to absence of the mechanism to identify the problems and to suggest remedial measures before being too late. These lapses result in an increase in the more severe complications in the long run. Hence, immediate policy measures are necessary to revise the health policy such that there should be a system to follow-up each pregnancy at antenatal, delivery and postnatal stages; so that the problems can be identified at an early stage and proper measures can be suggested before it is too late.

Table 1:

Odds ratio from Logistic regression for currently married Indian women experiencing postpartum complication

Background characteristics		Exp (B) Odds Ratio
Age of the Mother at the time of child Birth (years)	≤ 20 (RC)	
	20-24	1.269***

	25-29	1.145**
	≥ 30	1.123**
Education of the Women	Yes (RC)	
	No	.956
Religion	Hindu(RC)	
	Muslim	1.206***
	Others	1.144**
Caste	Scheduled Caste(RC)	
	Scheduled Tribes	.792***
	Other Backward Caste	1.084
	Others	1.007
Body Mass Index	Higher(RC)	
	Medium	1.226***
	Lower	1.119*
Place of Residence	Urban(RC)	
	Rural	1.244***
Media Exposure	Yes(RC)	
	No	.992
Wealth Index	Richest(RC)	
	Richer	1.050
	Middle	1.090
	Poorer	1.119
	Poorest	1.309***
Smoking, Drinking and Chewing habit	No (RC)	

	Yes	1.193***
Delivery of the child by caesarean	Yes(RC)	
	No	.789***
Place of Delivery	Home (RC)	
	Public sector	1.003
	Private sector	.995
Antenatal Care	Yes(RC)	
	No	.906**
Region	Northern(RC)	
	Central	1.119*
	Eastern	1.214***
	North Eastern	.826***
	Western	.717***
	Southern	.661***
N		20433
B Intercept		-1.462
-2LL Log Likelihood Ratio		19645.956

***p<0.05, **p<0.01, ***p<0.001**

(Data source: NFHS- 3)