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# Maternal health care service utilization among young married women in India, 1992–2016: trends and determinants

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## INTRODUCTION

- India had 35,000 maternal deaths in 2017 which is 12% of the global share. Maternal deaths among young women (15–24 years) shares 38% of total maternal mortality in India.
- The use of maternal health care services, specifically antenatal care (ANC) during pregnancy and skilled attendance during delivery, plays a significant role in reducing maternal deaths.
- The recent National Family Health Survey (NFHS-4), 2015–16 estimated that only 51% of mothers attended the recommended number of four ANC visits, and 81% of mothers received SBA. This elucidates that the scenario of ANC services is still very inadequate in India.
- Although the overall coverage of SBA is high, there is a significant disparity between rural-urban residents and among different states of India.
- Several studies conducted in India have reported a significant association between women's use of maternal health care services and different socio-demographic factors. However, there is a paucity of studies focusing on young women in this context.
- Young people form a significant proportion (19.1% i.e. 231 million) of the Indian population and more than half of all births (54%) took place during this period.
- Early marriage followed by early and closely spaced births results in elevated risk for maternal and infant morbidity and mortality and limited opportunities for educational and economic advancement among young married women.
- Understanding the status of maternal healthcare service utilization among such a large and vulnerable portion of the population can provide meaningful evidence for the development of effective and targeted health care programs.

## OBJECTIVE

- To explore the prevalence, trends and determinants of maternal health care service (ANC and SBA) utilization among young married women in India using pooled data from four rounds of NFHS (1992–2016).

## DATA SOURCE AND METHODOLOGY

- This study used data from the four rounds of National Family Health Survey (NFHS) conducted during the years 1992–93 (NFHS-1), 1998–99 (NFHS-2), 2005–06 (NFHS-3) and 2015–16 (NFHS-4).
- The data of the currently married young women aged 15–24 years were considered for analysis in each round.
- Appropriate sample weights were used taking cognizance of the survey design to make the estimates representative and comparable over all the survey rounds.
- The study used two indicators to measure the utilization of maternal health care services among young married women; ANC and SBA.
- Full ANC indicator was measured as those women who had four or more antenatal check-ups, had at least one tetanus toxoid injection and consumed iron and folic acid tablets or syrup for the last live birth during the 3 years preceding the survey period.
- The SBA indicator includes those women who had their deliveries conducted either in public or private hospitals/health centres/clinics or at home assisted by trained health personnel (doctor/nurse/lady health visitor (LHV)/auxiliary nurse midwives (ANM)).

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- Both the outcome indicators were measured with binary responses (used full ANC/SBA = 1; otherwise = 0).
- Descriptive statistics were obtained for the demographic and socioeconomic characteristics of women aged 15–24 years who had a child in the 3 years preceding the surveys.
- The trends in the prevalence of full ANC and SBA utilization was analysed using weighted frequency percentages, stratified by the selected background characteristics.
- Pooled multivariate logistic regression was conducted to identify the demographic and socioeconomic determinants of the selected maternity care services.
- The significance level for all analyses was set at  $p \leq 0.05$ .

## RESULTS

Fig. 1 Trends in the use of full antenatal care among young married women in India and EAG states, 1992–2016.

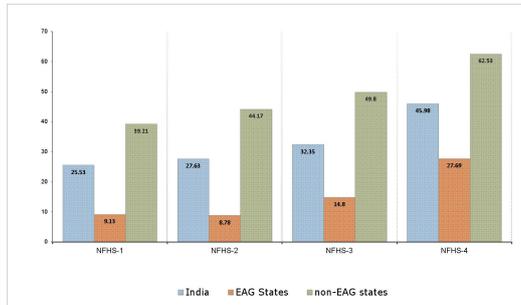
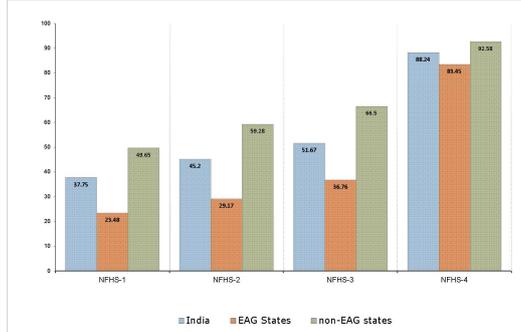


Fig. 2 Trends in the use of skilled birth attendance among young married women in India and EAG states, 1992–2016.



- The utilization of full ANC is showing an upward trend since 1992, it has increased from 27 to 46% in India, and from 9 to 28% in EAG (Empowered Action Group) states.
- A prevalence difference of more than 30% in full ANC use between EAG and non-EAG states remains consistent throughout the study period.
- SBA utilization was 88 and 83% during 2015–16 by showing an increment of 20 and 50% since 1992 in India and EAG states, respectively.
- Findings from multivariate analysis revealed a significant difference in the use of selected maternal health care services by maternal age, residence, education, birth order and wealth quintile.
- Additionally, Muslim women, women belonging to scheduled caste (SC)/ scheduled tribe (ST) social group, and women unexposed to mass media were less likely to utilize both the maternal health care services.
- Concerning the time effect, the odds of the utilization of full ANC and SBA among young women was found to increase over time.

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Table. Demographic and socioeconomic determinants of maternal health care utilization among young married women in India, 1992–2016

Variables	Full ANC		SBA	
	Unadjusted OR (95% CI)	Adjusted OR (95% CI)	Unadjusted OR (95% CI)	Adjusted OR (95% CI)
<b>Survey round</b>				
NFHS-1 (ref)	1.00	1.00	1.00	1.00
NFHS-2	1.11*	0.98	1.36**	1.35**
	(1.02 - 1.21)	(0.89 - 1.06)	(1.25 - 1.48)	(1.25 - 1.46)
NFHS-3	1.40**	1.21**	1.76**	1.73**
	(1.29 - 1.51)	(1.10 - 1.32)	(1.60 - 1.92)	(1.60 - 1.89)
NFHS-4	2.48**	1.83**	12.38**	13.66**
	(2.33 - 2.61)	(1.68 - 1.98)	(11.53 - 13.29)	(12.66 - 14.75)
<b>Type of residence</b>				
Rural (ref)	1.00	1.00	1.00	1.00
Urban	2.68**	1.27**	3.80**	1.87**
	(2.51 - 2.86)	(1.18 - 1.36)	(3.51 - 4.11)	(1.71 - 2.04)
<b>State-wise residence</b>				
EAG states (ref)	1.00	1.00	1.00	1.00
Other states	5.48**	4.71**	2.70**	2.46**
	(5.16 - 5.81)	(4.46 - 4.99)	(2.51 - 2.90)	(2.30 - 2.62)
<b>Religion</b>				
Hindu (ref)	1.00	1.00	1.00	1.00
Muslim	0.95	0.78**	0.85**	0.58**
	(0.88 - 1.03)	(0.72 - 0.84)	(0.79 - 0.93)	(0.54 - 0.64)
Others	1.59**	0.81**	1.62**	0.98
	(1.44 - 1.75)	(0.73 - 0.91)	(1.45 - 1.80)	(0.87 - 1.11)
<b>Social group</b>				
Scheduled caste (ref)	1.00	1.00	1.00	1.00
Scheduled tribe	0.73**	1.00	0.57**	0.68**
	(0.66 - 0.80)	(0.90 - 1.10)	(0.52 - 0.63)	(0.60 - 0.75)
Others	1.26**	1.10*	1.20**	1.14**
	(1.18 - 1.33)	(1.03 - 1.17)	(1.13 - 1.27)	(1.06 - 1.22)
<b>Educational level</b>				
No Education (ref)	1.00	1.00	1.00	1.00
Primary	2.58**	1.50**	2.74**	1.53**
	(2.41 - 2.77)	(1.39 - 1.61)	(2.58 - 2.92)	(1.43 - 1.64)
Secondary	5.60**	2.15**	7.84**	2.25**
	(5.28 - 5.93)	(2.02 - 2.30)	(7.41 - 8.29)	(2.10 - 2.40)
Higher	11.27**	3.42**	29.23**	4.50**
	(10.17 - 12.48)	(3.04 - 3.84)	(24.32 - 35.13)	(3.72 - 5.44)
<b>Wealth Quintile</b>				
Poorest (ref)	1.00	1.00	1.00	1.00
Poorer	1.73**	1.15**	1.56**	1.27**
	(1.60 - 1.87)	(1.06 - 1.24)	(1.47 - 1.66)	(1.18 - 1.37)
Middle	2.98**	1.44**	2.52**	1.72**
	(2.76 - 3.21)	(1.33 - 1.56)	(2.35 - 2.69)	(1.58 - 1.87)
Richer	4.64**	1.66**	4.57**	2.43**
	(4.28 - 5.04)	(1.52 - 1.82)	(4.26 - 4.91)	(2.22 - 2.67)
Richest	8.76**	2.35**	12.46**	4.38**
	(7.98 - 9.62)	(2.10 - 2.63)	(11.30 - 13.73)	(3.86 - 4.98)
<b>Maternal age</b>				
≤19 (ref)	1.00	1.00	1.00	1.00
20–24	1.27**	1.18**	1.31**	1.20**
	(1.22 - 1.32)	(1.13 - 1.24)	(1.26 - 1.36)	(1.14 - 1.27)
<b>Birth order</b>				
1 (ref)	1.00	1.00	1.00	1.00
2	0.69**	0.72**	0.55**	0.51**
	(0.66 - 0.72)	(0.69 - 0.76)	(0.52 - 0.57)	(0.48 - 0.54)
3+	0.35**	0.55**	0.28**	0.41**
	(0.33 - 0.38)	(0.51 - 0.59)	(0.26 - 0.29)	(0.38 - 0.44)
<b>Mass media exposure</b>				
No exposure (ref)	1.00	1.00	1.00	1.00
Any exposure	4.57**	1.67**	4.29**	1.30**
	(4.31 - 4.85)	(1.57 - 1.78)	(4.10 - 4.49)	(1.23 - 1.38)

## CONCLUSION & RECOMMENDATION

- In India, the utilization of full ANC remained unjustifiably low among young women between 1992 and 2016, with a wide and persistent gap in utilization between EAG and non-EAG states.
- Although the proportion of young mothers who availed themselves of SBA increased substantially during the period, the improvement appeared inequitable.
- There is a pressing need to develop targeted policies to address low coverage of ANC and SBA among underprivileged segments of the population.
- It is necessary to ensure effective implementation of ongoing programs by improving public health network and the quality of physical and human infrastructure in EAG states.
- The government should prioritize young women's education and their accessibility to mass media, which may help in increasing knowledge and awareness about the importance of maternity care services.

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