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Increase in Cesarean Delivery in Private Health Facilities is a Growing Concern in India: evidence from the 75th round NSSO Survey, 2017-2018

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INTRODUCTION

- Cesarean delivery is a surgical procedure by which one or more babies are delivered apprehending that complications during pregnancy or delivery is making normal delivery risky and it may put the mother or foetus at risk.
- Previous studies have found high association of C-Section delivery with maternal mortality, ureteral tract and vesical injury, placenta previa, fetal death and uterine rupture in future pregnancies, hysterectomy, abdominal pain and neonatal respiratory morbidity.
- In view to this the World Health Organization has issued an agreement proclamation in 1985 stating that there is no justification for any region to have c-section delivery rates more than 10 to 15 percent. In spite of this the rates of c-section deliveries are increasing globally private hospitals carrying them out more than public.

BACKGROUND STUDY

It has been observed that according to the DLHS 4 data women undergoing c-section delivery at private hospitals is more in comparison to those who are opting for c-section at public hospitals. Also more urban women are seen to choose c-section delivery at private hospitals than the rural women owing to greater medical facilities and awareness in the cities. According to NFHS-4 data women who are advanced by age opt for cesarean delivery than those women who are young since aged women do face complications at birth. Also Income has a great influence on deciding whether to go for cesarean deliveries particularly in the private hospitals because of the high expenses related to doctors, medicines, hospitalization, etc., therefore those mothers coming from high income backgrounds choose c-section delivery from private hospitals. It is quite evident from the NFHS-4 data that women who did 12 or more years of schooling generally opted for c-section. Others factors including the social groups, religion also point out that women coming from Christian communities and those who belong to the non SC and ST groups are the largest in numbers in terms of choosing c-section deliveries at private medical centres

NEED FOR STUDY & OBJECTIVES

- Review study of 45 studies in developing and developed countries show cesarean delivery in private hospitals one of the risk factors of cesarean delivery in developing and developed countries. However, influence of private hospitals is more prominent in developing countries than in developed.
 - Several studies have shown childbirth in a private hospital is one of the most contributing factors in C-Section deliveries in developing countries.
 - A recent study in 2019 shows average out of pocket expenditure (OOPE) of US\$365 for a C-Section delivery in private hospitals and US\$94 for a C-Section delivery in public hospitals.
- The objectives of the study are -
- To study the prevalence of cesarean delivery in private and public hospital across various socio-demographic factors.
 - To study the variation in prevalence of cesarean delivery in private and public hospital across the various states of India.
 - To study the factors influencing cesarean delivery in private hospitals across various socio-economic correlates.

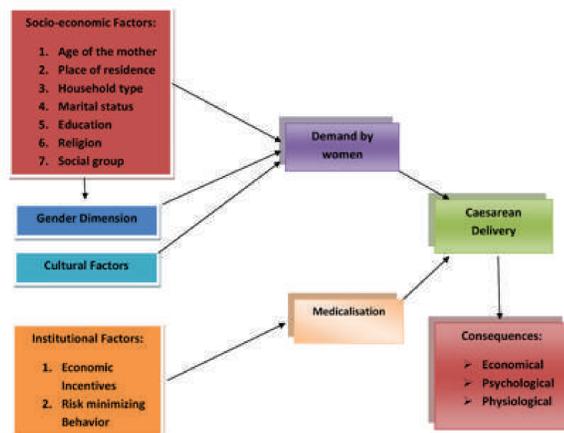
DATA SOURCE AND SAMPLING

- National Statistical office Under the Ministry of Statistics and Program Implementation conducted the 75 th round of National Sample Survey covering the various domain of health and education from July 2017 to June 2018. It interviewed a random sample of 1, 13,823 households spread over rural and urban areas of every district in the country.
- Out of those interviewed, there were 27686 child birth in hospital in last 1 year.
- The 27,686 hospitalized child birth can be split into 72 % Non-cesarean delivery and 28 % cesarean delivery. 61 % of cesarean delivery took place in private hospitals while the rest took place in government, NGO run and charitable hospitals.

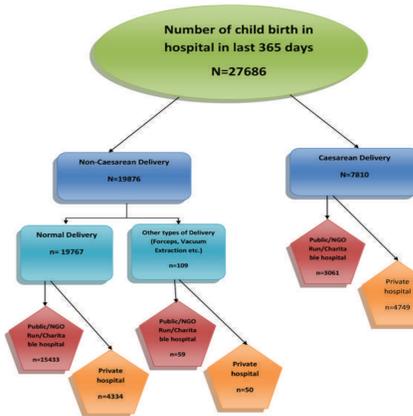
SUMMARY

There has been an increase in the rate of cesarean delivery in India. public health specialists say that the rising age of child bearing and change in preference pattern of women plays a major role in this. The proportion of cesarean deliveries in private hospitals are much more than the public hospitals. The average expenditure of any case of hospitalization is six to seven times more in private hospitals compared to government ones. Famous scholars have explained the reason behind the high proportion of cesarean deliveries in private hospitals to be "pure commercial interest". As the regulations are not enforced well the doctors in private hospitals get commission for referring patients to go for c-section deliveries. Improving the overall accessibility and quality of public health facilities will not only decrease the disparities of cesarean deliveries in public and private hospitals but also reduce the overall rate of c-section deliveries keeping in mind the various health and psychological related consequences on the mother. The rates can be controlled with the use of universal guidelines, protocols and medical audits.

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CONCEPTUAL FRAMEWORK



DATA SOURCING AND SAMPLING

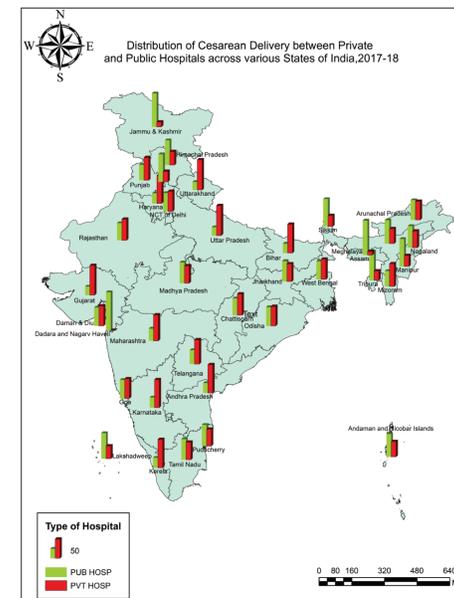
Prevalence of Hospitalized Child Birth in various types of hospital on the basis of types of Delivery across socio-demographic characteristics, India, 2017-2018

Characteristics	Cesarean Delivery		Non-cesarean Delivery	
	Public/Charitable/NGO/Trust run Hospitals	Private Hospitals	Public/Charitable/NGO/Trust run Hospitals	Private Hospitals
Place of Residence				
Rural	39	61	85	15
Urban	33	67	62	38
Age of Mother				
below 15 years	9	91	65	35
15-24	46	54	91	9
25-34	40	60	84	16
35 to 49	36	64	79	21
Above 49	35	65	76	24
Household Type				
Self employed	36	64	80	20
Regular wage/ Salary earning	32	68	64	36
Casual labour	50	50	89	11
Others	21	79	73	27
Marital Status				
Never married	27	73	79	21
Currently married	37	63	63	20
Widowed	39	61	80	20
Divorced/Separated	73	27	84	16
Educational Qualification				
Illiterate	44	56	85	15
Below primary	39	61	85	15
Primary	45	55	81	19
Middle	41	59	83	17
Secondary	38	62	75	25
Higher secondary	29	71	74	26
Graduate and above	16	84	55	45
Others	31	69	80	20
Religion				
Hindu	36	64	81	19
Muslim	40	60	79	21
Christian	37	63	79	21
Others	41	59	66	34
Social Group				
Scheduled tribe	58	42	93	7
Scheduled caste	50	50	90	10
Other Backward Classes	34	66	78	22
Others	31	69	68	32
Health Insurance Coverage				
Government	42	58	82	18
Private	15	85	31	69
Others	49	51	77	23
Not covered	37	63	81	19

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Type of hospital wise Adjusted Odd Ratio of Cesarean deliveries among hospitalized child birth by socio-demographic characteristics: results from Logistic Regression Analysis, India (2017-2018)

Characteristics	Odds Ratio
Place of Residence	
Rural@	
Urban	1.41***[1.27-1.56]
Social Group	
ST@	
SC	1.41**[1.12-1.78]
OBC	2.59***[2.10-3.20]
Others	2.69***[2.17-3.33]
Religion	
Hindu@	
Muslim	0.67***[0.58-0.76]
Christian	0.98[0.75-1.28]
Others	0.92[0.71-1.19]
Education	
Illiterate@	
Below Primary	1.19[0.97-1.47]
Primary	1.17[0.98-1.40]
Middle	1.07[0.90-1.26]
Secondary	1.32***[1.12-1.56]
Higher Secondary	1.59***[1.30-1.94]
Graduate and above	3.13***[2.58-3.81]
Others(no formal schooling/ certificate course/diploma)	1.71***[1.27-2.32]
Marital Status	
Never married@	
Currently married	0.31**[0.15-0.65]
Widowed	0.36[0.17-0.77]
Divorced/separated	0.23**[0.05-0.99]
Household Type	
Self-employed@	
Regular wage/Salary earning	0.89[0.79-1.00]
Casual labour	0.63***[0.55-0.72]
Others	1.94***[1.44-2.62]
Insurance Coverage	
Govt. Scheme@	
Private Scheme	2.44***[1.76-3.39]
Others	0.28[0.08-1.02]
Not Covered	0.98[0.86-1.11]
Constant	1.64



RESULTS & DISCUSSION

- On basis of place of residence women living in urban areas go for cesarean delivery in private hospitals more than their rural counterpart.
- 91 % of females below the age of 15 go for cesarean delivery in private hospitals. While for those aged 35 and above, 2/3 rd of them prefer private hospitals.
- Households with casual laborers go for C-section delivery in private and public hospitals in equal proportion.
- On the basis of marital status 3/4 th of the divorced and separated pregnant women approach public hospital instead of private for C-Section delivery unlike never married currently married and widowed.
- 17 out of every 20 graduate and above qualified females opt. for private hospitals for the C-Section delivery.
- Based on social group the females belonging to scheduled caste and schedule tribe generally go to public hospitals for cesarean delivery unlike OBC and others.
- Females who are covered under private hospitalization coverage opt for private hospitals 6 times more than public hospitals.
- There is no cesarean delivery in private hospitals in the UT Dadra & Nagar Haveli. In the states of Meghalaya and Jammu & Kashmir a very large proportion of cesarean delivery take place in the public hospitals.
- There is not much of a difference in the proportion of cesarean delivery between private and public hospitals in the states of Odisha, Arunachal Pradesh, Goa, Daman & Diu, Delhi and West Bengal.
- Among the various social groups, when compared to the females belonging to Scheduled Tribes, at 99% level of confidence the ones belonging to Other Backward Classes and others are 2.59 times [OR:2.5, CI: 2.099-3.203] and 2.68 times [OR:2.68, CI:2.167-3.331] more likely to go to a private hospital for cesarean delivery while those belonging to Scheduled Caste are 1.41 times [OR:1.41, CI:1.122-1.78] more likely at 95% level of confidence. females living in the urban areas are 1.4 times [OR:1.41, CI:1.266-1.564] more likely to go to a private hospital for cesarean delivery as compared to rural counterparts. Muslim females are 34% less likely [OR:0.665, CI:0.579-0.764] to go to a private hospital for cesarean delivery compared to Hindus. Based on educational qualification the females who are more educated are 1.59 times [OR: 1.591, CI:1.304 -1.942] and 3.13 times [OR:3.133CI:2.577-3.810] more likely than the illiterate ones. the females covered under private health insurance schemes are 2.4 times [OR:2.440, CI: 1.757-3.388] more likely to go for a cesarean delivery in private hospital as compared to those covered under government health insurance scheme.

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