IUSSP 2025

Young Age Sterilization and Fertility Deline in India

Ashwani KUMAR, Avenir Health (Track20 India Project)

Jay PRAKASH, Avenir Health (Track20 India Project)

Extended Abstract

As per the recent NFHS-5 estimate, India has achieved below replacement level fertility in 2021. India is the only country in the world where sterilization have been the most common method in use. The most common methods indicate the driving force behind contraceptive use in a country. As per the recent estimate of Track20, there have been 150 million users of modern method out which approximately 100 million women and girls use sterilization method of contraception. Sterilization has played a significant role in declining fertility in India.

Under the present study, we examined the contribution of early age sterilization in overall fertility transition across selected states of India. We also examined the association of adolescent fertility with the total fertility rate.

Data from the recent National Family Health Survey-5 conducted during 2019-21 has been used for the present analysis. Association between sterilization and fertility decline among the different states of India has been investigated. We have also used service statistics to examine the trends in female sterilization versus all other spacing methods for the country and in some selected larger states. Also, proportion of adolescent fertility in the overall TFR was examined using bivariate cross tabulation.

The prevalence of sterilization is much higher among the southern states and mostly women are sterilized at a younger age. TFR declined much faster in the states where prevalence of sterilization was significantly higher specifically among the young women (20-24 years). Median age at sterilization varies from 23 years in Andhra Pradesh to 29 years in Uttar Pradesh. Andhra Pradesh reached at the below replacement level of fertility much before (2 decades back) compared to the national level fertility decline. At the same time, northern states with very low performance in sterilization operations and at the higher median age, are still struggling with higher fertility. Therefore, sterilization can be considered the driving force behind reaching at the replacement level fertility in India.

Trend analysis of service statistics for the last 12 years data reveals that performance in female sterilization has gradually started declining in many states due to the government of India's increased focus for spacing methods. Thus, it is expected that two of the largest states of India – Uttar Pradesh and Bihar may take longer to achieve the below replacement level fertility.

Adolescent fertility is higher among the states where sterilization is very common and TFR has reached at the replacement level fertility. Therefore, sterilization has played significant role in the fertility transition in southern states of India.

Table-1. mCPR, age-wise prevalence of female sterilization (FS) and % contribution of FS in mCPR among married women in reproductive age (MWRA).

NFHS-5 (2019-21)	Age-group wise prevalence Female Sterilization (%) among married women			mCPR among MWRA 15-49	%contribution of FS in mCPR
State/UTs/India	15-19	20-24	15-49		
INDIA	**0.4**	**7.9**	**37.9**	**56.5**	67.1
Andaman & Nicobar Islands	0.0	2.1	39.2	57.7	67.9
Andhra Pradesh	4.3	31.7	69.6	70.8	98.3
Arunachal Pradesh	0.0	0.5	18.2	47.2	38.6
Assam	0.0	1.2	9.0	45.3	19.9
Bihar	0.2	7.2	34.8	44.4	78.4
Chandigarh	0.0	0.0	19.0	55.6	34.2
Chhattisgarh	0.0	5.1	47.5	61.7	77.0
Delhi	0.0	1.4	18.0	57.7	31.2
DNH & DD	0.0	6.8	41.6	59.8	69.6
Goa	0.0	5.5	29.9	60.1	49.8
Gujarat	0.0	5.5	35.9	53.6	67.0
Haryana	0.0	3.5	32.3	60.5	53.4
Himachal Pradesh	0.0	4.3	37.7	63.4	59.5
Jammu & Kashmir	0.0	1.3	21.1	52.5	40.2
Jharkhand	0.3	8.1	37.4	49.5	75.6
Karnataka	0.5	15.3	57.4	68.2	84.2
Kerala	0.0	3.4	46.6	52.8	88.3
Ladakh	0.0	0.0	16.7	48.0	34.8
Lakshadweep	0.0	0.0	20.7	30.1	68.8
Madhya Pradesh	0.0	11.5	51.9	65.5	79.2
Maharashtra	0.4	9.4	49.1	63.8	77.0
Manipur	0.0	0.1	3.7	18.2	20.3
Meghalaya	0.0	0.6	5.6	22.5	24.9
Mizoram	0.0	0.1	13.0	30.8	42.2
Nagaland	0.0	0.3	14.4	45.3	31.8
Odisha	0.0	3.9	28.0	48.8	57.4
Puducherry	0.0	5.8	53.8	62.1	86.6
Punjab	0.0	2.0	22.8	50.5	45.1
Rajasthan	0.0	6.0	42.4	62.1	68.3
Sikkim	0.0	0.1	14.5	54.9	26.4
Tamil Nadu	0.7	16.4	57.8	65.5	88.2
Telangana	1.6	20.0	61.9	66.7	92.8
Tripura	0.0	0.3	10.5	49.1	21.4
Uttar Pradesh	0.0	1.4	16.9	44.5	38.0
Uttarakhand	0.0	2.4	26.0	57.8	45.0
West Bengal	0.0	7.6	29.4	60.7	48.4

Table-2. Age Specific Fertility Rate (ASFR) among young WRA, Total Fertility Rate (TFR) among WRA 15-49 and %contribution of young WRA to TFR.

NFHS-5 (2019-21) State/UTs/India	ASFR (WRA 15-19)	ASFR (WRA 20-24)	TFR (WRA 15-49)	%Contribution of young WRA to TFR		
				15-19	20-24	15-24
INDIA	**0.043**	**0.165**	**2.0**	**10.8**	**41.5**	**52.3**
Andaman & Nicobar Islands	0.022	0.087	1.3	8.6	34.0	42.6
Andhra Pradesh	0.067	0.165	1.7	19.9	49.1	69.0
Arunachal Pradesh	0.038	0.107	1.8	10.6	29.7	40.3
Assam	0.061	0.135	1.9	16.3	36.1	52.4
Bihar	0.077	0.259	3.0	12.9	43.5	56.4
Chandigarh	0.009	0.106	1.4	3.2	37.9	41.1
Chhattisgarh	0.024	0.151	1.8	6.6	41.5	48.1
Delhi	0.019	0.113	1.6	5.9	34.9	40.7
DNH & DD	0.04	0.168	1.8	10.9	45.7	56.5
Goa	0.014	0.055	1.3	5.4	21.2	26.5
Gujarat	0.034	0.151	1.9	9.1	40.6	49.7
Haryana	0.027	0.165	1.9	7.1	43.2	50.3
Himachal Pradesh	0.022	0.126	1.7	6.6	38.0	44.6
Jammu & Kashmir	0.009	0.06	1.4	3.2	21.3	24.5
Jharkhand	0.064	0.191	2.3	14.2	42.3	56.4
Karnataka	0.04	0.149	1.7	12.0	44.6	56.6
Kerala	0.018	0.123	1.8	5.0	34.4	39.4
Ladakh	0.002	0.037	1.3	0.8	14.1	14.9
Lakshadweep	0.002	0.066	1.4	0.7	23.2	23.9
Madhya Pradesh	0.037	0.188	2.0	9.3	47.2	56.5
Maharashtra	0.047	0.146	1.7	13.7	42.7	56.4
Manipur	0.043	0.11	2.2	9.9	25.3	35.3
Meghalaya	0.049	0.144	2.9	8.4	24.7	33.2
Mizoram	0.022	0.095	1.9	5.9	25.4	31.3
Nagaland	0.019	0.092	1.7	5.5	26.7	32.3
Odisha	0.04	0.138	1.8	11.0	37.9	48.9
Puducherry	0.025	0.095	1.5	8.4	31.9	40.3
Punjab	0.021	0.11	1.6	6.4	33.7	40.2
Rajasthan	0.031	0.177	2.0	7.7	44.0	51.7
Sikkim	0.022	0.056	1.1	10.5	26.7	37.1
Tamil Nadu	0.034	0.141	1.8	9.7	40.1	49.7
Telangana	0.048	0.171	1.8	13.7	48.9	62.6
Tripura	0.091	0.118	1.7	26.8	34.7	61.5
Uttar Pradesh	0.022	0.178	2.4	4.7	37.9	42.6
Uttarakhand	0.019	0.143	1.9	5.1	38.6	43.8
West Bengal	0.081	0.134	1.6	24.7	40.9	65.5

Table3- Female Age at Sterilization

NFHS-5 (Mean/Median age at Sterilization)		Age at Female Sterilization	
		Mean	Median
State	Jammu & Kashmir	29.89	29.50
	Himachal Pradesh	26.81	26.17
	Punjab	27.58	27.00
	Chandigarh	28.02	27.33
	Uttarakhand	27.41	26.83
	Haryana	26.30	25.75
	Nct Of Delhi	27.66	27.17
	Rajasthan	27.39	26.75
	Uttar Pradesh	29.11	28.58
	Bihar	28.23	27.58
	Sikkim	27.71	27.58
	Arunachal Pradesh	29.19	28.75
	Nagaland	31.08	30.50
	Manipur	32.08	31.50
	Mizoram	30.12	29.33
	Tripura	27.38	26.92
	Meghalaya	30.35	30.42
	Assam	28.76	28.17
	West Bengal	25.63	24.83
	Jharkhand	27.21	26.58
	Odisha	27.63	27.00
	Chhattisgarh	26.51	25.83
	Madhya Pradesh	26.39	25.75
	Gujarat	27.07	26.50
	Dadra & Nagar Haveli And Daman & Diu	26.70	26.08
	Maharashtra	25.92	25.25
	Andhra Pradesh	23.49	22.83
	Karnataka	25.55	24.83
	Goa	29.47	29.08
	Lakshadweep	30.17	30.50
	Kerala	28.04	27.58
	Tamil Nadu	25.71	25.17
	Puducherry	26.26	25.83
	Andaman & Nicobar Islands	25.70	24.83
	Telangana	24.43	23.83
	Ladakh	30.81	30.42
	INDIA	**26.43**	**25.75**