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RESEARCH ARTICLE

Female sterilisation in India: Examining the role of women's own decision making and information given to client

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Abstract

India has a very high prevalence of female sterilisation compared to other countries in the world, with a prevailing situation of very low level of information about contraceptive options given to women. It is well established in demographic research that, there exists a strong association between knowledge of contraceptive methods and type of contraception chosen. Present study uses data from 3 consecutive rounds of National Family Health Survey (3, 4 & 5). The sample contains currently married women who started using the current method 5 years prior to each round of survey. Multilevel Logistic Regression and Fairlie Decomposition Model are used to analyse the effect of information given to respondents and decision-making power regarding contraceptive methods on choice of female sterilisation. Women, who are informed about available methods, have lower chance (45.8%, 37.5% & 40% for NFHS 3, 4 & 5 respectively) to opt for sterilisation after controlling all other factors. If woman is the sole decision maker for contraceptive choice, the chance of sterilisation reduces than cases where decision is taken only by husband or jointly. Information about other methods also contributes towards reducing the chance of female sterilisation over the time. Information about contraceptive methods is found to be a major factor in controlling choice of temporary or permanent method. Thus, major focus for the policy makers should be to make information regarding contraceptives more accessible for women.

Keywords: Coerced Sterilisation; Contraceptive Decision; Informed Choice

Background

Contraceptives are the strongest weapons against the rapidly increasing number of births in high fertility countries. To make people aware and make the contraceptive methods acceptable, different approaches are popularised in family planning programmes throughout the world. When modern contraceptives were not so popular, India relied on Gandhian principle of periodic continence. From initiation of the Indian Family Planning Programme (FPP), initially reliance was on Intra-Uterine Devices (IUD) which did not succeed in the long run due to side effects and lack of infrastructure for proper insertion, monitoring and counselling (Coale, 1983). Indian government's focus was on reducing fertility at a higher pace within a short period of time. Hence, policies emphasised more on female sterilisation which is permanent and largely a one-time intervention, rather than other reversible methods like oral pills which needs monitoring to maintain the continuity (Bacci, 2017).

Female Sterilisation Scenario in India

Among all methods, 98% of currently married women are familiar with sterilisation as an available family planning method (IIPS & Macro International, 2007; IIPS & ICF, 2017; IIPS & ICF, 2021). No other method ever crossed the 90% hurdle of popularity, as Indian FPP targeted low births through permanent methods of contraception (Srinivasan, 2006). Though in the early phase of the FPP, government mostly concentrated on male sterilisation to stabilize the population growth (Harkavy & Roy, 2007), since the early 1980s under the new agenda of voluntary acceptance, female sterilisation became more popular (Singh et al., 2021) and high dependency on female sterilisation surpasses the promotion and utility of other modern contraceptives. Abolition of demographic targets of family planning in April 1996 along with recommendations of International Conference on Population and Development (ICPD), Cairo were largely responsible for this policy change in 1990s (Marriott & Sanchez, 1998). But this welfare approach was not successful as the budget allotted was not sufficient for Reproductive and Child Health (RCH) goals in India (Maharatna, 2002). Even though forceful sterilisation of the Emergency period was highly criticised, in the current age of voluntary female sterilisation is widely popular. According to United Nations, India contributed 37% to total female sterilisation of the world in 2011. 4.5 million women are being sterilised every year. The gap between male and female sterilisation is also profound vis-à-vis their mean age. Mean age of sterilisation for Indian women is 27 years only which extends up to 34 years for men (Epari et al., 2017). Since National Family Health Survey 1 (NFHS) (1992) the share of female sterilisation has gradually increased from 27.4% to 34.2%, 37.3%, 36.0% and 37.9 % for NFHS 2, 3,4 and 5 respectively. This shows an increasing trend of female sterilisation but the pace is getting slower; 6.8% increase between NFHS 1 & 2; 3.11% between NFHS 2 & 3, which reduced to -1.3% between NFHS 3 & 4 but increased 1.9% between NFHS 4 & 5, among currently married women. On the other hand, male sterilisation is negligible in comparison to female sterilisation. It accounts for only 3.31% in NFHS-1 (1992-93), and it gradually decreased over time from NFHS 1 to NFHS 5 (0.30%). An intriguing fact behind this scenario is that a major share of sterilised women (around 68%) were neither informed that this method of contraception is permanent and irreversible nor about the side effects (Singh et al., 2021). This dearth of knowledge causes regrets especially among young women who got sterilised before reaching their ideal family size or devoid of a male child (Singh et al, 2012).

Even with this high prevalence of female sterilisation the facilities especially in governmental sectors, which accounts for more than 80% of the female sterilisation in India, has poor infrastructure and women's health and sanitation is least prioritise. Guideline restricts the number of sterilisations up to 30 in a day per doctor but horrifying news reports such as a case from Bilaspur, Chhattisgarh where a surgeon performed 83 sterilisations in less than half of a day are not uncommon (Sharma, 2014). Studies also revealed that marginalised women of the society are targeted for forced and coerced sterilisation (Patel, 2017). Provision of incentive as a method of popularising female sterilisation makes women belonging to the lowest wealth quintile, uneducated, of higher parity and less exposed to media, more vulnerable to forced sterilisation violating the basic goal of quality of care in FPP (Singh et al., 2021) which also contributes the most in causing sterilisation regret (Bansal & Dwivedi, 2020).

Contraceptive Information and Decision

Quality of available information is the major cause behind voluntary choice of irreversible method and unmet need of other available spacing methods. Several misconceptions as well as myths restrict the acceptance of temporary methods over sterilisation which increases the inequality in exposure to family planning methods (Mohanty et al., 2020). So, women receiving better quality of care are more likely to adopt a temporary method, compared to those who received low service in terms of quality in many Asian countries (Koenig et al., 1997; RamaRao et al., 2003). Interpersonal relations between providers and users of contraceptives sometimes help to pass quality

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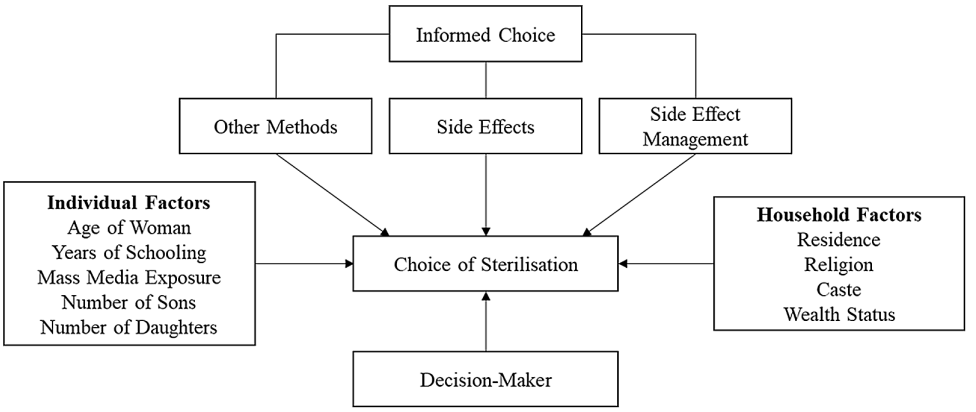

Figure 1. Conceptual Framework of the Study.

information before choosing any method which has direct relation to increase in contraceptive prevalence rate (Tumlinson et al., 2015). In Indian scenario the availability of contraceptive information highly depends on marital status as well, when currently married women aged 15-24 receives required information, they are likely to choose temporary spacing method over sterilisation (Pradhan et al., 2020). From NFHS-3 and NFHS-4 it was reported that, only 16% and 31% of women respectively received full information about contraceptive methods they were currently using (Rana & Jain, 2020). Similarly due to poor quality and non-systematic way of information provided, the contraceptive prevalence rate dropped from 2005 to 2015, even if the level of information increased (IIPS & Macro International, 2007; IIPS & ICF, 2017). Exposure to different mass media controls the accessibility of knowledge regarding available contraceptive methods to a large extent. It can also maintain the chain of information to reduce the percentage of discontinuation in case of temporary spacing method (Ghosh et al, 2021). Thus, India's 'Family Planning Vision 2020' focused more on quality of services in the case of sterilisation and this quality information can mainly be achieved via mass media exposure and interpersonal counselling as declared by the report (Government of India, 2014). The decision-making power and gender of the decision maker influences the choice of contraception. Though level of female empowerment varies widely across the states in India, the participation of women in decision making for the choice of contraception increased both in terms of joint consent and single decision from 2005-06 to 2019-21. Economic independence of women also ensures women's participation in choice of contraceptive method (Reed et al., 2016).

Existing literature mostly focused on the level of information of various contraceptive users and how this level of information is controlled by other socio-economic factors. The information regarding contraceptive methods is provided prior to the use of any method. How information provided, controls the choice of contraceptive methods is not addressed in existing studies. Thus, how this level of information is affecting the choice of sterilisation is the central theme of this study. The choice of contraception is also affected by the decision maker, whether it is the woman or her husband or it is a joint decision. So, the study has also incorporated the role of decision makers about contraceptive methods along with other controlling factors. Figure 1 shows the conceptual framework of the study including the control variables and the outcome variable.

Methods

Data Sources

Data is taken from the 3rd, 4th and 5th rounds of the National Family Health Surveys (NFHS) of India conducted in 2005-06, 2015-16 and 2019-21, respectively. NFHS is a nationally

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representative cross-sectional survey that includes representative samples of households throughout India. The survey provides state and national level estimates of demographic and health parameters as well as data on various socio-economic and programme dimensions, which are critical for policy implementation for demographic and health parameters. The NFHS-3 interviewed 109,041 households and 124,385 women aged 15-49, NFHS-4 interviewed 601,509 households and 699,686 women aged 15-49, and NFHS-5 interviewed 636,699 households and 724,115 women aged 15-49. In this study only married women are considered because almost 98% of the unmarried women were not using any contraceptive methods at the time of survey. The analysis done in the study only used those women who have started their current contraception use five years prior to surveys and women who were currently using Pill, IUD, Injectable and Female Sterilisation as the questions of 'Informed Choice' were only asked those particular women. The sample size used in the analysis are 13,682, 58,859 and 68,720 in NFHS-3, NFHS-4 and NFHS-5, respectively, as per availability of all the characteristics used in analysis per woman. Union territories were excluded in NFHS-4 and NFHS-5 for comparison with NFHS-3.

Variables

Outcome Variable

The current use of contraceptive method is coded into two categories; Not Sterilised (coded as "0"; using Pills, IUD and Injectables) and Sterilised (coded "1"; using Female Sterilisation). Only the aforementioned four modern contraceptive methods were chosen, as the informed choice questions were only asked to these particular four types of female method users i.e., Pill, IUD, Injections and Female Sterilisation.

Explanatory Variables

Level of information given to women were understood using 3 separate questions from the data set; at the time of initiation of the current method i.e., before they started using their current methods, "were you told about side effects or problems you might have with the method?", "were you told what to do if you experienced side effects or problems?", "were you told about other methods of family planning that you could use?". All these questions were coded as binary variables. Another important explanatory variable, 'Contraceptive Decision Maker' has been categorised into 4 options; whether decision is solely taken by Respondent or Husband/Partner, Joint Decision and Others. 'Mass Media Exposure' is a composite variable using 4 separate questions; exposure to TV, Radio, News Paper once in a week and exposure to Cinema Hall once in a month. All these binary variables (0,1) were added together to get composite values and coded them into three separate categories; "No Exposure, Exposed to 1-2 Media and Exposed to 3-4 Media". Other explanatory variables are 'Age Group of Women' (15-24, 25-34 and 35-49), 'Number of Sons', 'Number of Daughters', 'Residence' (Urban and Rural), 'Years of Schooling' (No Schooling, <5 Years, 5-9 Years and 10 or More Years), 'Religion' (Hindu, Muslim and Others), 'Caste/Tribe' (No Caste, Schedule Caste, Schedule Tribe, Other Backward Caste), 'Wealth Index' (Poorest, Poor, Middle, Richer and Richest). States were used for the Second Level variable and all respondents were nested in their respective states.

Statistical Analysis

The Multilevel Mixed Effect Binary Logistic Regression is used to understand the effects of various explanatory variables on the outcome variable. State-level variation in female sterilisation is higher in India and as respondents are nested in their respective states, the multilevel (Two levels) model is used. Cluster and Region levels were not included in the model as these were found not feasible.

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The level one is individual and the level two is state of residence. The logistic model with two level can be written as follows:

$$logit[\pi_{ij}] = \alpha + \beta_1 x_{1ij} + \beta_2 x_{2ij} + \cdots + \beta_k x_{kij} + u_{0j}$$

where, π_{ij} = whether respondent i in state j is sterilised, α is the constant, β is the coefficients of k variables, x is the explanatory variable and the random effect u_{0j} is the residual variance at second level (State). 3 separate sets of hierarchical models are used for each survey period to understand the consistency of the major explanatory variables over the dependant variable. For model I only the focused explanatory variables are taken into regression model, for model II individual level variables were added and in model III along with household level variables all the explanatory variables were controlled. A pooled data regression was applied taking into consideration all the 3 rounds together. Intraclass Correlation Coefficients (ICC) were also calculated. As the study used two level model and as the logistic regression do not have residual variance the following formula was used:

$$ICC = \frac{\sigma^2_{between}}{\sigma^2_{between} + \frac{\pi^2}{3}}$$

$$\sigma^2_{between} = variance\ among\ states\ in\ sterilisation$$

Further to estimate the contribution of explanatory variables in the change of mean of the outcome variable (sterilisation) between NFHS-3, NFHS-4, and NFHS-5, Fairlie Decomposition has been used. The Fairlie model was applied because the outcome variable is dichotomous in nature (Fairlie, 2005). The model is defined as

$$\bar{Y}^W - \bar{Y}^B = \left[\sum_{i=1}^{N^W} \frac{F(X_i^W \hat{\beta}^W)}{N^W} - \sum_{i=1}^{N^B} \frac{F(X_i^B \hat{\beta}^W)}{N^B}\right] + \left[\sum_{i=1}^{N^B} \frac{F(X_i^B \hat{\beta}^W)}{N^B} - \sum_{i=1}^{N^B} \frac{F(X_i^B \hat{\beta}^B)}{N^B}\right]$$

where, $\bar{Y}$ is the average probability of the female sterilisation, N is the sample size, W and B are two groups (NFHS-3 & 4, NFHS 4 & 5, and NFHS 3 & 5), F is the cumulative distribution function from logistic distribution. In the equation, the first term in brackets represents the part of gap that is due to group differences in distributions of X between two surveys or the 'Explained Part' and the second term represents the part due to differences in the group processes determining levels of Y or 'Unexplained Part' (Fairlie, 2005). Unexplained part is grown up with combine effect of coefficient of variables (Xs) and interaction of coefficient with distribution of X.

Results

Descriptive Results

The survey data shows the most popular method in India is female sterilisation. It covers almost one-third of contraceptive use along with pills and condoms becoming more popular since last decade. Overall contraceptive prevalence has declined a little (1.79%) between 2005-06 to 2015-16; but it has risen sharply (12.17%) between 2015-16 to 2019-21 (Table 1). Similarly female sterilisation has also decreased 1.32% between NFHS-3 and NFHS-4 but again increased 1.92% in NFHS-5. Information given to the client (respondents) has improved notably from 2005-06 to 2015-16. Knowledge regarding available contraceptive methods has also increased in the time period. Since NFHS-3, knowledge regarding female sterilisation was around 98% which remains almost same throughout the time period. But knowledge regarding other contraceptive methods have increased notably; 87.23% to 93.09% for pills, 74.30% to 86.01% for IUDs, 52.62% to 83.66% for injectables from NFHS-3 to NFHS-5 respectively.

Table 2 shows that along with information about contraceptive methods, their side-effect and side-effect management has also increased in the time being. Information received about other method has increased from 27.96% to 63.59% between NFHS-3 and NFHS-5, whereas the

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Table 1. Current Use and Knowledge about Contraceptives among Currently Married Women aged 15-49

	Current Use (%)			Changes (%)		
Contraceptive Methods	NFHS-3	NFHS-4	NFHS-5	NFHS-3 to NFHS-4	NFHS-4 to NFHS-5	NFHS-3 to NFHS-5
Not Using	43.67	46.46	33.29	2.79	−13.17	−10.38
Any Methods	56.33	54.54	66.71	−1.79	12.17	10.38
Pill	3.08	4.05	5.07	0.97	1.02	1.99
IUD	1.73	1.53	2.11	−0.20	0.58	0.38
Injectable	0.10	0.18	0.56	0.08	0.38	0.46
Condom	5.24	5.62	9.46	0.38	3.84	4.22
Female Sterilisation	37.31	35.99	37.91	−1.32	1.92	0.60
Male Sterilisation	1.03	0.27	0.30	−0.76	0.03	−0.73
Rhythm/Periodic Abstinence	4.94	3.52	6.24	−1.42	2.72	1.30
Withdrawal	2.52	2.26	4.02	−0.26	1.76	1.50
Female Condom	0.00	0.03	0.03	0.03	0.00	0.03
Other Traditional Methods	0.34	0.09	0.93	−0.25	0.84	0.59
Other Modern Methods	0.04	0.00	0.01	−0.04	0.01	−0.03
	Knowledge (%)			Changes (%)		
Contraceptive Methods	NFHS-3	NFHS-4	NFHS-5	NFHS-3 to NFHS-4	NFHS-4 to NFHS-5	NFHS-3 to NFHS-5
Not Using	–	–	–	–	–	–
Any Methods	99.26	99.01	99.73	−0.25	0.72	0.47
Pill	87.23	88.26	93.09	1.03	4.83	5.86
IUD	74.30	76.70	86.01	2.4	9.31	11.71
Injectable	52.62	73.37	83.66	20.75	10.29	31.04
Condom	76.05	81.90	90.29	5.85	8.39	14.24
Female Sterilisation	98.39	97.73	98.82	−0.66	1.09	0.43

(*Continued*)

Table 1. (*Continued*)

Contraceptive Methods	Current Use (%)			Changes (%)		
	NFHS-3	NFHS-4	NFHS-5	NFHS-3 to NFHS-4	NFHS-4 to NFHS-5	NFHS-3 to NFHS-5
Male Sterilisation	83.23	84.65	86.03	1.42	1.38	2.8
Rhythm/Periodic Abstinence	48.13	55.07	71.36	6.94	16.29	23.23
Withdrawal	36.33	52.99	74.63	16.66	21.64	38.3
Female Condom	8.27	21.53	25.78	13.26	4.25	17.51
Emergency Contraceptives	11.90	41.83	52.19	29.93	10.36	40.29
Standard Days	–	–	35.39	–	–	–
Other Modern Methods	0.15	0.30	12.46	0.15	12.16	12.31
Other Traditional Methods	5.44	16.42	52.92	10.98	36.50	47.48

Table 2. Contraceptive Decision Maker and Informed Choices among Currently Married Women aged 15-49 in Study Sample

	In %			Change (%)		
Informed Choices	NFHS-3 (N = 13682)	NFHS-4 (N = 58859)	NFHS-5 (N = 68720)	NFHS-3 to NFHS-4	NFHS-4 to NFHS-5	NFHS-3 to NFHS-5
Told about other methods	27.96	49.51	63.59	21.55	14.08	35.63
Told about side effects	32.37	43.87	58.13	11.5	14.26	25.76
Told about side effects management	26.10	41.02	55.27	14.92	14.25	29.17
No Information Received	57.66	40.90	26.91	-16.76	−13.99	−30.75
One Information Received	13.83	16.08	15.15	2.25	−0.93	1.32
Two Information Received	12.91	10.72	12.00	−2.19	1.28	−0.91
All Information Received	15.59	32.29	45.95	16.7	13.66	30.36
Decision Maker						
Women/Respondent	9.42	8.17	10.85	−1.25	2.68	1.43
Husband	4.87	8.50	8.28	3.63	−0.22	3.41
Joint Decision	85.19	83.21	80.63	−1.98	−2.58	−4.56
Others	0.52	0.12	0.25	−0.4	0.13	−0.27

information regarding side effect has increased from 32.37% to 58.13% and side effect management related information from 26.10% to 55.27% from NFHS-3 to NFHS-5 respectively. While all the aforesaid aspects show an increasing trend, the trend in joint decision-making regarding choice of contraception shows downward slope; 85.19% in NFHS-3 to 83.21% in NFHS-4 and 80.63% in NFHS-5, a total of 4.56% decrease within the time period.

Table 3 shows female sterilisation prevalence according to some chosen background characteristics. 60.89% of the respondents who are informed about other methods also, are sterilised in NFHS-5, though the percentage decreased 4.23% since NFHS-3. 61.52% of the respondent who has knowledge about side effects and 61.7% of the respondents who knows about side effect management has opt for female sterilisation in NFHS-5. Here also, the percentage reduced 7.82% and 6.95% between NFHS-3 and NFHS-5. Within the time period, 65.94% of the respondents who took joint decision are sterilised in NFHS-5 which was around 75.73% in NFHS-3. Exposure to 3-4 types of mass media helped in lowering the sterilisation prevalence in between NFHS-3 and NFHS-5; 63.77% to 61.54% respectively. According to age group, women aged 25-34 years has highest prevalence in female sterilisation for NFHS-5, 70.14%. 70.76% of the female having at least one son and 68.68% of the women having at least one daughter are sterilised. Sterilisation prevalence has decreased sharply for the rural areas, from 80.72% in NFHS-3 to 71.67% in NFHS-4 and 66.08% in NFHS-5. Rural urban gap in sterilisation prevalence has also reduced manyfold since NFHS-3. Sterilisation prevalence is highest among the respondents who does not have any schooling, 73.76% in NFHS-5. 67.70% of Hindu respondents are sterilised in NFHS-5 which is only 46.69% for Muslim respondents.

Regression Results

Table 4 and Table 5 show results of multilevel mixed effect logistic regression between female sterilisation and explanatory variables. The null model shows higher variance between the states in sterilisation prevalence as intraclass correlation (ICC) is increasing from NFHS-3 to NFHS-5.

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Table 3. Female Sterilisation Scenario with Various Background Characteristics in Study Sample

	Percentage Sterilised			Change (%)		
	NFHS-3 (N)	NFHS-4 (N)	NFHS-5 (N)	NFHS-3 to NFHS-4	NFHS-4 to NFHS-5	NFHS-3 to NFHS-5
Informed Choice						
Told about other methods	65.12 (13,682)	61.85 (58859)	60.89 (68720)	−3.27	−0.96	−4.23
Told about side effects	69.34 (13,682)	62.91 (58859)	61.52 (68720)	−6.43	−1.39	−7.82
Told about side effects management	68.65 (13,682)	62.89 (58859)	61.7 (68720)	−5.76	−1.19	−6.95
Contraceptive Decision						
Respondent	77.40 (1274)	68.05 (4897)	60.75 (7449)	−9.35	−7.3	−16.65
Husband/Partner	80.96 (577)	72.10 (5110)	65.56 (6243)	−8.86	−6.54	−15.4
Joint Decision	75.73 (11759)	69.68 (48774)	65.94 (54883)	−6.05	−3.74	−9.79
Others	68.01 (72)	54.98 (78)	37.22 (145)	−13.03	−17.76	−30.79
Mass Media Exposure						
No Exposure	83.67 (3739)	74.74 (17317)	64.96 (31604)	−8.93	−9.78	−18.71
Exposed to 1-2 Media	73.60 (8292)	68.07 (38471)	65.81 (34963)	−5.53	−2.26	−7.79
Exposed to 3-4 Media	63.77 (1651)	67.77 (3071)	61.54 (2153)	4	−6.23	−2.23
Age Group of Women						
15-24	66.19 (2733)	54.29 (10176)	44.40 (10837)	−11.9	−9.89	−21.79
25-34	79.33 (8702)	74.28 (37459)	70.14 (43482)	−5.05	−4.14	−9.19
35-49	77.40 (2247)	71.31 (11224)	68.25 (14401)	−6.09	−3.06	−9.15
Number of Sons						
No Son	48.03 (1661)	42.41 (7565)	36.44 (10670)	−5.62	−5.97	−11.59
At least One Son	79.33 (12021)	74.32 (51294)	70.76 (58050)	−5.01	−3.56	−8.57
Number of Daughters						
No Daughter	67.55 (3172)	60.02 (15080)	56.29 (18468)	−7.53	−3.73	−11.26
At Least One Daughter	78.60 (10510)	73.23 (43779)	68.68 (50252)	−5.37	−4.55	−9.92
Residence						
Urban	66.56 (6159)	65.36 (14687)	63.17 (13857)	−1.2	−2.19	−3.39
Rural	80.72 (7523)	71.67 (44172)	66.08 (54863)	−9.05	−5.59	−14.64
Years of Schooling						
No Schooling	85.82 (4709)	80.91 (17621)	73.76 (16569)	−4.91	−7.15	−12.06
< 5 Years	80.58 (1089)	67.57 (4312)	67.14 (4172)	−13.01	−0.43	−13.44
5-9 Years	72.42 (4455)	67.20 (21312)	64.60 (24564)	−5.22	−2.6	−7.82
10 or More Years	59.70 (3429)	63.27 (15614)	60.47 (23415)	3.57	−2.8	0.77
Religion						
Hindu	78.42 (10814)	73.05 (46933)	67.70 (54650)	−5.37	−5.35	−10.72
Muslim	58.20 (1319)	49.62 (5149)	46.69 (6325)	−8.58	−2.93	−11.51

(*Continued*)

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Table 3. (*Continued*)

	Percentage Sterilised			Change (%)		
	NFHS-3 (N)	NFHS-4 (N)	NFHS-5 (N)	NFHS-3 to NFHS-4	NFHS-4 to NFHS-5	NFHS-3 to NFHS-5
Others	69.56 (1549)	57.50 (6777)	61.90 (7745)	−12.06	4.4	−7.66
Caste/Tribe						
Others/No Caste	62.07 (4728)	55.34 (11900)	54.44 (11790)	−6.73	−0.9	−7.63
Schedule Caste	81.44 (2496)	71.76 (11657)	66.72 (14523)	−9.68	−5.04	−14.72
Schedule Tribe	83.38 (1701)	71.37 (23366)	64.55 (14752)	−12.01	−6.82	−18.83
Other Backward Class	82.87 (4757)	76.31 (11936)	69.54 (27655)	−6.56	−6.77	−13.33
Wealth Index						
Poorest	85.16 (1633)	75.28 (13232)	66.23 (17111)	−9.88	−9.05	−18.93
Poorer	83.53 (2081)	68.66 (13942)	64.49 (16624)	−14.87	−4.17	−19.04
Middle	81.94 (2775)	73.24 (12559)	67.79 (14594)	−8.7	−5.45	−14.15
Richer	73.95 (3445)	69.12 (10533)	65.45 (12139)	−4.83	−3.67	−8.5
Richest	57.56 (3748)	60.63 (8593)	61.13 (8252)	3.07	0.5	3.57
Total	13,682	58,859	68,720			

Table 4. Null Model showing the Variance of Female Sterilisation Users among States in India

	Adjusted Odds Ratio (Standard Error)			
Explanatory Variables	NFHS-3	NFHS-4	NFHS-5	Pooled Sample
Constant	1.751 (0.334)**	1.490 (0.404)	1.021 (0.263)	1.711 (0.010)***
Number of Groups	29	29	29	29
Number of Observations	13,682	58,859	68,720	1,41,261
Random Effect	Variance/Correlation Coefficients (Standard Error)			
Level-2 Variance (States)	1.043 (0.279)	2.121 (0.560)	1.919 (0.506)	3.336 (2.830)
Intraclass Correlation Coefficients (ICC)	0.241 (0.049)	0.392 (0.063)	0.368 (0.061)	0.504 (0.212)

Outcome Variable: Sterilisation (No/Yes); Level of Significance: ***$p<0.001$, **$0.001<p<0.01$, *$0.01<p<0.05$.

The null models showing 24.1%, 39.2% and 36.8% variance (ICC) in NFHS 3, 4, & 5 respectively due to difference in the use of female sterilisation among states. The analysis was also performed in the pooled data for robustness check and the pooled model shows 50.4% of variance due to difference among states in sterilisation prevalence.

The regression analysis shows information about other available contraceptive method lowers the chance of choosing sterilisation in model I by 52.1% (AOR 0.479), 42.1% (AOR 0.579), and 40.4% (AOR 0.596) for NFHS-3, 4, 5 respectively, whereas in model II after controlling individual level variables, the chance of sterilisation reduced by 46.4%, 39.9% and 38.7% for the respective three rounds. Similarly in model III, the probability decreases by 45.8%, 37.5% and 40% for the respective three rounds. The pooled sample regression also shows consistency over the models. Information about side effects also decreases the odds of choosing sterilisation from 23.8% to

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Table 5. Adjusted Odds Ratios showing effect of various explanatory variables on Female Sterilisation in India

	Adjusted Odds Ratio (Standard Error)											
	Model I				Model II				Model III			
Explanatory Variables	NFHS-3	NFHS-4	NFHS-5	Pooled	NFHS-3	NFHS-4	NFHS-5	Pooled	NFHS-3	NFHS-4	NFHS-5	Pooled
Told about other methods												
No®	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Yes	0.479 (0.024)***	0.579 (0.015)***	0.596 (0.015)***	0.584 (0.008)***	0.536 (0.029)***	0.601 (0.015)***	0.613 (0.014)***	0.613 (0.009)***	0.542 (0.030)***	0.625 (0.017)***	0.600 (0.014)***	0.589 (0.009)***
Told about side effects												
No®	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Yes	0.862 (0.060)*	0.860 (0.029)***	0.884 (0.026)***	0.796 (0.015)***	0.880 (0.065)	0.818 (0.027)***	0.769 (0.022)***	0.782 (0.015)***	0.892 (0.068)	0.861 (0.032)***	0.762 (0.022)***	0.786 (0.016)***
Told about side effects management												
No®	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Yes	0.907 (0.065)	1.107 (0.039)**	1.059 (0.032)	1.054 (0.020)**	0.953 (0.074)	1.134 (0.039)***	1.145 (0.034)***	1.134 (0.023)***	0.959 (0.076)	1.139 (0.044)***	1.124 (0.034)***	1.115 (0.024)***
Contraceptive Decision												
Respondent®	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Husband/Partner	1.237 (0.155)	1.188 (0.059)***	1.084 (0.044)*	1.096 (0.029)***	1.411 (0.190)**	1.074 (0.052)	1.076 (0.042)	1.092 (0.030)**	1.456 (0.202)**	1.094 (0.060)	1.110 (0.044)**	1.120 (0.033)***
Joint Decision	1.070 (0.076)	1.154 (0.043)***	1.160 (0.034)***	1.182 (0.022)***	1.274 (0.097)***	1.204 (0.044)***	1.337 (0.037)***	1.245 (0.025)***	1.285 (0.100)***	1.178 (0.048)***	1.306 (0.037)***	1.262 (0.027)***
Others	1.496 (0.447)	0.350 (0.099)***	0.406 (0.080)***	0.576 (0.069)***	1.835 (0.583)	0.569 (0.155)*	0.672 (0.130)*	0.775 (0.100)*	1.951 (0.638)*	0.383 (0.119)**	0.616 (0.122)*	0.760 (0.101)*
Mass Media Exposure												
No Exposure®					1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000

(*Continued*)

Table 5. (*Continued*)

	Adjusted Odds Ratio (Standard Error)											
	Model I				Model II				Model III			
Explanatory Variables	NFHS-3	NFHS-4	NFHS-5	Pooled	NFHS-3	NFHS-4	NFHS-5	Pooled	NFHS-3	NFHS-4	NFHS-5	Pooled
Exposed to 1-2 Media					0.834 (0.049)**	1.032 (0.026)	1.352 (0.026)***	1.243 (0.017)***	0.997 (0.065)	0.995 (0.032)	1.211 (0.025)***	1.168 (0.018)***
Exposed to 3-4 Media					0.756 (0.065)***	1.048 (0.052)	1.493 (0.076)***	1.416 (0.042)***	0.920 (0.086)	0.848 (0.050)**	1.309 (0.070)***	1.331 (0.042)***
Age Group												
15-24®					1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
25-34					1.922 (0.112)***	1.700 (0.046)***	1.806 (0.044)***	1.625 (0.026)***	2.025 (0.123)***	2.073 (0.065)***	1.857 (0.047)***	1.700 (0.029)***
35-49					1.725 (0.140)***	1.058 (0.038)	1.052 (0.033)	0.910 (0.019)***	1.851 (0.157)***	1.725 (0.070)***	1.158 (0.038)***	1.061 (0.024)**
No. of Sons (Continuous)					1.885 (0.058)***	2.503 (0.039)***	2.496 (0.033)***	2.244 (0.020)***	1.962 (0.063)***	2.420 (0.018)***	2.600 (0.036)***	2.418 (0.023)***
No. of Daughters (Continuous)					1.275 (0.032)***	1.557 (0.019)***	1.589 (0.017)***	1.490 (0.011)***	1.324 (0.035)***	1.484 (0.018)***	1.627 (0.018)***	1.569 (0.012)***
Years of Schooling												
No Schooling®					1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
< 5 Years					1.044 (0.098)	0.841 (0.036)***	0.928 (0.038)	0.743 (0.019)***	1.058 (0.102)	0.981 (0.048)	0.921 (0.038)*	0.796 (0.022)***
5-9 Years					0.698 (0.043)***	0.841 (0.023)***	0.995 (0.025)	0.770 (0.013)***	0.781 (0.052)***	0.896 (0.029)***	0.963 (0.025)	0.797 (0.014)***
10 or More Years					0.392 (0.028)***	0.654 (0.021)***	0.920 (0.025)**	0.728 (0.013)***	0.531 (0.043)***	0.633 (0.025)***	0.841 (0.025)***	0.736 (0.015)***
Residence												
Urban®									1.000	1.000	1.000	1.000
Rural									1.221 (0.069)***	1.159 (0.034)***	0.943 (0.024)*	1.080 (0.018)***

(*Continued*)

Table 5. (*Continued*)

	Adjusted Odds Ratio (Standard Error)											
	Model I				Model II				Model III			
Explanatory Variables	NFHS-3	NFHS-4	NFHS-5	Pooled	NFHS-3	NFHS-4	NFHS-5	Pooled	NFHS-3	NFHS-4	NFHS-5	Pooled
Religion												
Hindu®									1.000	1.000	1.000	1.000
Muslim									0.270 (0.022)***	0.228 (0.010)***	0.262 (0.009)***	0.275 (0.006)***
Others									0.785 (0.074)**	0.609 (0.029)***	0.417 (0.015)***	0.302 (0.006)***
Caste/Tribe												
Others/No Caste®									1.000	1.000	1.000	1.000
Schedule Caste									1.302 (0.092)***	1.317 (0.048)***	1.402 (0.042)***	1.480 (0.030)***
Schedule Tribe									1.157 (0.115)	0.948 (0.040)	1.044 (0.034)	0.864 (0.019)***
Other Backward Class									1.155 (0.069)*	1.160 (0.037)***	1.662 (0.043)***	1.726 (0.029)***
Wealth Index												
Poorest®									1.000	1.000	1.000	1.000
Poorer									0.921 (0.095)	0.917 (0.034)*	1.085 (0.029)**	0.992 (0.019)
Middle									1.013 (0.104)	0.856 (0.036)***	1.349 (0.040)***	1.219 (0.026)***
Richer									0.770 (0.083)*	0.739 (0.035)***	1.297 (0.043)***	1.227 (0.030)***
Richest									0.584 (0.070)***	0.609 (0.033)***	1.185 (0.047)***	1.047 (0.029)
Constant	2.304 (0.476)***	1.784 (0.488)*	1.319 (0.347)	2.232 (0.043)***	0.551 (0.138)*	0.355 (0.019)***	0.222 (0.010)***	0.364 (0.012)***	0.436 (0.120)**	0.301 (0.094)***	0.188 (0.011)***	0.264 (0.011)***

(*Continued*)

Table 5. (*Continued*)

	Adjusted Odds Ratio (Standard Error)											
	Model I				Model II				Model III			
Explanatory Variables	NFHS-3	NFHS-4	NFHS-5	Pooled	NFHS-3	NFHS-4	NFHS-5	Pooled	NFHS-3	NFHS-4	NFHS-5	Pooled
Number of Groups (States)	29	29	29	29	29	29	29	29	29	29	29	29
Number of Observations	13,682	58,859	68,720	1,41,261	13,682	58,859	68,720	1,41,261	13,682	58,859	68,720	1,41,261
Random Effect	Variance/Correlation Coefficients (Standard Error)											
Level-2 Variance (State)	1.094 (0.292)	2.120 (0.560)	1.976 (0.521)	3.573 (3.027)	1.390 (0.371)	4.905 (1.932)	4.796 (2.057)	4.139 (3.509)	1.488 (0.398)	2.669 (0.707)	3.387 (1.454)	3.125 (2.609)
Intraclass Correlation Coefficients (ICC)	0.249 (0.050)	0392 (0.063)	0.375 (0.062)	0.521 (0.211)	0.297 (0.056)	0.599 (0.095)	0.593 (0.104)	0.557 (0.209)	0.311 (0.057)	0.448 (0.066)	0.507 (0.107)	0.487 (0.209)

Outcome Variable: Sterilisation (No/Yes); ® Reference Category; Level of Significance: ***p<0.001, **0.001<p<0.01, *0.01<p<0.05.

11.6% significantly over the survey periods in all models. On the contrary, information about side-effect management increases the chance of being sterilised significantly almost 1.1 times in NFHS 4 (Model I, AOR 1.107; Model II, AOR 1.134; Model III, AOR 1.139) and NFHS 5 (Model II, AOR 1.145; Model III, AOR 1.124). Whether the husband is the sole decision maker or joint decision is taken regarding contraceptive methods, in both the cases, the chance of being sterilised slightly increases for all the models. With increasing age, the odds of sterilisation also increases though it is highest for the age group of 25-34 years (NFHS 4, Model III, AOR 2.073). Increasing number of sons and daughters both increase the chance of sterilisation 2.6 times and 1.6 times respectively after controlling all the variables (Model III). On the other hand, increasing years of schooling gradually declines the odds of female sterilisation. Being a rural residence increases the chance of sterilisation 1.1 times (pooled sample). In comparison to Hindus, Muslims have 72.5% lower odds of being sterilised in pooled sample.

The ICC values in the models indicating that there is a strong regional variation in the use of female sterilisation among Indian states. After controlling for all the variables in Model III, ICC explains 31.1%, 44.8%, and 50.7% variance among Indian states due to differences in prevalence of sterilisation among states. In all the models, ICC has been increased in later survey periods (NFHS 4 & 5) in comparison with NFHS-3, which is indicating increase variation or gap between states in terms of sterilisation prevalence.

Decomposition Results

Table 6 provides the results of Fairlie decomposition for changes in sterilisation between 3 rounds of NFHS. This is a twofold decomposition where explained part indicates the gap due to differences in the distribution of determinants between two surveys. Model I, II and III can explain the sterilisation gap around 39.09%, 70.14% and 48% between NFHS-3 and NFHS-4, NFHS-4 and NFHS-5, NFHS-3 and NFHS-5 respectively. In all three models of decomposition, positive contributors are increasing the sterilisation gap between two surveys or reducing sterilisation over time, whereas negative contributors are decreasing the sterilisation gap or increasing sterilisation over time. The reason behind this is that, in each of the decomposition models, the mean value of sterilisation is decreasing from earlier rounds to later rounds of survey. Information related to other methods (182.82%) and higher number of sons (101.78%) contributed maximum in creating sterilisation gap in between the survey of NFHS-3 to NFHS-4. Other important factors contributed positively in increasing the gap are increasing number of daughters (13.87%), years of schooling (15.78%). Within this period, wealth status (105.81%), caste (78.43%), religion (25.94%) and contraceptive decision-maker (10.17%) favouring the sterilisation i.e., contributed significantly in reducing the sterilisation gap. In between survey period of NFHS-4 and NFHS-5 also, information regarding contraceptive methods, their side effect and higher number of sons contributed in increasing the sterilisation gap but the percentage of contribution reduced from the previous period, 40.18%, 22.23%, and 46.46% respectively. Whereas, information regarding side-effect management (12.8%), number of daughters (10.52%), caste (8.20%) contributed in decreasing the sterilisation gap. If the factors are decomposed between the time period of NHFS-3 to NFHS-5, information related other methods (87.93%) and number of sons (51.27%) are identified as maximum contributors in increasing sterilisation gap, i.e., reducing sterilisation over time and wealth index (37.88%) and caste (24.61%) are significant factors contributed in reducing the gap.

Discussion

The study has tried to capture the effect of information given to women regarding contraception and their impact on the choice of contraceptive methods along with her own decision-making power regarding use of contraception. The contraceptive prevalence rate though dropped from

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Table 6. Fairlie Decomposition showing Major Contributors of Sterilisation Gap between Survey Years

	NFHS-3 to NFHS-4 (Model I)		NFHS-4 to NFHS-5 (Model II)		NFHS-3 to NFHS-5 (Model III)	
Mean Prediction	0.68148 (NFHS-3)		0.64830 (NFHS-4)		0.68148 (NFHS-3)	
Mean Prediction	0.64830 (NFHS-4)		0.58978 (NFHS-5)		0.58975 (NFHS-5)	
Raw Differential	0.03318		0.05851		0.09169	
Total Explained	0.01297		0.04104		0.04401	
Percentage of Explained Part	39.09 %		70.14 %		48.00 %	
Explanatory Variables	Coefficients (Standard Error)	Percent Contribution	Coefficients (Standard Error)	Percent Contribution	Coefficients (Standard Error)	Percent Contribution
Told about other methods	0.02371 (0.00219)***	182.82	0.01649(0.00081) ***	40.18	0.03870 (0.00358)***	87.93
Told about side effects	0.00269 (0.00172)	20.75	0.00912(0.00114) ***	22.23	0.00586 (0.00373)	13.32
Told about side effects management	0.00014 (0.00221)	1.11	−0.00525(0.00123) ***	−12.80	0.00029 (0.00441)	0.65
Contraceptive Decision	−0.00132 (0.00069)	−10.17	0.00116(0.00019) ***	2.83	−0.00093 (0.00084)	−2.11
Mass Media Exposure	0.00053 (0.00096)	4.09	0.00296(0.00092) **	7.22	0.00077 (0.00244)	1.75
Age of Women	−0.00055 (0.00046)	−4.23	0.00227(0.00022) ***	5.54	−0.00103 (0.00080)	−2.35
Number of Sons	0.01320 (0.00067)***	101.78	0.01907(0.00036) ***	46.46	0.02257 (0.00103)***	51.27
Number of Daughters	0.00180 (0.00019)***	13.87	−0.00432(0.00016) ***	−10.52	0.00353 (0.00028)***	8.03
Years of Schooling	0.00205 (0.00046)***	15.78	0.00373(0.00042) ***	9.08	0.00675 (0.00135)***	15.33
Place of Residence	−0.00216 (0.00187)	−16.66	−0.00079(0.00022) ***	−1.93	−0.00272 (0.00235)	−6.19
Religion	−0.00336 (0.00022)***	−25.94	0.00049(0.00015) **	1.21	−0.00196 (0.00017)***	−4.45
Caste/Tribe	−0.01017 (0.00161)***	−78.43	−0.00337(0.00021) ***	−8.20	−0.01083 (0.00198)***	−24.61
Wealth Index	−0.01372 (0.00303)***	−105.81	−0.00053(0.00025) *	−1.29	−0.01667 (0.00369)***	−37.88

Outcome Variable: Sterilisation (No/Yes); Groups: NFHS-3, NFHS-4, & NFHS-5; Level of Significance: ***$p<0.001$, **$0.001<p<0.01$, *$0.01<p<0.05$.

2005-06 to 2015-16 but it again raised and the latest NFHS report 2019-21 reports highest ever prevalence levels of contraception. However, increasing informed choice and decision-making power of women vis-à-vis, significantly reduced the chance for opting sterilisation as a method in all three rounds of the survey. Along with the informed choice and decision-making power

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regarding contraceptive methods, there are few major factors which controls the sterilisation choice of a woman in India.

The major factors, the study revealed, for determining sterilisation among women are information given to women about other contraception, age, number of sons and daughters, years of schooling, religion and place of residence. But with increasing prevalence of full information regarding other methods, the choice of contraception is increasing towards other modern temporary contraceptive options avoiding sterilisation. The study by Baveja et al., (2000) also supported this finding, that most of the women who are sterilised are actually due to lack of information provided to them, not by their own choice or preference. On the other hand, information regarding side effects of sterilisation and its management also plays an important role. Where quality information regarding side effect management is provided, women are likely to opt for sterilisation as it has fewer side effects compared to other methods, less failure rate and is a onetime process (Gizzo et al., 2014). On the other hand, government incentive for sterilisation adds on the benefit to majority of the population. Work opportunities for women also increased after sterilisation as studies found from NFHS survey itself, that women who are sterilised or use traditional contraceptives, they have higher employment chances in agricultural and production sectors (McDougal et al., 2021).

The three different questions used to understand the quality of information has different magnitude and different directional impact in controlling contraceptive prevalence, "Told about other methods" was found to be most important controlling factor not only in reducing individual's odds of choosing sterilisation but also significantly influenced in overall sterilisation reduction over the time period 2005-06 to 2019-21 (among the four methods used in the study), while other two questions did not have significant contribution in controlling sterilisation over the time period (Table 6). It must be noted that information was provided to women before they started their current contraceptive method, so all these information have immense importance in influencing their choice of contraceptive methods. Earlier studies also supported the finding that, most of the women who opted for sterilisation as a method, were not informed about other available methods and their side effects (Pradhan & Ram, 2009). Awareness of information about contraception and availability of various methods of contraception lead women to choose the better method as per their need and choice.

The chance of getting information is also indirectly triggered by the level of education of women, where highly educated women may have chances to cross verify the information provided. And thus, education also plays a significant role in the dichotomy of choosing between temporary and permanent methods. With increasing years of education, chance for getting sterilised significantly decreased. It can be seen that sterilised women have higher chances of employment (McDougal et al., 2021), but it has also been noted that employment is in agriculture and production sectors only where most of the women have lower level of education, which again indicates that highly educated women have lower rate of sterilisation. The trend in gradual increase in quality of information provided, ensures good impact on improving the quality of care in choice of contraception. Moreover, delivering correct information by health workers becomes a more important aspect that assures quality.

It is found that decision-making power influences the choice of contraception to a large extent. This finding is supported by existing literature. If husband alone takes decision regarding contraception, women may be forced to conduct sterilisation after attaining a certain age and having a sufficient number of male children. Incentives available in government facilities can act as a pull factor for choosing sterilisation under husband's sole decision-making power as well. The case could be worsened when third-party agent is incentivised to bring individuals for sterilisation (Wale & Rowlands, 2020). Incentives for sterilisation can play dual role. It can benefit individuals who are willing to get. But on the other hand, it can create social and other pressures on individuals, who are not willing to accept sterilisation. Increasing age of women also directly impact in increasing sterilisation prevalence, with women belonging to age group of 25-34 years having

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highest probability of choosing sterilisation. One of the major reasons of such finding could be that, the study uses women initiating their current method five years prior to surveys and most women start contraception between 25-34 years of age. The average age of female sterilisation in India also lies within this age group (IIPS & Macro International, 2007; IIPS & ICF, 2017; IIPS & ICF, 2021). When women belonging to younger age chooses permanent method like sterilisation due to lack of information, the situation worsens. These women tend to regret their choice at later ages (Curtis et al, 2006; Singh et al., 2012; Bansal & Dwivedi, 2020).

Son preference also has a direct impact on sterilisation prevalence; after attaining desired number of sons the odds of being sterilisation jump up. Thus, along with age, women with higher number of children willingly choose permanent method, but having the desired number of male children acts as a triggering factor towards sterilisation (Edmeades et al., 2011). The study has found clear distinction in how the effects of both the number of male and number of female children of women are working with different intensity (Table 5 & 6) in changing the sterilisation acceptance between two periods.

The sterilisation scenario in India hugely varies across the states of the country. Multilevel model reflects this phenomenon. This huge variation in Indian states is due to the government policies of individual state governments. States like Andhra Pradesh emphasised on female sterilisation to reduce the fertility level in the state and achieved the lower fertility rate successfully with female sterilisation as a major tool (IIPS & Macro International, 2007; IIPS & ICF, 2017; IIPS & ICF, 2021). A strong inverse relationship exists between this regional variation in female sterilisation and information regarding contraceptive methods. States with lower level of information have higher prevalence of female sterilisation (IIPS & Macro International, 2007; IIPS & ICF, 2017; IIPS & ICF, 2021), which again reinforces the interconnection between prevalence of sterilisation and level of information regarding different contraceptive methods.

Quality of care services also varies highly on a regional basis across India; many FPP centres are racing among each other for conducting higher number of sterilisations, overlooking necessary precautions to a great extent, which is found to often result in death or severe bad impact on health after sterilisation (Sharma, 2014; Brault et al., 2016). Studies showed, without the proper process of sterilisation, women can have pernicious health effects (Kumar et al., 2020). Proper process is a wholesome term, which not only centres around the surgical process of sterilisation but starts from the quality of information given to the client. The human rights in patient care framework (HRPC) describes that 'Right to Information' is violated when "A state fails to provide information on health care services, Physicians fail to provide patients with information about treatment options and the potential risks and benefits of each procedure" (Cohen & Ezer, 2013). Thus, in light of the aforesaid framework, lack of full information prior to choosing any contraceptive method over others is violation of not only human rights but also a symbol of poor quality of care. We find that to ensure the quality, ensuring complete information regarding contraception provided is the most vital aspect to be focused on.

Though the study unfolds many research gaps in the field of female sterilisation in India, but it has some limitations. Most of the decisions about contraceptive methods are taken jointly, but who is the dominated person in this joint decision is not available in data. The informed choice questions are limited and only limited to four contraceptive methods.

Conclusions

Female sterilisation in India is the most dominant contraceptive method in terms of number of users. Government has also promoted it more than other methods. But question arises that do all sterilised women accepted this method by their own choice? If information about other possible methods is given to women at the time they are thinking of starting use of contraception, then, the study found, women are less likely to choose sterilisation as a method. Moreover, choice of

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sterilisation is not solely dependent on the women herself, rather on her husband and others. So, correct and full information regarding availability of other methods, their side effects and management of side effects needs to be shared with prospective users. Government policies must stress on providing full information about all available contraceptive methods and monitoring of the same. Along with these, women empowerment via education, job opportunities etc. can also help women to choose methods as per their need and choice.

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