

## **Socio-economic Differentials in Contraceptive Discontinuation in India**

Kiran Agrahari\* and Rajesh Kumar Chauhan\*\*

### **Introduction**

Like many developing countries, India also has experienced a noteworthy decline in fertility rates in the last two decades; attributed factors has ranged from the role of continuing improvements in socio-economic, health and educational structure in the country, to the sole boost in contraceptive use; however the rise in contraceptive prevalence is not in tune with the fertility levels of the country. This draws attention to the need of study of factors lying behind the prevailing mismatch between the levels of fertility and contraceptive use. With the increase in contraceptive prevalence, aspects of continuity and correct method use after adoption become crucial to affect fertility levels. An early and frequent discontinuation pattern accompanied with the incorrect use can be among the plausible rationales behind the high levels of unintended pregnancies.

Understanding the use pattern of spacing method use is more critical in the wake of early marriages of girls in the country (majority of girls continued to marry before age 18), substantial increase in the use of traditional method (from 4% in 1992-93 to 8% in 2005-06), promotion of optimal birth spacing, higher unintended pregnancies and unsafe abortions, unchanged median age at sterilization (25 years in last 14 years) and higher discontinuation rate of reversible methods (40% users discontinued within 12 months of use). Moreover, the increase in contraceptive use may not necessarily translate to reduction in fertility if the duration of use of methods is small, discontinuation is high and the method is less efficient.

Though we have periodic and reliable information on contraceptive use by methods, little is known on the duration of spacing method use in the country. This is due to lack of comprehensive representative evidences on duration of spacing method use prior to National Family Health Survey-3 (NFHS-3), 2005-06. The NFHS-3 for the first time used calendar

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\* Doctoral candidate, International Institute for Population Sciences, Mumbai, India.

\*\* Joint Director, Population Research Centre, Department of Economics, University of Lucknow, Lucknow –227 007.

method, collected contraceptive histories in five years preceding the survey and provides opportunity to understand the duration of method use. In this context, this paper attempts to study the factors lying behind the contraceptive discontinuation in India. Three types of discontinuations have been studied: failure, switching and abandoned while at the risk of unintended pregnancy.

## **Data and methods**

Calendar data from the National Family Health Survey-3 has been utilized to analyze the level and determinants of discontinuation and switching in India. The unit of analysis is episode among ever married women aged 15-49 years. An episode is defined as a continuous period of specific contraceptive method use. A switch to other method commences a new episode of contraceptive use. The episodes started 3-59 months prior to the survey have been included in the analysis. To avoid the underreporting of failure events, the data pertaining to three months immediately before the survey has been deleted from the study. Primarily episodes of pill, IUD, condom, periodic abstinence and withdrawal were taken into account. Episodes of use of injections, diaphragm, norplants/implants, female condom and other traditional methods could not be analyzed because of too few users. For the analysis of sample characteristics the entire episode related to methods were kept.

A failure is defined as episodes that were ended because the respondent said she got pregnant while using the method. Switching is defined as episodes that were followed in the next month by use of a different method (including folk methods) and abandoning use refers to episodes that were followed in the next month by nonuse (including pregnancy but excluding contraceptive failures). ‘Abandon, in need’ is defined as episodes that were discontinued because of side effects, husband’s disapproval, health concerns, access/availability, desire for a more effective method, inconvenience of use, a fatalistic attitude, cost, other unspecified reasons, and ‘don’t know’ responses. If the reason for discontinuation is missing, women are considered to still need contraception. ‘Abandon, not in need’ is defined as episodes that were ended due to a desire to get pregnant, infrequent sex, menopause/infecundity and marital dissolution.

### *Statistical methods*

The multiple decrement life table approach was applied to study the reasons lying behind the contraceptive discontinuation. A multilevel discrete-time competing-risks hazard analysis was done to study the probability of each type of switch at a given duration of use.

### **Results**

Table 1 presents method specific 12 month net discontinuation rates for discontinuation. The most likely stoppers were pill users (49%) followed by condom users (44%). IUD users are the least likely to stop with 81% persisted to use the method after one year. The main reason for discontinuation varied from the reasons like side effects for pill and IUD to method failure in case of traditional methods.

Table 2 shows the 12 month net discontinuation rates by reason for discontinuation for India and regions. The discontinuation was reportedly high in the states with lower prevalence of spacing methods. The discontinuation pattern differed with the age, place of residence, parity and wealth quintiles; however the educational attainment showed very little or no effect on the discontinuation level (table not given).

Figure 1 shows the variation in cumulative probability of discontinuation from method to method and by duration of use. Within the first 36 months of use the discontinuation for pill is highest among all the methods and are followed by condom users and further by traditional method users. At all durations, IUD users are the least likely to discontinue the method. The discontinuation pattern for the two traditional methods are relatively moderate than the modern spacing methods.

The multilevel multivariate analysis, presented in table 3, suggests that the contraceptive method used, experience with the immediate previous method, age, parity wealth status and parity of women were found to influence the switching behavior. A large amount of unexplained variation in discontinuation rates remains at the community level.

Table 1 Twelve-month net discontinuation rates by reason for discontinuation, India, 2000-06								
Contraceptive method	Net rates							
	Method Failure	Wanted to get pregnant	Side effects	Costs too much	Infrequent sex	Marital dissolution	Other reasons	all reasons
Pill	2.7	7.8	19.7	0.3	7.5	0.1	10.6	48.8
IUD	0.8	2.5	11.1	0.0	0.3	0.0	4.3	19.1
Condom	3.5	14.6	2.6	0.8	4.9	0.1	18.0	44.4
Periodic Abstinence	7.6	13.4	0.3	0.0	2.5	0.1	7.8	31.6
Withdrawal	7.2	11.1	0.5	0.0	5.5	0.1	11.3	35.7

Table 2 Twelve-month net discontinuation rates by reason for discontinuation, all methods except sterilization, India and regions, 2000-06								
India/region	Method Failure	Wanted to get pregnant	Side effects	Costs too much	Infrequent sex	Marital dissolution	Other reasons	Total
India	4.6	11.0	6.6	0.3	4.5	0.1	11.7	38.7
North	2.5	11.9	6.3	0.0	2.7	0.1	7.8	31.2
Central	6.8	10.9	6.1	0.3	5.6	0.0	13.7	43.4
East	5.8	8.4	7.4	0.4	4.9	0.2	11.6	38.6
Northeast	2.7	12.0	4.7	0.9	2.6	0.1	10.8	33.7
West	1.4	15.5	7.1	0.1	1.2	0.1	10.1	35.6
South	2.1	11.0	6.8	0.0	8.6	0.0	13.2	41.7

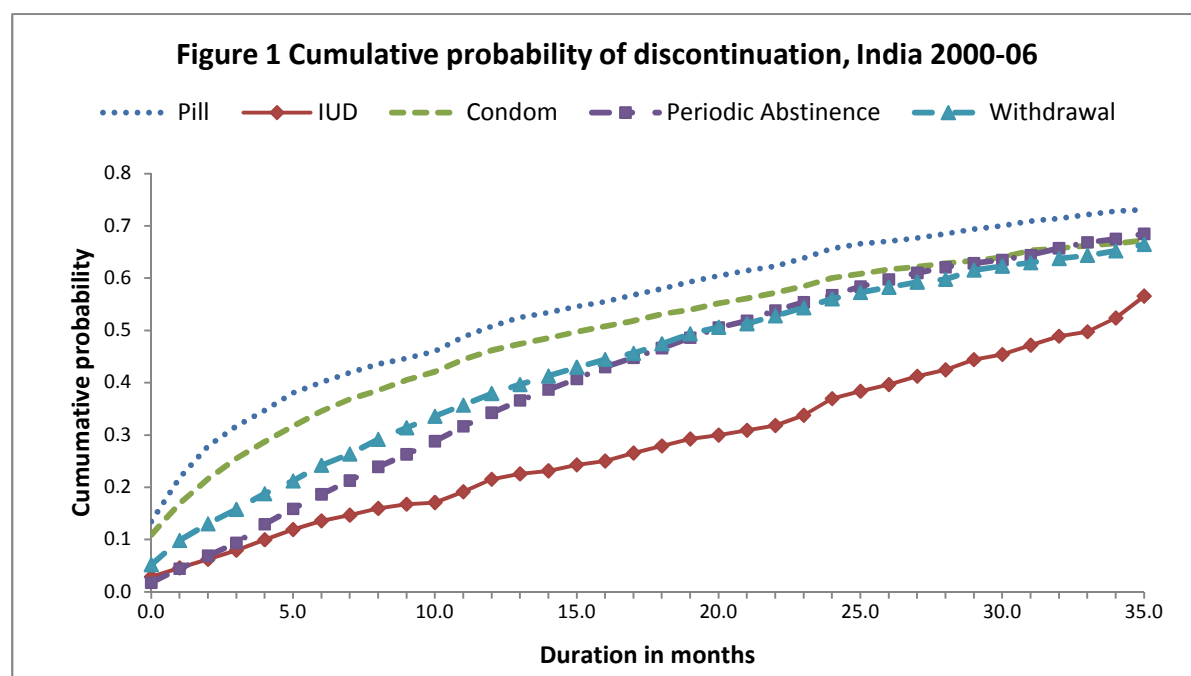


Table 3 Coefficients and standard errors for discontinuation, India, 2000-2006

	Switch to other method/continued		Failure/continued		Abandoned and in need/continued	
	Coefficient	SE	Coefficient	SE	Coefficient	SE
Constant	-4.968***	0.149	-6.177***	0.180	-2.881***	0.140
duration	-0.432***	0.027	0.018	0.039	-0.518***	0.027
duration square	0.033	0.003	-0.001	0.005	0.037	0.003
age at the beginning of episode						
<20 years	0.000	-	0.000	-	0.000	-
20-30 years	-0.062	0.066	-0.214***	0.075	-0.306***	0.061
>=30 years	-0.221***	0.081	-0.789***	0.101	-0.345***	0.076
Place of residence						
Urban	0.000	-	0.000	-	0.000	-
Rural	0.199	0.051	-0.019	0.062	0.132	0.054
Educational attainment						
No education	0.000	-	0.000	-	0.000	-
<5 years of education	0.207	0.090	-0.093	0.105	0.087	0.082
5-9 years of education	0.190	0.066	-0.023	0.072	-0.089	0.059
10 or more years of education	0.280	0.074	-0.094	0.088	-0.262***	0.072
Parity at the beginning of episode						
no child	0.000	-	0.000	-	0.000	-
1-2 children	-0.483***	0.078	-0.451***	0.095	-0.702***	0.080
3 or more children	-0.560***	0.093	-0.618***	0.112	-0.840***	0.093
contraceptive method						
Pill	0.000	-	0.000	-	0.000	-
IUD	0.114	0.051	0.669	0.076	-0.376***	0.048
Condom	-0.419***	0.059	0.841	0.072	-1.774***	0.075
Traditional methods	-0.347***	0.063	0.979	0.075	-1.652***	0.088
Caste						
SC/ST	0.000	-	0.000	-	0.000	-
OBC	-0.024	0.063	-0.078	0.074	0.024	0.059
Other	-0.048	0.057	-0.086	0.070	-0.204***	0.058
Religion						
Hindu	0.000	-	0.000	-	0.000	-
Muslim	-0.078	0.065	0.212	0.071	0.054	0.063
Other	-0.250***	0.072	0.222	0.087	0.049	0.074
Wealth quintile						
Poorest	0.000	-	0.000	-	0.000	-
Poorer	0.153	0.085	-0.157**	0.081	-0.194***	0.072
Middle	0.226	0.087	-0.405***	0.091	-0.165**	0.076
Richer	0.221	0.092	-0.483***	0.099	-0.329***	0.083
Richest	0.157	0.100	-0.710***	0.114	-0.548***	0.094
Region						
North	0.000	-	0.000	-	0.000	-
Central	0.130	0.083	0.596	0.099	0.670	0.081
East	0.424	0.082	0.272	0.105	0.331	0.087
North-east	0.543	0.079	0.178	0.103	0.044	0.086
West	0.211	0.093	-0.227*	0.142	0.138	0.100
South	0.124	0.102	0.474	0.126	0.592	0.098
reason for discontinuing previous method						
No previous method	0.000	-	0.000	-	0.000	-
Not method related	-0.727***	0.111	-0.968***	0.165	-1.655***	0.152
Method related	2.084	0.043	2.616	0.058	1.671	0.040
Random effect variance						
PSU level	0.256	0.032	0.169	0.037	0.401	0.037

\*Significant at p&lt;0.10; \*\*p&lt;0.05; \*\*\*p&lt;0.01