

Linkages between Unintended Births and Contraceptive Discontinuations in India

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Abstract

In developing countries like India, the issue of unintended pregnancy in context of use of contraception has not been explored till date. This study takes advantage of calendar data, which is first time available in Indian National Family Health Survey (2005-06), to deal with the main reasons of contraceptive discontinuation and its correlates, in relation with unintended pregnancy. Analysis revealed more than 40% of ever married women had discontinued using contraception because they become pregnant while using. Another key factor for the discontinuation was also found to be disapproval of husband. It should be noted that more than 23% responses were inconsistent, with respect to unintended pregnancy/birth. Further, among users of family planning, failure of periodic abstinence contributed more than 25%, whereas discontinuation of pill and condom contributed more than 23 and 22%, respectively, in increasing the unintended pregnancy. The main reasons of discontinuation due to husband disapproval are highest for condom followed by withdrawal.

Keywords: Unintended; Pregnancy; Contraceptive; Discontinuation; Inconsistent; India

Introduction

The increased use rate of contraception has been observed in India during last two decades. This increased rate is responsible to some extent to bring out the fertility at the level of 2.68 in the year 2005-06 from 3.39 in the year 1992-93. On the other hand, the level of unwanted fertility is still stagnant, and it needs more specific attention as it cannot be declined the same speed, as in the case of fertility rate. Further, it has also been observed with the help of cross-sectional data of Latin American and Caribbean countries that although marital fertility has fallen from earlier time period [1], the proportion of unwanted births, on average, has increased. Moreover, National Family Health Survey (NFHS) data reports that around one fourth births were unwanted in India in all the three rounds of surveys (IIPS 1995; IIPS & ORC Macro 2000; IIPS & ORC Macro 2007) [2-4].

The high level of unwanted fertility might be adversely affect a country's rate of demographic and perhaps, indirectly, economic-growth [1]. In addition, various aspects of development like health and economic status are also very much affected by unwanted births. Study rightly pointed out that the incidence of unwanted fertility might be relevant to understand the health and well being of individual couples and their children [5].

The relationship between unwanted pregnancy and contraceptive practice has been addressed in the several studies. Study found high level of unwanted pregnancy among ever married women in India [6]. Previous studies show that among the important determinants of unwanted fertility are: place of residence, age of women, number of living children, child loss, preceding birth intervals and measure of economic status [7,8].

The option of number of births couples exercise will depend upon the ability of couples to plan the timing of births. Although family planning is much more widely available, still couple's ability to control their fertility is limited. About 20% of couples in developing countries reported that they want to space or limit their fertility, yet currently do not have accessible, affordable, or appropriate means to do so. Moreover, reasons for which couples are not adopting contraception for the prevention of unwanted pregnancies comprise lack of access to family planning information and services, personal or religious

beliefs, inadequate knowledge about the risks of pregnancy, following unprotected sexual relations, and opposition from family members.

Literature suggests that adoption of family planning method is not only significant ways to avert unintended pregnancies. The extent, to which couples who adopt a family planning method continue to use it, is also very crucial [9,10]. In this regard, quality of family planning services has contributed to increased contraceptive use and their continuation. Several researchers have found high rates of discontinuation due to quality-related reasons [9,11,12]. Long-term contraceptive use is significantly higher if family planning services offer a choice, over the period of time. Most of the women who had not received the contraceptive of their choice had dropped out of the programme within one year, compared to their counter parts. A recent study in Indonesia also showed that the contraceptive continuation rate is dependent on the contraceptive choice itself, when applied to the effect of choice for IUD and implants [13].

The most commonly cited reasons for contraceptive discontinuation in India and other developing countries include: quality, accessibility, cost of family planning services and side effects; fear of a particular method or health reasons for not using a method; opposition and religious objections to family planning. Misconceptions about contraceptive use and a negative image of the family planning programme are also sometimes mentioned as reasons for discontinuation [14].

Although considerable amount of work has been done on the factor associated with unwanted pregnancy in the developing countries, but the issue of reasons of unwanted pregnancy in context of socio-demographic factor is still little understood. For family planning program and population policy, it is very important to know the reasons

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of unintended pregnancy [15]. Understanding the socioeconomic condition of women who discontinue use is also crucial in ensuring that family planning programmes are able to meet their needs. Therefore, it is proposed to explore the possible reasons of unintended current pregnancy/recent last birth. More specifically, this paper examines the effect of socioeconomic, demographic factors and method attributes on contraceptive discontinuation in India. Another purpose is to identify the main reasons of contraceptive discontinuation and its correlates. Lastly, this study focuses on inconsistency of reporting of status of current pregnancy. A few studies in India have directly explored these issues till date.

Materials and Methods

The Nationwide data from India's latest National Family Health Survey-3 (NFHS-3) conducted during 2005-06 was used for this study. This survey covered a representative sample of 1, 24, 385 women in the age group of 15-49 years. Sampling method used under NFHS-3 was multistage systematic random sampling. NFHS-3 collected information of status of births which occurred in five year preceding the survey, and also they collected information about the status of current pregnancy (IIPS & ORC Macro 2007) [4]. To fulfill the objectives of the study, a sample of 1415 and 8035 ever married women were selected, who reported their current pregnancy, and recent birth was mistimed/unwanted, respectively. This study was restricted to women who were using any contraceptive methods before recent birth/current pregnancy, did not experience pregnancy termination between index pregnancy/birth and previous birth, and having complete information (not left censoring cases). Only 427 and 1736 women have fulfilled the above criteria in case of current pregnancy and for recent birth, respectively. Analysis of data has been carried out after assigning weights.

The dependent variables used in this analysis are methods and reasons-specific discontinuation of contraceptive use to the ever-married women. A few meaningful explanatory variables were included, owing to the lack of association with the outcome variable. The independent variables for the present study are: region to which selected woman belongs (central/north/east/northeast/west/south); place of residence (rural/urban); religion of head of the household (Hindu/Muslim/others (it includes other than Hindu and Muslim religion)); caste of head of the household (others (it includes other than scheduled caste and scheduled tribe)/scheduled caste/scheduled tribe); age of the women (less than 19/20-24/25-29/above than 30); educational status of woman and partner (illiterate/literate but below primary level/primary school completed, but below middle level/middle school completed, but below high school/high school, and above). The first category of these independent variables is considered as reference category in the multivariate analysis (in multivariate analysis categories of women age, women and partner's education variable has been changed).

Northern part includes Delhi, Haryana, Himachal Pradesh, Jammu and Kashmir, Punjab, Rajasthan and Uttaranchal; Central part consists of Chhattisgarh, Madhya Pradesh and Uttar Pradesh; Bihar, Jharkhand, Orissa and West Bengal come under Eastern region; Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim and Tripura come under Northeastern wing, Western region includes Goa, Gujarat and Maharashtra, while Southern region included Andhra Pradesh, Karnataka, Kerala and Tamil Nadu.

The present form of variables was found to be most appropriate. It was finalized by taking into account theoretical considerations, as well as the results of the series of preliminary analysis with alternatives

groupings. Some previous analyses also had shown them to be significant determinants of discontinuation behavior [12,16].

In NFHS-3, the intention status is measured for all births in the preceding 5 years and current pregnancies by the following question: "At the time you became pregnant with (name of child), did you want to become pregnant then, did you want to wait until later, or did you want no more children at all?" If women reported that she wanted to be pregnant, then was considered to have had an intended births/current pregnancies. A woman who reported that she wanted to be pregnant later, or didn't want to be pregnant at all was considered to have had unintended births/current pregnancies.

The NFHS is a cross-sectional survey with a strong focus on the reproductive history and behavior of currently married women in India. The important section of the data for purposes of this study is the calendar of contraceptive practice, and pregnancy outcomes. It is first time available in NFHS-III questionnaire. It is also known as retrospective reproduction calendar. The study takes advantage of calendar data gathered, in conjunction with the individual questionnaire. In this questionnaire, female survey respondents were asked to report retrospectively their pregnancy status, pregnancy outcomes, and contraceptive use, as well as reasons for discontinuation on a month-by-month basis, for a period covering 67 to 69 month from January 2001 to what-ever month the interview took place in 2006. A five-year contraceptive history (January 2001 to January 2006) was collected for each woman who or whose husband was not sterilized at the calendar's start. The data were recorded in a calendar matrix, consisting of rows and columns. Each row of the calendar represents a particular month. For every discontinuation of a method, the reasons for discontinuation was also recorded in corresponding column in the last month, the method was used during an episode of continuous use.

In order to understand the probability of the consistent, inconsistent response, and probability of those women who reported that their current pregnancy was unwanted/mistimed, but she never used contraceptive, or never used contraceptive since recent last birth, a two step choice model has been employed. At the first step of this two-step model, we consider only those women who were reported their currently pregnancy is unwanted ($n=513$) or mistimed ($n=902$). The observed value of the response variable is to be one if woman has given responses for reason of contraceptive discontinuation, otherwise zero. 'P' denotes the probability of reason of discontinuation. So, $(1-P)$ is the probability that women have not given response for reason of discontinuation of contraceptive use (because those women have come in this category, either they were never used contraceptive or they had not been using it since last birth).

If woman has given response for reason of contraceptive discontinuation, the second step involves the choice of a type of response. The second binary logit model is fitted to that subset of women who have already given response for reason of contraceptive discontinuation in the first step. We defined the observed value of the response variable to be one if the woman response is inconsistent, and zero if a response is consistent. Defined P' which is the conditional probability that response is inconsistent given that woman has given response, irrespective of type of response. So, PP' is the probability that a woman in the original sample has eligibility of giving response, and then her response is inconsistent, and $P(1-P')$ is the probability that a woman reported response and then her response is consistent.

The Statistical Package of Social Sciences (SPSS) for Windows version 15.0 has been used for study purpose. SPSS syntax was also

created in order to prepare new sets of variables related to the calendar of contraceptive practice and reason of discontinuation.

Hypothesized Relationship Between Response Variable and Possible Factors

Contraceptive method choice

According to previous studies, it was found that contraceptive discontinuation and method choice are highly correlated.

Region and place of residence

One of the explanatory variables is region to which selected woman belongs (central/north/east/northeast/west/south).

Place of residence has two category (rural/urban). In developing countries like India, in rural area, socio economic condition are generally very poor, and health care facilities are less readily available and tend to be of poorer quality. The differences usually result in higher discontinuation of contraceptive in rural areas than in urban areas. In many developing countries, urban areas are often associated with higher education, better access to health facility and family planning, and other social services. Moreover, geographical location is also important: rural areas provide lower levels of services, information and opportunities than urban areas. Consequently, discontinuation of family planning methods are expected to be lower in urban than in rural areas.

Religion

Three categories of religion have been made (Hindu/Muslim/others (it includes other than Hindu and Muslim religion)); Religion becomes the natural choice to start with, as religious affiliation and conviction determines, to some extent, the wantedness of a pregnancy and its mode of termination. Within social demography, religion is frequently cited as an important factor forming the basis of one's identity and hence, being an indispensable part of the culture; religion often finds central place in the study of population dynamics. In the present setting, it is expected that the pure religion effect will be much stronger in the Muslim as compared to Hindu and others religion, therefore, contraception discontinuation is high in Muslims.

Caste of the respondent

In caste variable also, three categories of caste have been made (scheduled caste/scheduled tribe/others (it includes other than scheduled caste and scheduled tribe)). Ethnicity based on caste has been one of the important considerations in analyzing any attitude or practice indicators in the field of development, as well as population. Cultural practices and beliefs, as well as due to poorer accessibility to family planning services, are some of the factors which affect discontinuation and intention to use contraception [17].

Age of the respondent

For explanation of contraceptive continuation, age of the respondent stands out as an important variable. Women contraceptive goals are measured by her age. The research has generally shown that adolescent are more likely to not to use or misuse contraceptive than older women [18]. It has been analyzed that, contraceptive discontinuation, based on Demographic and Health Survey data from six countries [11]. Result shows that method failure was almost higher among young women, who had not yet reached their desired family size than older women who already reached their preferred number of children.

Education of the women

Contraceptive discontinuation has the expected association with education of the women. It is expected that women's education exert an

influence on contraception discontinuation, as education is expected to increase the receptivity to "new technologies", including awareness and the use of contraception to prevent unintended births. High level of literacy may contribute to an assumption that women have considerable control over their use of contraceptive. However, some study shows that educated women know about various contraceptive methods, so switching is high [11].

Partner's education

Contraceptive discontinuation can also be related to partner's education. There exists a concept of parallelism between women's and partner's education. This means that in the northern region of India, when men are more educated, there is a greater chance that their wives will be educated or vice-versa. So without controlling partner's education, one cannot examine the effect of wife's education on contraceptive discontinuation.

Results

Table 1 presents the percent distribution of those women who have discontinued the use of contraceptive methods before having unintended, either recent last birth or current pregnancy. It clearly shows that in case of recent birth, among last method of discontinuation, proportion of periodic abstinence were highest (about 35%), followed by pill (23%) and condom (22%); whereas in case of current pregnancy, pill users were highest (about 30%), followed by condom (26%) and periodic abstinence (25%). Withdrawal was probably the most problematic method, as it accounted for more than 10% of unsuccessful use. All these methods are reversible. User-dependent contraceptive methods, such as pill, injections, condoms and withdrawal, are more likely to discontinue than are those using non-user-dependent methods, such as the Intrauterine Device (IUD) and implants.

Table 2 explores the linkages between the last method of discontinuation and some selected background characteristics of women. These characteristics are region, place of residence, religion, caste, age and educational level of women. Discontinuation of periodic abstinence was reported highest by those women who were residing in the central region (47%), followed by northeastern (37%). It was reported lowest in north region of India. Among women who were illiterate (47%) and attained the age of more than 40 years (53%), discontinuation of periodic abstinence was considerably high before unintended pregnancy.

Among currently married women (table not shown), discontinuation of pill was reported highest by those women who

Method Name	Current Pregnancy		Last Birth	
	Percent	Sample Size	Percent	Sample Size
Pill	29.5	127	23.3	452
IUD	5.2	22	5.6	127
Injections	1.4	5	0.7	18
Condom	26.4	130	21.8	434
Female Sterilization	0.5	2	1.7	26
Periodic Abstinence/ rhythm	25.2	79	34.5	446
Withdrawal	10.7	59	12.4	230
Other	1.2	3	0.0	3
Total	100	427	100	1736

Table 1: Percent distribution of discontinuation of last method of contraceptive used before current pregnancy, and for recent last birth, National Family Health Survey, India, 2005-06.

Background Characteristics	Pill	IUD	Injections	Condom	Female Sterilization	Periodic Abstinence	Withdrawal	Total
Regions								
North	35.6	6.1	0.8	38.6	0.8	9.8	8.3	171
Central	11.7	3.8	0.6	29.7	1.5	47.3	5.5	564
East	35.7	1.9	0.5	9.3	1.8	30.4	20.5	385
Northeast	27.7	5.3	0.0	9.6	0.0	37.2	20.2	359
West	33.9	11.3	2.6	17.4	1.7	24.3	8.7	98
South	13.6	24.1	1.2	27.8	4.9	11.1	17.3	159
Place of residence								
Rural	22.1	4.5	0.7	17.5	2.0	38.0	15.1	981
Urban	26.1	8.2	0.9	32.1	0.9	26.0	5.9	755
Religion								
Hindu	22.7	5.5	0.6	21.9	2.3	35.3	11.6	1116
Muslim	23.9	5.1	1.0	21.3	0.0	34.2	14.6	420
Others	32.3	9.7	0.0	24.2	1.6	19.4	12.9	200
Caste of Women								
Scheduled Caste	22.1	1.5	0.0	19.7	2.4	41.7	12.6	311
Scheduled Tribes	36.4	6.1	0.0	15.2	4.0	29.3	9.1	189
Others	22.7	6.7	1.0	22.9	1.3	32.7	12.6	1236
Age								
Less Than 30	26.3	5.7	0.7	23.1	1.4	29.5	13.3	1072
30-39	18.3	5.0	0.8	20.8	2.2	41.8	11.0	605
40 And Above	14.7	9.3	0.0	8.0	4.0	53.3	10.7	59
Education								
Illiterate	21.9	3.6	0.4	13.0	2.9	47.1	11.1	558
Literate But Below Primary	25.0	4.5	0.6	14.2	1.7	34.7	19.3	166
Primary But Below Middle	31.5	3.0	1.5	20.9	1.2	28.2	13.6	288
Middle But Below High School	21.5	9.7	0.4	29.0	0.7	26.2	12.5	277
High School And Above	19.5	9.5	1.1	39.1	0.0	20.1	10.8	447
Total	23.3	5.6	0.7	21.8	1.6	34.5	12.4	1736

Table 2: Percent distribution of discontinuation of last method of contraceptive used before recent last birth, by different background characteristics, National Family Health Survey, India, 2005-06.

were residing in northeastern region, followed by eastern (40.30%) and western region (37.5%). The utilization of pill before having unintended pregnancy was high in urban areas, in comparison to rural areas. In other than Hindu and Muslim religions, discontinuation of pill was high as compared to Hindus or Muslims. For women belonging to non scheduled castes and non schedule tribe mainly, pill was the last method of discontinuation. Among below primary level educated women, discontinuation of pill was considerably high before having unintended pregnancy.

According to regions, 39% in north region and 30% in central region, living women reported that their last discontinued method was condom. Most of the other religion (non Hindu-Muslim) and younger age (less than 30 years) women reported their last method of discontinuation was condom. Condom was one of the most important last methods of discontinuation for highly educated and those women who belonged to scheduled caste. Discontinuation of condom was high in urban areas.

In spite of all advances, still women were relying traditional method of contraceptive like withdrawal. In east and northeast regions living in rural areas, Muslim religion and below 30 years aged women, reported their last method of discontinuation was withdrawal.

The table 3 gives the idea about that particular reason, which is responsible for discontinuation of contraceptive. For those women

who were reported that their recent last birth was unintended, the most common reason given was method failed/become pregnant while using (45%); about one forth women had given inconsistent response. It means that at the time of survey, they reported their recent last birth/current pregnancy was unintended, but again for the same pregnancy they reported (in reproductive calendar) that they wanted to become pregnant. According to reporting of contraceptive behavior at the aggregate level was reliable, but in case of individual level, this was not true (Study based on data for overlapping time periods from the 1992 Morocco DHS and 1995 Morocco Panel Survey) [19].

The percentage of discontinuation due to side effects and health concern problem was 6% and 5%, respectively. Husband's opposition was cited as the reason for 3% of discontinuation. The percentage of discontinuations because women did not like method was 2%. Less than 2% contraceptive use discontinued among not-in-need discontinuation group women (infrequent sex and difficult to get pregnant/menopausal). There were few discontinuations due to Access/Availability issues.

Among those women who were reporting that their current pregnancy is unintended, the result indicates that 40% of ever married women aged 15-49 who discontinued using contraception, because of method failure; more than one fourth women had given inconsistent response. 7% women reported husband's disapproval as a main reason of discontinuation of contraceptives. Another key factor for the

Main Reason of Discontinuation	Current Pregnancy		Last Birth	
	Percent	Sample Size	Percent	Sample Size
Became pregnant while using	39.6	152	45.4	695
Inconsistency of Reporting	26.4	127	23.7	484
Husband disapproved	6.9	22	3.2	48
Side effects	5.8	23	5.7	107
Health concerns	3.1	23	5.2	86
Access availability	3.7	13	0.9	16
Wanted more effective method	0.1	3	1.0	14
Inconvenient to use	1.8	4	1.3	20
Infrequent sex, husband away	1.8	5	1.4	19
Fatalistic	0.8	1	0.1	2
Other	3.4	24	4.5	73
Lack of sexual satisfaction	0.9	5	0.4	8
Created menstrual problem	0.5	1	0.6	10
Gained weight	0.0	1	0.8	13
Did not like method	1.6	8	2.0	43
Lack of privacy for use	0.5	2	0.1	2
Don't know	3.2	13	3.7	55
Total	100	427	100	1695

Table 3: Percent distribution of main reason of discontinuation of contraceptive used before current pregnancy, and for recent last birth, National Family Health Survey, India, 2005-06.

Background Characteristics	Become Pregnant While Using	Inconsistency of Reporting	Husband Disapproves	Side Effect	Health Related Problem	Other	Total
Method of Discontinuation							
Pill	23.4	20.9	1.6	17.6	15.1	21.6	440
Periodic Abstinence	68.8	18.5	2.1	0.2	0.2	10.2	438
Condom	30.1	35.3	6.6	2.7	2.2	23.4	420
Withdrawal	60.0	29.3	3.7	0.0	0.0	7.0	212
IUD Others	11.4	19.0	1.0	14.3	20.0	34.3	125
	63.8	13.0	2.9	2.9	1.4	15.9	60
Region							
North	21.1	41.4	5.5	12.5	7.0	12.5	168
Central	53.7	17.3	4.2	4.5	3.5	16.7	549
East	51.5	18.5	2.1	6.2	7.5	14.1	378
Northeast	31.2	40.9	3.2	5.4	3.2	16.1	352
West	19.1	53.6	0.0	6.4	2.7	18.2	93
South	25.8	31.0	1.9	3.2	6.5	31.6	155
Place of Residence							
Rural	48.1	22.5	3.1	4.8	5.1	16.4	958
Urban	39.1	26.4	3.2	7.7	5.5	18.0	737
Religion							
Hindu	45.5	23.0	3.6	5.1	5.1	17.6	1084
Muslim	46.9	23.4	1.8	7.6	5.7	14.5	414
Others	30.6	41.9	3.2	3.2	3.2	17.7	197
Caste							
Scheduled Caste	52.2	18.1	5.7	5.2	3.5	15.3	303
Scheduled Tribes	40.6	29.2	1.0	4.2	3.1	21.9	184
Others	43.7	25.0	2.6	5.9	5.9	16.9	1208
Age							
Less Than 30	41.1	26.6	3.4	6.7	5.9	16.3	1040
30-39	52.1	19.3	2.7	4.0	4.6	17.3	597
40 And Above	57.5	13.7	2.7	4.1	0.0	21.9	58
Education							
Illiterate	51.6	17.5	3.4	5.3	3.9	18.3	550
Literate But Below Primary	52.6	17.7	3.4	4.6	8.0	13.7	163
Primary But Below Middle	45.7	25.2	3.7	6.8	5.0	13.7	280
Middle But Below High School	41.6	26.4	2.6	6.3	5.2	17.8	270
High School And Above	31.2	36.4	2.5	5.8	7.1	17.0	432
Total	45.4	23.7	3.2	5.6	5.2	16.9	1695

Table 4: Percent distribution of discontinuation of last method of contraceptive used before recent last birth by background characteristic, National Family Health Survey, India, 2005-06.

discontinuation of contraception was fear of experiencing side effects, which contribute approximately 6%.

The quality of family planning method was an important determinant of contraceptive use because it is likely to be affected by contraceptive continuation. 3% women reported their discontinuation due to health concern, and same proportion of women did not know the reason. 4% women mentioned due to problem in access to availability, for discontinued the use of contraceptives. Few women also reported marital dissolution, inconvenient to use, infrequent sex, and did not like method as a reason for discontinuation of contraceptive use.

Table 4 presents the reasons of discontinuation in use of contraceptive by selected background characteristics. The reason-specific continuation rates differ significantly by use of different methods. There are evidences that type of contraceptive method also relates to the rate of discontinuation. More than three fifth women become pregnant while using the periodic abstinence, followed by withdrawal. It means that method failure was more among those women who used the traditional methods. The main reasons of discontinuation due to husband disapproval are highest for condom (7%), followed by withdrawal (3.7%). The contraception discontinuation due to side effects is particularly high for pill and IUD. Health related problem as a reason of discontinuation was observed highest among IUD users (20%), followed by pill (15%).

In central and eastern part of India, 'become pregnant while using' was the main reason of unintended pregnancy. It is likely that the side effect was an issue for ethnic minority (Muslims) and women residing in north region. Also in north region, 5% women reported that husband disapproved to use any method, followed by the central regions, while for eastern and north regions; health problem (7%) was main reason of discontinuation. 'Become pregnant while using' was the main reason of unintended pregnancy in rural (48%) areas, in comparison to urban areas. Side effect and health related problems were reported more in urban area, as compared to rural areas.

The proportion of women who became pregnant while using method was slight higher among Muslims (47%) than Hindus (46%). Side effect and health related problem were also higher among Muslims than Hindus and others. Method failure was more in scheduled caste women (52%), followed by other caste.

In the older cohort (aged 40, and above), method failure was comparatively high than other aged women. The proportion of women who reported that husband disapprove to use any method was decreased as age increased. The proportion of method failure was highest among those women who had never attended school and below primary educated women (52%).

The most significant drawback to the calendar data is that the contraceptive history information is collected retrospectively, and is therefore, subject to recall errors. Although, some of the experimental studies show that the calendar data provide superior quality data to more traditional retrospective data collection techniques for contraceptive histories [20].

Table 5 is based on women who reported their current pregnancy is unintended. This table demonstrates the net effect of each of selected covariates on the inconsistent reporting and never used contraceptive or never used since last birth, after controlling the effects of all the other factors at their mean value. Probability of inconsistency was high in north and northeast regions, while consistency was high in the eastern region. Urban residents reported more consistent response. 71% women in rural areas either never used contraceptive, or after last birth they were not using any methods. 81% scheduled tribe women

Explanatory Variables	P*P'	P*(1-P')	1-P
	Probability of Inconsistency	Probability of Consistency	Probability
Regions			
Central	6.92	28.78	64.30
North	16.04	17.47	66.49
East	4.47	30.75	64.79
Northeast	13.74	27.93	58.33
West	10.02	10.81	79.16
South	7.20	6.98	85.82
Residence			
Rural	6.79	21.93	71.27
Urban	8.78	29.37	61.85
Caste			
Others	7.76	24.05	68.20
Scheduled caste	5.50	28.33	66.17
Scheduled tribe	8.53	10.52	80.95
Religion			
Hindu	8.36	21.43	70.21
Muslim	5.10	31.24	63.67
Others	3.19	20.54	76.28
Age			
Less than 24	7.72	20.56	71.72
25 and above	6.84	27.74	65.42
Education			
Illiterate	5.95	18.86	75.19
literate	8.52	28.30	63.18
Partner education			
Illiterate	4.79	22.56	72.65
literate	8.23	24.25	67.52

Table 5: Combined probabilities (in percent) of inconsistency, consistency never used contraceptive or never used since recent birth (1-p), by selected background characteristics, National Family Health Survey, India, 2005-06.

were not eligible for providing the response, and among those who had given response; inconsistency was high (8.5%), after controlling the other important factors. Among younger women (less than 24 years), inconsistency was more, while consistency was more among older women (27.7%). Educated women gave more consistent response and also most of them were experiencing ever used contraceptives. Similar pattern was also observed in case of partner's education.

Conclusion

Findings of present study supports the previous studies, which show that contraceptive discontinuation vary substantially by the method used [11]. Female sterilization was found to be distinctly associated with effective contraceptive continuation. In contrast, it may be concluded that among family planning method users, discontinuation of periodic abstinence, pill and condom contributes approximately 80% in unintended current pregnancies and recent last birth. On average, discontinuation was lower among IUD user and higher among user of pill, condoms and periodic abstinence.

Discontinuation of pill was less in highly educated women, as compared to their counterparts. This result is not consistent with the findings of other studies [11]. According to them, no educational effects were found for methods that require skill or memory from users for successful use (e.g. oral contraceptives and condoms).

The issue, reasons of contraceptive discontinuation, is the core stone of present article. In urban areas, the highest discontinuation was observed for condom, pill and IUD users. Analysis based on current pregnancy (not shown) lends great support to this view. These

groups also reported that side effect and health related problem was main reason for discontinuation. Locality of residence makes some differences, in terms of contraceptive use and their discontinuation. Women residing in rural areas were mainly using traditional methods. It gives some good reason for programme managers to rely more seriously on the promotion of modern methods like pill, condom and long-acting methods (IUD) in rural areas.

Findings also indicate that more than 40% of ever married women who had discontinued using contraception, because they 'become pregnant while using'. As expected, compared to urban, in rural area method, failure was high. It stems from the fact that rural women had less knowledge about how to use properly modern methods like IUD and pills. More than 23% women reported inconsistent response, of reason of last method of discontinuation. It was also found that calendar data are subject to recall bias, particularly for the reasons for discontinuation [21].

Most of the women reported that main reasons of contraceptive discontinuation were 'become pregnant while using', and side effect when they were using pill as a last method of discontinuation. One of the most common reasons for IUD discontinuation may be health related problems and its side-effects. Condom and withdrawal, these two methods, both of which that involved the cooperation of the husbands, accounted for more than 10% of the unsuccessful contraception practice.

Communication programs organized toward different choice of modern contraceptive methods and promotion for modern methods versus traditional method should be emphasized. High proportion of couples using condoms and withdrawal among ineffective contraceptive practice highlight the need for better involvement of men in family planning. Therefore, male involvement of contraceptive practice should also be given high priority in the family planning programme.

One of the findings of the present study is that more than 23% response was inconsistent and we assume that the respondents were responsible for these inconsistencies, but there is a possibility that response was correct, but investigator reported erroneously. Recall bias may also be an issue, with regard to measurements in the survey (for example misreporting of timing or sequences of events).

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