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September 2015

Online at <https://mpra.ub.uni-muenchen.de/68224/>

MPRA Paper No. 68224, posted 06 Dec 2015 06:46 UTC

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Abstract

Using data from National Family Health Survey-3 (NFHS-3) for India this paper attempts to look at various socioeconomic factors that account for the demand for maternal health inputs in an Indian state-West Bengal. Conditional Mixed Process estimation is used to estimate the demand functions for prenatal care and hospital delivery. We jointly estimate both these equations to control for selection bias in the use of health inputs. However, exogenous estimation results are also provided. It has been observed that the place of residence, standard of living, and educational level of women are those covariates that remarkably increase the demand for both the maternal health inputs. An impression we derive from the analysis is that the infrastructural facilities, supply of health professionals, workers, educational attainment of women have to be emphasized on to contain the undesired problems during pregnancy and child-birth. At the same time access to information and whether the women can keep some money for own use also raise the demand for quality care associated with pregnancy. This also indicates a linkage between mother's autonomy and healthcare utilization behavior.

Key words: Health demand, Behavioral factors, Government policy

JEL classification: I12, I18, D11,

1. Introduction and the Context

Health is such a pervasive issue that it has to be taken care of much before even the birth of a child. This argument needs no further qualification as malnutrition of mother, socio-economic condition of the family, social status of the mother etc. remarkably account for the health of both the fetus and the mother simultaneously. Timely intervention through proper health care policy can only ensure a healthy baby, the major precondition for human capital formation and sustainable economic development. In this regard both antenatal and postnatal care act as complementary in nature though there exists a transitional gap which is covered by the process of child-birth. Instead of having sufficiently good prenatal care the new born baby and the mother herself may not be free from any life-threatening problem if the mother or her family fails to arrange for a scientific delivery provision. On the other hand new born babies are extremely susceptible to infection and other health related problems, failure of utilizations of proper delivery care may lead to perinatal, postnatal and child mortality. Therefore precisely speaking we observe differential impact with respect to health outcome and utilization of health inputs based on socio-economic status. And the variation in socio-economic status of households affects the variables of interest differently. So in this paper we emphasize the transitional process between prenatal and postnatal care – child-birth. We direct our focus on the determinants of both prenatal care and hospital delivery characterized by required counselling, maternal care, safe delivery mechanism, trained doctors and health professionals, an environment conducive to develop sufficient immunity for the new-born¹.

In most of the developing countries, predictably, pregnancy care and delivery care are not yet institutionalized and hence lead to pregnancy complications and high-risk delivery. India, in general is no exception. In the last couple of decades a vast literature has emerged in and around this issue. In this connection Acton's paper (1975) is an interesting publication in that it focuses on how nonmonetary factors like travel distance etc may impact on the demand for "free" and "non-free" maternal health care. A whole lot of papers are written in the same

¹ We first figure out the determinants of prenatal care as this response variable is used later as a regressor for child-birth outcome.

direction later. Existing literature includes Halim et al (2011), Ensor et al (2004, 2005), Kerber et al (2007), Mekonnen et al (2002), Birmeta et al (2013), Becker et al (1993), Celik et al (2000), Babalola et al (2009), Raghupathy (1996), Short et al (2004), Makate (2014) etc. These papers focus on the correlates of demand for maternal health care and its possible good and bad consequences for both the child and the mother. In addition, it has also been shown as to how and why institutional delivery reduces the chance of complications related with child-birth. In what follows these analyses directly point to the relevance of hospital delivery (hereafter HD). So demand for both modern prenatal care (hereafter PC) and HD are very important factors to have long lasting influence on economic development in general through human capital formation.

On the other hand, Maitra (2004), Maitra and Pal (2007), Bloom et al (2001), Suwal (2001), Agha (2000), Grabowski et al (2013), Adhikari (2012), Shroff(2011), Sarkar et al (2014a, 2014b), Bhargava et al (2011), Navaneetham et al (2002), Chakrabarti (2012), Roy et al (2008) are some papers that primarily look at the issue of maternal health care utilization in South Asian Countries. Among these Maitra (2004), Maitra and Pal (2007), Bloom et al (2001), Grabowski et al (2013), Shroff(2011), Bhargava et al (2011), Navaneetham et al (2002), Sarkar and Halder (2014a, 2014b) particularly deal with Indian cases. Some papers consider whole India as their area of study, some other use rural or urban India or a part of India. However, none of the papers use data on West Bengal, a state of Eastern India to check the health care utilization behavior and their determinants. So to fill up the caveat here we focus on the demand for maternal health care inputs in West Bengal.

The rest of the paper is arranged as follows. Introduction is followed by a brief description of the data-source and methodology. IIIrd section presents results of our analysis and discussion. Concluding comments are placed in the last section.

2. Data and Methodology

We use data from a nationally representative survey in India-NFHS-3 (third round of National Family Health Survey, 2005-2006). The study was conducted in two phases from November 2005 to August 2006. It covers whole India and the questions are addressed to men

of age 15-54 years, and both never and ever-married women of 15-49 years old. However, we consider only the ever-married group as given the social structure maternal health issues are associated with these women only. So, in a sense the study concentrates only on women of child bearing age. Furthermore, in this paper we confine our analysis only for West Bengal.² The primary reason for such a choice is lack of serious health research for this part of India. NFHS-3 gathered information for both PC and the choice of place of delivery for the youngest child who is born during five years preceding the survey. So we have a sample of 1823 mothers who have given birth of a baby during 2001-2005.

From descriptive statistics we find that two-third of the mothers belong to Hindu families whereas Muslim is 33.3% and Christians are only 1% of total population. Though wealth distribution is not very extreme, 23% of total population falls in the poorest category. On the other hand middle income group and richest group are of almost same proportions, 17%.³ Out of 1823 mothers 83.6% belongs to 15-30 years age cohort; maximum (36.75%) mothers are educated in that they are either in the category of or completed secondary level. On the other hand 35.87% is illiterate and 21.23% is in the category of primary level. This indicates that a significant proportion of the girls move to secondary level if they start education. However, 73.61% mothers are not engaged in employment except own household chores. Apart from these we also have information regarding mothers' autonomy. We broadly categorize the autonomy issues into four indicators: access to information, role in the household decision making, whether she is allowed to move out or enjoys mobility, and if the mother can keep some money aside for her own use. Details of summary statistics are provided in Appendix A.

As we have argued before, maternal health inputs are very critical pathways in determining the health of the new-born baby, and these are largely determined by a set of socio-economic variables that are listed in a table format in Appendix A. These regressors are of some

² West Bengal has a population of 91,347,736 as 2011 census. Literacy rate is higher than the national average, 70.04%. 31.9% of total population is living below the poverty line and almost 72% live in rural area. As of 2009 birth rate is 17.2 whereas the death rate is 6.2, and infant mortality is 33.

³ Note that definition of wealth index and standard of living are directly drawn from NFHS-3 or DHS (Demographic and Health Surveys) methodologies. We have just used the data classified by NFHS-3.

importance *a priori*. So drawing on Maitra (2004) and Maitra and Pal (2007) here we have two binary probits: place of delivery (hospital or not, denoted by HD⁴) and prenatal care (if taken or not, denoted by PC), where the final outcome variable is HD. So estimated equations take the following form:

$$PC = \alpha_0 + \alpha_1 X_p + u_p + \varepsilon_p \quad (1)$$

$$HD = \beta_0 + \beta_1 X_h + u_h + \varepsilon_h \quad (2)$$

Note that p and h subscripts define equations for prenatal care and hospital delivery, respectively, and α_0 and β_0 are the constant terms for the same. α_1 and β_1 are the coefficients for different regressors. X_p and X_h cover all possible covariates that may have predisposing effects on maternal health inputs. Therefore, the binary outcomes are represented as

$$PC = \begin{cases} 1 & \text{if taken} \\ 0 & \text{otherwise} \end{cases} \quad (3)$$

$$HD = \begin{cases} 1 & \text{if delivery is done in hospital} \\ 0 & \text{otherwise} \end{cases} \quad (4)$$

u_i ($i = p, h$) is an error term supposed to take account of heterogeneity which is unobserved by nature i.e. due to mother. So $u_i \sim N(0, \sigma_i^2)$; σ_i^2 is the variance of unobserved factors, if any. Again ε captures other residual variation and follows $\varepsilon_i \sim IID N(0,1)$; $i = p, h$.⁵

Also note that PC is also an important covariate for HD decision. Because PC not only defines medical assistance and attention, it also acts a counselling practice during pregnancy. So we expect that PC related medical advice helps women to decide about the safer and modern mode and place of delivery. Therefore the system turns out to be a recursive one where we have to use joint estimation technique.⁶

⁴ HD includes private hospital, government hospital, NGO run hospital, and clinic.

⁵ IID implies Independent and Identically Distributed random variables.

⁶ Full set of covariates and detailed coefficients are shown in Appendix B

3. Results and Discussions

In this segment we present regression results for those covariates only which we want to focus on (details can be found in Appendix B). To start with we have estimated two binary probit equations considering both PC and HD as exogenous. Then we have used a random effect estimation to check if unobserved heterogeneity is significant or it explains a reasonable percentage of variation in the regressand. Presence of potential endogeneity calls for jointly estimating both HD and PC equations which is done using Conditional Mixed Process (Roodman, 2009, 2013). Now we present the effects of concerned regressors for both exogenous (Model I) and endogenous (Model II) estimations along with the marginal effects. We start with the effects on PC though the final response variable is HD. We do so in order to argue in line of the service sought for.

3.A Demand for Prenatal Care (PC)

Presence of some sort of endogeneity is also apparent from the difference in the value of coefficient of regressors. If we look at the estimated co-efficients for different covariates it has been observed that exogenous estimation of co-efficients are either underestimated or overestimated. So the concerned effect should be assessed from endogenous estimation results (see Table-1).

Table-1
Demand for Prenatal Care (PC)

	Model-I		Model-II	
	Effect on prenatal care	Marginal Effects of respective covariates	Effect on prenatal care	Marginal Effects of respective covariates
Place of residence	0.701** (2.61)	0.0580	0.351** (2.68)	0.0596
Religion (ref. group Hindu)				
Muslim	-0.476* (-2.50)	-0.0424	-0.250* (-2.46)	-0.0425
Christian	-2.103*** (-3.69)	-0.2046	-1.209*** (-3.42)	-0.2057
Standard of Living (ref. group Low)				
Good	1.126** (2.92)	0.0966	0.560** (3.13)	0.0953
Very good	1.355* (2.92)	0.1195	0.688** (2.92)	0.1171

	(2.41)		(2.73)	
Can keep money for own use	0.630**	0.0558	0.326**	0.0555
	(3.01)		(3.00)	
Mother's education (ref. group Illiterate)				
Primary level	0.481*	0.0438	0.259*	0.0440
	(2.16)		(2.17)	
Secondary level	0.753**	0.0700	0.408**	0.0695
	(2.72)		(2.93)	
Birth order of the child	-0.123*	-0.0140	-0.0840*	-0.0142
	(-1.96)		(-2.33)	

t statistics in the parentheses; *, **, *** indicate significance at 10%, 5% and 1% level, respectively.

Urban women are almost 6% more likely than rural women to seek prenatal care. As PC largely depends on some supply side variables viz. availability of doctors, hospitals, modern medical facilities, physical proximity to PC, and infrastructural facilities to avail medical advice, place of residence turns out to be a strong predictor of PC both quantitatively and statistically. In general people living in urban area enjoy most of the facilities we mentioned, whereas rural women are deprived of such amenities⁷. At the same time level of education and standard of living, which are other significant covariates, are also relatively higher for urban residents. Probability of taking PC is 11% higher for those whose standard of living is very good compared to low standard of living. While, the same is 9% higher for those women who live families having good standard of living(ssli).⁸ Ssli probably reflects the degree of awareness of family members and their responsiveness to modern amenities, be it social, religious, medical, cultural etc.

Again looking at the probability of seeking PC across different religion it has been found that Muslims and Christians are less likely than Hindus to get PC. Christians are 20% and Muslims are 4% less likely. This argument points at some religious beliefs, cultural hindrances, and distribution of educational attainment among mothers of different religions which may restrict them from availing modern treatment and advice. As far as Christians are concerned in

⁷ Lack of availability of data on supply side variables associated with per capita medical professionals (including public and private) we could not check to what extent supply side variables actually affect PC. Nevertheless this kind of analysis is imperative as this may help policy makers to design proper programs to target services for those in greatest necessity.

⁸ Standard of living (ssli) should not be confused with wealth distribution. Ssli covers more aspects than wealth. For detailed discussions on ssli and wealth readers are referred to check DHS reports (Rutstein, 2008).

most part of West Bengal majority of Christians belong to lower income group. So we cannot discount the role of standard of living that bears some reflection of wealth distribution that we explained above.

Though partner's education does not make much difference in utilizing PC, mother's education is very important. Expectedly, women with secondary level of education is almost 7% more likely to demand for PC than illiterate women. The same is 4% higher for primary educated women with reference to women with no education. Education influences the demand for PC as educated women enjoy relatively more freedom of movement to see doctors or to contact health workers. They are also more conscious of the complications and riskiness during pregnancy and in post-natal phase. In order to get rid of such unforeseen complications women demand for PC.

Birth order of the child reduces the probability of seeking PC advises marginally and it is significant at 90% confidence interval. Higher birth order implies that the concerned mother has got some previous experience of pregnancy and delivery as she had either given birth to at least one baby or had the experience of how to handle herself during pregnancy. Though this experience always may not be able to predict all undesired situation during pregnancy,, generally experienced mothers take care of the problems efficiently. So experience acts a confidence-booster. This is possibly why we observe a negative relation between birth order of the child and demand for PC. On the other hand more children may lead to resource crunch or may end up with less availability of time for PC because of many other competing demands

Interestingly, mothers are more inclined to using PC if they can keep some money aside that would be entirely controlled by her⁹. The likelihood is 5% higher compared to those who do not enjoy this advantage. Probably, women use such portion of family income for purchasing health inputs such as PC. Depending on these arguments we may have an impression that women's occupation and demand for health inputs are strongly correlated. But we have not

⁹ This variable is a part of mother's autonomy indicators. Details of autonomy variables are found in the full set of covariates provided in Appendix. We have used Principal Component Analysis to find out the principal component(s) for each subgroups and then used them in the regression.

found any such strong co-relation indicating the possibility of male-controlled family where entire income is either managed by the partner (or husband) or by other older member of the family.

3.A Demand for Hospital Delivery (HD)

In most of the developing countries like India, where child-birth is yet to be largely institutionalized¹⁰, choice of place of delivery depends on a lot of socio-economic factors that we discussed in the preceding segment. Results and explanations are almost identical with that of PC with little exception that mother's age positively influences the demand for HD. Results are displayed in Table-2.

Table-2
Demand for Hospital Delivery (HD)

	Model-I		Model-II	
	Effect on hospital delivery	Marginal Effects of respective covariates	Effect on hospital delivery	Marginal Effects of respective covariates
Prenatal Care	1.357*** (4.94)	0.1706	0.284 (0.64)	
Place of residence	1.801*** (9.88)	0.2464	1.044*** (10.15)	0.2521
Age of the mother	0.000916** (2.67)	0.0001	0.000501** (2.63)	0.0001
Religion (ref. group Hindu)				
Muslim	-1.006*** (-6.77)	-0.1362	-0.582*** (-6.81)	-0.1406
Standard of Living (ref. group Low)				
Good	1.161*** (5.04)	0.1667	0.731*** (5.46)	0.1764
Very good	0.848** (3.03)	0.1197	0.536** (3.24)	0.1295
Access to Information	0.00989** (2.89)	0.0013	0.00588** (2.99)	0.0014
Say in household decision making	0.000823 (0.19)		0.000570 (0.21)	
Allowed to go	0.0174* (2.18)	0.0023	0.00905 (1.84)	
Can keep money for own use	-0.170 (-1.12)		-0.0750 (-0.86)	
Complications during pregnancy	-0.478* (-1.99)	-0.0640	-0.269 (-1.95)	
Mother's education (ref. group Illiterate)				

¹⁰ Here we do not distinguish among public hospitals, private hospitals, NGO, trust or any other health institutions. Positive value of HD covers all institutions endowed with trained professionals.

Primary level	0.503** (2.75)	0.0684	0.304** (2.91)	0.0733
Secondary level	0.976*** (5.17)	0.1374	0.595*** (5.38)	0.1437
Birth order of the child	-0.362*** (-4.32)	-0.0454	-0.195*** (-4.44)	-0.0471

t statistics in the parentheses; *, **, *** indicate significance at 10%, 5% and 1% level, respectively.

Though mother's age does not raise the probability of institutional child-birth by a significant proportion (0.01%), the positive effect can be intuitively explained. Possibly with age either pregnancy related complications leading to premature delivery or fatal consequence during delivery goes up or they become more conscious about probable complications associated with child-birth, and hence they prefer a safer mode of delivery under the supervision of trained personnel. This is not to be confused with the danger signs during pregnancy as there are some other physiological problems that become severe as expected date of delivery approaches. This is corroborated by the value of estimated coefficient for complication during pregnancy which is not significant at any level. Argument of awareness also leads to another significant covariates – access to information. Access to information is defined as whether the woman reads newspaper, listens to radio and watches television at least once a week. It is observed that if a woman has access to such informative channels, the likelihood of choosing the place of delivery as hospital goes up by 0.14%.

Quite consistent with the demand for PC, HD also goes up remarkably for urban women (25%), good ssli (17%), very good ssli (13%), woman with primary education (7%) and with secondary education (14%). Whereas Muslim women are 14% less likely to go for hospital delivery.

5. Conclusion

In this paper we attempted to determine the factors and/or pathways that significantly influence the demand for maternal health inputs – prenatal care and hospital delivery. In doing so we have taken resort of two binary probit for health inputs and used joint estimation technique. The prime reason for choosing joint estimation is the presence of endogeneity. It has been found in our analysis that place of residence, standard of living, and educational levels of women are those covariates that remarkably increase the demand for both the health

inputs. Basic results give us a general impression that infrastructural facility, supply of health professionals, workers, educational attainment of women have to be emphasized on as standard of living, per se, cannot be raise in the short-run with sector-specific (health or education) plans only. At the same time standard of living largely depends on economic, infrastructural and educational achievements. So policy makers should focus on physical infrastructure development that reduces the hazards of accessing and availing health service and education, encouraging girls to pursue education and to make sure that the drop-out rates after primary level is reduced to a negligible level.

Appendices

Appendix A (Summary Statistics)

Total HH surveyed in WB is 6794. Out of this we have considered only those household where at least one child is born in five years preceding the survey. For our analysis we considered only the youngest child. So we ended up with 1823 households. Baseline characteristics of the selected variables for Households, Mothers, and Children from West Bengal, India: NFHS-3 (2005-2006) are given below

	Sample size (N)	Percent age (%)	Mean	SD
<i>Household Characteristics</i>				
Place of residence	1823	–		
Rural	1823	58.8		
Urban	1823	41.2		
Religion	1823	–		
Hindu	1823	65.33		
Muslim	1823	33.3		
Christian	1823	0.88		
Sikh	1823	0.11		
Budhdhist	1823	0.05		
Jain	1823	0.27		
Others	1823	0.05		

Standard of living		1823	–		
low		1823	32.2		
medium		1823	30.77		
good		1823	28.3		
Very good		1823	7.95		
Partner's education		1823	–	1.3194	1.0068
No		1823	28.69		
Primary		1823	20.24		
Secondary		1823	39.11		
Higher		1823	10.53		
Partner's occupation		1823	–		
No work		1823	0.93		
Others		1823	0.05		
Manual		1823	38.67		
Agriculture, hh & domestic		1823	27.21		
Professional, Clerical, service, sales		1823	33.13		
<i>Mother's Characteristics</i>					
Mother's age (in years)		1823	–	25.544	5.35
15-30		1823	83.6		
31-40		1823	15.3		
41-50		1823	1.1		
Mother's education		1823	–	1.1317	0.9774
No		1823	35.87		
Primary		1823	21.23		
Secondary		1823	36.75		
Higher		1823	6.14		
Mother's occupation		1823	–		
No work		1823	73.61		
Others		1823	–		
Manual		1823	12.01		
Agriculture, hh & domestic		1823	8.5		
Professional, Clerical, service, sales		1823	5.87		
<i>Child's Characteristics</i>					
Birth order of the child		1823	–	2.35	1.6062
Prenatal care		1823	–	0.2079	0.4059
No		1823	11.68		
Yes		1823	88.32		
Place of delivery		1823	–	0.5458	0.498
Others		1823	45.42		
Hospital		1823	54.58		
Complications during pregnancy					
No		1823	91.17		
Yes		1823	8.83		
<i>Autonomy (Mother Level Variables)</i>					
Access to information					
Reading news paper	Otherwise	1823	84.59		
	At least once	1823	15.41		
Listening to radio	Otherwise	1823	69.61		
	At least once	1823	30.39		

	Watching TV	Otherwise	1823	48.93
		At least once	1823	51.07
Decision making within the household		Other	1823	1.04
		Someone else	1823	4.06
	Respondent's health care	Husband/partner alone	1823	35.33
		Respondent and other person	1823	–
		Respondent and husband/partner	1823	28.91
		Respondent alone	1823	27.98
		Other	1823	4.66
		Someone else	1823	12.12
	HH large purchase	Husband/partner alone	1823	46.74
		Respondent and other person	1823	–
		Respondent and husband/partner	1823	27.32
		Respondent alone	1823	6.47
		Other	1823	4.44
		Someone else	1823	13.71
	HH daily purchase	Husband/partner alone	1823	36.75
		Respondent and other person	1823	–
		Respondent and husband/partner	1823	18.82
		Respondent alone	1823	23.59
		Other	1823	3.24
		Someone else	1823	9.22
	Visit to natal family	Husband/partner alone	1823	39.99
		Respondent and other person	1823	–
		Respondent and husband/partner	1823	32.53
		Respondent alone	1823	12.34
		Other	1823	0.99
		Husband has no earning	1823	6.8
		Someone else	1823	–
	Spending partner's income	Husband/partner alone	1823	34.72
		Respondent and other person	1823	–
		Respondent and husband/partner	1823	47.94
		Respondent alone	1823	6.69
Mobility				
	Allowed to go to market	Not at all	1823	25.01
		With somebody	1823	32.86
		Alone	1823	42.13
	Allowed to go to the health facility	Not at all	1823	3.84
		With somebody	1823	46.85
		Alone	1823	49.31
	Allowed to go outside the village/community	Not at all	1823	11.3
		With somebody	1823	52.39
		Alone	1823	36.31
	Money set aside for own use	No	1823	61.44
		Yes	1823	38.56

Appendix B

List of covariates and coefficients for both prenatal care and hospital delivery regression

Coefficient (Demand for health inputs, Prenatal Care)

	Model-I	Model-II
Place of residence	0.701** (2.61)	0.351** (2.68)
Age of the mother	-0.000341 (-1.00)	-0.000125 (-0.66)
Religion (ref. group Hindu)		
Muslim	-0.476* (-2.50)	-0.250* (-2.46)
Christian	-2.103*** (-3.69)	-1.209*** (-3.42)
Standard of Living (ref. group Low)		
Medium	0.369 (1.74)	0.209 (1.86)
Good	1.126** (2.92)	0.560** (3.13)
Very good	1.355* (2.41)	0.688** (2.73)
Partner's Occupation (ref. group No Work)		
Manual	1.307 (1.80)	0.716 (1.80)
Agriculture, Household, Domestic	0.989 (1.36)	0.530 (1.33)
Professional, Clerical, Service, sales	1.367 (1.84)	0.745 (1.86)
Mother's Occupation (ref. group No Work)		
Manual	0.0452 (0.17)	0.0126 (0.08)
Agriculture, Household, Domestic	0.00241 (0.01)	0.0165 (0.11)
Professional, Clerical, Service, sales	-0.407 (-1.01)	-0.182 (-0.86)
Access to Information	0.00304 (0.60)	0.00154 (0.61)
Say in household decision making	-0.0116 (-1.79)	-0.00656 (-1.89)
Allowed to go	-0.00987 (-0.98)	-0.00533 (-0.92)
Can keep money for own use	0.630** (3.01)	0.326** (3.00)
Complications during pregnancy	-0.0904 (-0.37)	-0.0688 (-0.49)

Mother's education (ref. group Illiterate)		
Primary level	0.481* (2.16)	0.259* (2.17)
Secondary level	0.753** (2.72)	0.408** (2.93)
Partner's education (ref. group Illiterate)		
Primary level	-0.133 (-0.62)	-0.0793 (-0.68)
Secondary level	-0.238 (-1.05)	-0.145 (-1.19)
Higher level	-0.547 (-0.96)	-0.265 (-0.94)
Birth order of the child	-0.123* (-1.96)	-0.0840* (-2.33)
Constant	0.0789 (0.10)	0.143 (0.33)

t statistics in parentheses

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

Coefficient (Demand for health inputs, Hospital Delivery)

	Model-I	Model-II
Prenatal Care	1.357*** (4.94)	0.284 (0.64)
Place of residence	1.801*** (9.88)	1.044*** (10.15)
Age of the mother	0.000916** (2.67)	0.000501** (2.63)
Religion (ref. group Hindu)		
Muslim	-1.006*** (-6.77)	-0.582*** (-6.81)
Christian	-0.503 (-0.54)	-0.439 (-0.88)
Standard of Living (ref. group Low)		
Medium	0.0962 (0.55)	0.0785 (0.77)
Good	1.161*** (5.04)	0.731*** (5.46)
Very good	0.848* (3.03)	0.536** (3.24)
Partner's Occupation (ref. group No Work)		
Manual	0.842	0.573

	(1.08)	(1.36)	pregnancy	(-1.99)	(-1.95)
Agriculture, Household, Domestic	0.769 (0.98)	0.510 (1.20)	Mother's education (ref. group Illiterate)		
Professional, Clerical, Service, sales	0.999 (1.28)	0.641 (1.52)	Primary level	0.503** (2.75)	0.304** (2.91)
Mother's Occupation (ref. group No Work)			Secondary level	0.976*** (5.17)	0.595*** (5.38)
Manual	-0.128 (-0.54)	-0.0673 (-0.52)	Partner's education (ref. group Illiterate)		
Agriculture, Household, Domestic	-0.345 (-1.35)	-0.215 (-1.46)	Primary level	0.175 (0.91)	0.0835 (0.77)
Professional, Clerical, Service, sales	0.110 (0.33)	0.0527 (0.28)	Secondary level	0.103 (0.55)	0.0392 (0.36)
Access to Information	0.00989** (2.89)	0.00588** (2.99)	Higher level	0.786 (1.78)	0.402 (1.61)
Say in household decision making	0.000823 (0.19)	0.000570 (0.21)	Birth order of the child	-0.362** (-4.32)	-0.195*** (-4.44)
Allowed to go	0.0174* (2.18)	0.00905 (1.84)	Constant	-2.759** (-3.25)	-1.283* (-2.37)
Can keep money for own use	-0.170 (-1.12)	-0.0750 (-0.86)			
Complications during	-0.478*	-0.269			

t statistics in parentheses
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

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