Induced Abortion and Women's Reproductive Health in India

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ABSTRACT

Despite the intensive national campaign for safe motherhood and legalization of induced abortion, morbidity from abortion has remained a serious problem for Indian women. Present paper tries to examine the consequences of induced abortion on women's reproductive health by exploring the data of 90,303 ever-married women age, 15-49 years, included in India's NFHS-2, 1998-99. Binary logistic regression methods were used to examine the consequences of induced abortion on women's reproductive health. Independent of other factors, the likelihood of experiencing any reproductive health problems was 1.5 times higher among women who had one induced abortion and 1.9 times higher among women who had two or more induced abortions compared to women with no history of induced abortion. Study suggests that induced abortions may have negative consequences for women's reproductive health. Programs should focus more on availability and accessibility of contraceptives among women to elude the reproductive health consequences of induced abortion.

INTRODUCTION

Worldwide, induced abortion represents an important aspect of women's reproductive health and rights. Under the 1971 Medical Termination of Pregnancy Act, a woman in India can legally obtain an induced abortion if her pregnancy carries the risk of grave physical injury, endangers her mental health, is the result of contraceptive failure (in case of a married woman) or rape, or is likely to produce a child with physical or mental abnormalities (Ministry of Health and Family Welfare, 2003). In the global context, in which induced abortion is restricted by law and even criminalized in several countries, India enjoys the dubious distinction of being a country in which induced abortion is legal but largely unsafe and unavailable (Ravindran, 2002).

Despite the intensive national campaign for safe motherhood and legalization of induced abortion that took place in India long ago, morbidity from abortion has remained a serious problem for Indian women (Johnston, 2002). Still, there has been little public debate on this issue. Instead, discussion of induced abortion in India has mainly centered on the declining sex ratio, sex-selective abortion, and the proliferation of abortion clinics in urban areas. Not much is known about the consequences of induced abortion on women's reproductive health problems. Moreover, among the issues related to reproductive health, none has more controversial connotations than induced abortion (Mundigo and Indriso, 1999). Without such information, it is easy for policymakers to avoid politically sensitive decisions about this important aspect of women's health and rights. Using nationally representative data, this study examines the consequences of induced abortion on women's reproductive health.

The World Health Organization Special Programme of Research, Development and Training in Human Reproduction reported induced abortion to be a major reproductive health problem (Mundigo and Indriso, 1999). A number of studies have shown that many Indian women suffer from reproductive tract infections, or RTIs (Bang and Bang, 1991; Bang et al., 1989; Jejeebhoy and Rama Rao, 1992; Pachauri and Gittlesohn, 1994). RTIs and their sequellae are an important component of programmes for family planning, child survival, women's health, safe motherhood, and HIV prevention. Coupled with RTIs, induced abortion plays a critical role in the reproductive health of Indian women. In many instances, induced abortions—and more specifically, sex-selective abortions—take place after 12 weeks of gestation, which is not safe for the health of the women. This may lead to obstetric morbidity and infertility, as well as risking the life of the women (Unisa et al., 2003). Given the fact that women in India have little control over their own fertility and also have poor health, the chances are very high that they may experience abortion, which includes both spontaneous and induced abortion, and perhaps more than once (Babu et al., 1998). The reproductive health risk of induced abortion multiplies manifold if a woman has to resort to it repeatedly (Agrawal, 2004; Ganatra et al., 2001). The relationship between induced abortion and reproductive health problems has been hardly explored in the Indian context. Therefore the specific objectives of this study is to examine the consequences of induced abortion on women's reproductive health.

DATA AND METHODS
Data

Data were mainly retrieved from India's second National Family Health Survey (NFHS-2), conducted during 1998-99 (IIPS and ORC Macro, 2000). NFHS-2 has been designed along the lines of the Demographic and Health Surveys that have been conducted in many developing

countries since the 1980s. NFHS-2 is a nationally representative survey that include a household sample, covering everyone in the sampled households, and an individual sample, covering all ever-married women aged 15-49 years within those households. NFHS-2 collected demographic, socioeconomic, and health information from a nationally representative probability sample of 90,303 ever-married women aged 15-49 years residing in 92,486 households. All the states of India are represented in the sample (except the small Union Territories), covering more than 99 percent of the country's population. The sample is a multistage cluster random sample with an overall response rate of 98 percent. Details of sample design, including sampling framework and sample implementation, are provided in the basic survey report for all India (IIPS and ORC Macro, 2000).

In NFHS-2, information on pregnancies that did not result in a live birth is collected using the birth history section. For each interval between births, as well as the interval before the first birth and after the last birth, each woman was asked whether she had any stillbirths, spontaneous abortions, or induced abortions, and if yes, how many she had. This information was summed to obtain the total number of nonlive births of each type she has had in her lifetime. It is therefore also likely that there is some underreporting of these events in NFHS-2. NFHS-2 data give information on specific reproductive morbidities experienced by women in the past 3 months, which is an important outcome of the study.

Response Variables
In NFHS-2, each ever-married woman aged 15-49 years was asked about her birth history. Detailed answers were sought about the women's experience, including about induced abortion, miscarriages, and stillbirths, in the context of their birth history. The dependent variable is a dichotomous variable indicating whether or not a woman have reproductive health problem during the 3 months preceding the interview.

Covariates
The main study variables are women's current age (15-24 years, 25-34 years and 35+ years), type of residence (urban, rural), religion (Hindu, Muslim, Others[1]), caste/tribe (scheduled caste, scheduled tribe,[2] Other backward class, Others[3]), couple's education (both illiterate, only husband literate, only wife literate, both literate), couple's working status (both not working, only husband working, only wife working, both working), wealth index[4] (lowest, second, middle, fourth, highest), media exposure[5] (no exposure, partial exposure, full exposure), women's

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[1] Other religions include Christian, Sikh, Buddhist, Jain, Jewish, Zorastrian, and others.
[2] Scheduled castes and scheduled tribes are castes and tribes that the government of India identifies as socially and economically backward and in need of special protection from social injustice and exploitation.
[3] Other castes include general caste.
[4] The NFHS-2 wealth index is based on the following 20 assets and housing characteristics: household electrification (electricity, kerosene, gas or oil, other source of lighting), drinking water source (pipe, hand pump, well in residence/yard/plot, public tap, hand pump, well, other water source), type of toilet facility (own flush toilet, public or shared flush toilet or own pit toilet, shared or public pit toilet, no facility), type of house (*pucca*, semi-*pucca*, *kachha*), cooking fuel (electricity, liquefied natural gas, or biogas, coal, charcoal, or kerosene, other fuel), house ownership (yes, no), number of household members per sleeping room, and ownership of a car, tractor, moped/scooter/ motorcycle, telephone, refrigerator, or color television, bicycle, electric fan, radio/transistor, sewing machine, black-and-white television, water pump, bullock cart or thresher, mattress, pressure cooker, chair, cot/bed, table, or clock/watch.
[5] Mass media exposure includes regular exposure to newspaper reading, listening to radio, and watching television. Full exposure means reading newspaper at least once a week, listening to radio at least once a week, watching television at least once a week; partial exposure means either of the above three options, and no exposure means none of the above options.

autonomy[6] (low, medium, high), induced abortion (never and ever), number of children ever born (0, 1-2, 3, 4+), and time since last birth (less than 1 year, 1-2 years, more than 2 years).

Indicators of Women's Reproductive Health

NFHS-2 collected information from all women on some common symptoms of RTIs, namely, problems with abnormal vaginal discharge or urinary tract infections (UTIs) in the 3 months preceding the survey and intercourse-related pain (often) and bleeding after intercourse (ever). Specifically, the prevalence of reproductive health problems among ever-married women is anticipated from women's self-reported experience with each of the following problems: vaginal discharge accompanied by itching, by irritation around the vaginal area, by severe lower abdominal pain not accompanied by menstruation, by fever, or by any other problem; pain or burning while urinating or frequent or difficult urination; and (among currently married women only) painful intercourse or bleeding after intercourse. However, as information on health problems is based on self-reported symptoms rather than clinical tests or examinations, the results should be interpreted with caution.

Computation of Indices

Some indices such as wealth index and autonomy index have been used in this study. A brief description of those indices is given here.

For assessing the economic status of the household, a wealth index has been created. The wealth index was constructed using household asset data and housing characteristics. Each household asset is assigned a weight (factor score) generated through principal components analysis, and the resulting asset scores are standardized in relation to a normal distribution with a mean of zero and standard deviation of one (Gwatkin et al., 2000). Each household is then assigned a score for each asset, and the scores were summed for each household; individuals are ranked according to the score of the household in which they reside. The sample is then divided into quintiles (i.e., five groups with an equal number of individuals in each).

Similar to the wealth index, an autonomy index has been created to determine the autonomy of the women in the household. Apart from the more commonly measured dimensions of women's status, such as education and work participation, in this study, autonomy was measured with certain direct indicators concerning women's power in the household. A set of situation-specific questions were asked to women. Each autonomy indicator is assigned a weight (factor score) generated through principal components analysis, and the resulting autonomy scores are standardized in relation to a normal distribution with a mean of zero and standard deviation of one. The sample is then divided into three groups (low, medium, and high), with an equal number of individuals in each group.

Statistical Analysis

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[6] Questions used for constructing the autonomy index include 1) Are you allowed to have some money set aside that you can use as you wish? (yes, no). 2) Who makes the following decision in your household: a. What items to cook? b. Obtaining health care for yourself; c. Purchasing jewelry or other major household items, d. Your going and staying with parents or siblings. The responses for each of the above categories are Respondent, Husband, Jointly with Husband, Others in Household, Jointly with Others in the Household). 3. Do you need permission to a. Go to the market, b. Visit relatives or friends. Response to each of the above categories is yes, no, not allowed to go.

Bivariate analysis is carried out to explore the differential in induced abortion and socio demographic characteristics of women, followed by a chi-square to test significance level. The association between induced abortion and the reproductive health problems of women was examined by restoring any reproductive health problem as a dependent variable and using sociodemographic and maternal characteristics as independent variables in separate sets of adjusted and unadjusted models.

The results are presented in the form of odds ratios (ORs), with 95 percent confidence intervals (95% CIs). The estimation of confidence intervals takes into account design effects resulting from clustering at the level of the primary sampling unit. In the survey, certain states and certain categories of respondents were oversampled. Appropriate weights such as national weight and state weights were used to restore the representativeness of the sample. The analysis was conducted through SPSS-15.

The analysis presented here is based on all reported induced abortion cases. Abortions that are reported in NFHS as induced abortions are most likely to be legal induced abortions. However, the extent to which women may have self-reported both legal and illegal types of abortions in the survey is indefinite.

Human Subjects Informed Consent
This study is based on secondary analysis of existing survey data with all identifying information removed. The survey obtained informed consent from each respondent before face-to-face interviews.

RESULTS

Induced Abortion by Socioeconomic, Demographic, and Maternal Characteristics
Data on induced abortion among ever-married women aged 15-49 years in India by selected socioeconomic, demographic, and maternal characteristics are presented in Table 1. Experience of induced abortion has been explored according to women's current age, type of residence, religion, caste/tribe, wealth index, couple's education and working status, mass media exposure, women's autonomy, number of children ever born and time since last birth.

Experience of induced abortion significantly differs by these background characteristics of women. A significant positive relationship is also seen in the experience of induced abortion with women's age, wealth status, couple's education, mass media exposure, and autonomy of women. Women residing in urban areas and belonging to other castes and other religions were also found to experience higher rates of induced abortion than their counterparts. Overall, a positive association between affluence and induced abortion is evident in our study.

<Table 1 about here>

Induced Abortion and Reproductive Health Problems
Table 2 presents self-reported specific reproductive health problems among ever-married women aged 15-49 years in India, according to number of induced abortions. Reproductive health problems are seen in terms of the presence of any abnormal vaginal discharge, vaginal discharge

accompanied by itching/irritation, bad odor, fever, abdominal pain, and other problems; symptoms of a UTI; intercourse-related problems; and so on. Most of the reproductive health problems are significantly exacerbated with an increase in the number of induced abortions. For example, 40 percent of women reported abnormal vaginal discharge who had two or more induced abortions compared with 36 percent who had one induced abortion and 30 percent with no induced abortion history ($P < .001$). Similarly, a substantial differential ($P < .001$) is found in the case of vaginal discharge accompanied by itching/irritation, severe lower abdominal pain, fever, and other problems according to the number of induced abortions. Symptoms of a UTI were reported by 27 percent of women who had had two or more induced abortions compared with 20 percent of women with one induced abortion and only 18 percent of women with no induced abortion history. Any abnormal vaginal discharge or symptoms of a UTI also notably increased ($P < .001$) with an increase in the number of induced abortions. Overall, a profound differential ($P < .001$) is observed in any reproductive health problems according to number of induced abortions. Fifty-two percent of the women who had two or more induced abortions experienced reproductive health problems compared with 46 percent of women who had one induced abortion and 39 percent women with no induced abortion history.

<Table 2 about here>

Association between Induced Abortion and Reproductive Health Problems
The association between induced abortion and any reproductive health problem among women is seen by restoring logistic regression and is presented as an adjusted and an unadjusted model in Table 3. The unadjusted model shows that the likelihood of experiencing any reproductive health problems is 1.4 times higher (OR, 1.35; 95% CI, 1.24-1.48; $P < .001$) among women who had one induced abortion compared with women who had no abortion history, which increases to a likelihood that is 1.7 times higher (OR, 1.71; 95% CI, 1.40-2.08; $P < .001$) among women who had had two or more induced abortions. The association remains significant and even more profound when we adjust for sociodemographic and maternal factors such as number of children ever born, time since last birth, current age, type of residence, religion, caste/tribe, couple's education and working status, mass media exposure, autonomy, and wealth status. Incidence of any reproductive health problem was 1.5 times higher (OR, 1.46; 95% CI, 1.33-1.60; $P < .001$) among women who had one induced abortion compared with women who had no induced abortion history, increasing to 1.9 times higher (OR, 1.85; 95% CI, 1.52-2.27; $P < .001$) among women who had two or more induced abortions in the adjusted model.

Other factors, such as number of children ever born, time since last birth, women's current age, religion, caste/tribe, autonomy, and wealth status were also associated with reproductive health problems among women. The likelihood of experiencing any reproductive health problem was higher among Muslim women (OR, 1.59; 95% CI, 1.52-1.66; $P < .001$) than Hindu women. However, the likelihood of experiencing any reproductive health problems was 7 percent lower in other castes (OR, 0.93; 95% CI, 0.89-0.96; $P < .001$) than scheduled caste, 11 percent lower (OR, 0.89; 95% CI, 0.86-0.92; $P < .001$) among women with higher autonomy than those with lower autonomy, and 21 percent lower (OR, 0.79; 95% CI, 0.74-0.85; $P < .001$) among women belonging to highest wealth index than those belonging to the lowest. Interestingly, other factors such as residence, education, working status, and media exposure were not found to be significantly associated with reproductive health problems.

<Table 3 about here>

DISCUSSION

This study attempted to examine the consequences of repeated induced abortions on women's reproductive health. This study found that a women's resort to repeated induced abortion significantly deteriorates her reproductive health.

Induced abortions may have immediate or long-term health consequences for women. Our study shows some remarkable findings in this regard. The analysis reveals that the experience of induced abortion is significantly associated with reproductive health problems among women, independent of other factors. Incidence of any reproductive health problem was 1.5 times higher among women who had one abortion, increasing to 1.9 times higher among women with two or more abortions with reference to women with no abortion history.

Reproductive health problems among women belonging to other castes and belonging to households with better economic condition were found to be lower, which suggests that these women have better knowledge and practice of hygienic behavior. In India, women who belong to other castes mostly belong to households with higher economic conditions. It is more likely that those women would have better health-care-seeking behavior for their reproductive health problems. This may have led those women to report fewer reproductive health problems. In addition, the higher autonomy of women was greatly associated with lower reproductive health problems among women. This may be because their having greater autonomy gives these women better access to health care services and, consequently, fewer reproductive health problems. Other factors such as residence, education, working status, and media exposure were not found to be significantly associated with reproductive health problems.

Absence of reproductive tract infections (RTIs) is essential for the reproductive health of both women and men and is critical for their ability to meet their reproductive goals. There are three different types of reproductive tract infections for women: endogenous infections that are caused by the multiplying of organisms normally present in the vagina; iatrogenic infections caused by the introduction of bacteria or other infection-causing micro-organisms through medical procedures such as an IUD insertion, unsafe abortion, repeated abortion; and sexually transmitted infections (STIs). Endogenous infections and several of the iatrogenic and sexually transmitted infections are often easily cured if detected early and given proper treatment. If left untreated, RTIs can cause pregnancy-related complications, congenital infections, infertility, and chronic pain. They are also a risk factor for pelvic inflammatory disease and HIV (Population Council, 1999).

CONCLUSIONS AND POLICY IMPLICATIONS

Induced abortion is possibly the most discordant women's health issue that policy makers and planners face, particularly in developing countries. The study added some empirical finding on the consequences of induced abortion which could be useful for policy formulations in India. The magnitude of induced abortion and its related complications are of interest to health planners, as knowledge of these aspects could be of help in the formulation of suitable health policies for women. Our study shows that induced abortion is an important indicator of the

reproductive health problem among Indian women and ascertained that women's reproductive health deteriorates more when women resort to repeated induced abortion.

In conclusion, it can be said that still there is a need to focus on unmet need for contraception in India to avoid the burden of unwanted pregnancy and induced abortion among women. Programs should focus more on the availability and accessibility of contraception among women to elude the reproductive health consequences of induced abortion. There is an urgent need for awareness about possible adverse consequences of repeated induced abortions on a woman's reproductive health. However, more in-depth qualitative studies and clinical examination are needed to better understand the consequences of this complex and sensitive issue in India. In particular, further investigation and research are needed to ascertain the long-term reproductive health consequences of induced abortion.

LIMITATIONS OF THE STUDY
Although rigorous methods were employed to maintain the data quality of NFHS, some limitations are inherent to a cross-sectional survey of this type, which involves reporting of past behaviors. Because abortion is a sensitive topic for many people, it is commonly underreported in national surveys (Arnold et al., 2002; Fu et al., 1998), and information about women who have induced abortions is limited probably because of recall lapse error and reluctance to reveal such incidences. It is likely that illegal abortions, or abortions performed with indigenous methods, are not reported, are underreported, or are reported as spontaneous abortions (Unisa et al., 2007).

Women interviewed in NFHS-2 were not asked to provide the exact dates of pregnancy terminations. In the birth history segment of the questionnaire, they were asked to report whether they had a terminated pregnancy between each birth, as well as before and after the first and last births. Because the pregnancy outcome record is linked to the birth records, the only way to determine the approximate date of when an induced abortion occurred is to look at abortions that happened after the most recent birth or births. Induced abortion during last 5 years could have been analyzed to minimize lifetime abortion experience and give a better association between induced abortion and reproductive health. However, when we looked at women whom we knew had an induced abortion in the last 5 years because they had at least one birth in the last 5 years, we realized we were biasing the sample toward more fertile women—exactly the women who were least likely to have experienced reproductive health problems, as many reproductive health problems can lead to infertility. A major limitation of the current analysis, therefore, is the possible time elapsed between experience of induced abortion (which could have happened at any point in a woman's lifetime) and reproductive health problems in the 3 months before the interview. Moreover, the study is based on reported symptoms and experiences of reproductive health problems. Therefore, although we get a clear positive association between number of induced abortions and reproductive health problems, the results should be interpreted with caution.

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Table 1 Induced abortion by socioeconomic, demographic, and maternal characteristics

Induced abortion among ever-married women aged 15-49 years in India by selected socioeconomic, demographic, and maternal characteristics, India, National Family Health Survey 2 (1998-99)

Socioeconomic, demographic, and maternal characteristics	Induced abortion		χ^2 *P* value	Total number of women
	Percentage	Number		
Current age			<.001	
15-24 years	1.2	303		24,863
25-34 years	3.2	1,049		33,253
35-49 years	3.2	1,037		32,186
Type of residence			<.001	
Urban	4.9	1,154		23,643
Rural	1.9	1,236		66,661
Religion			<.001	
Hindu	2.6	1,956		73,824
Muslims	2.1	240		11,319
Others	3.7	188		5,080
Caste/tribe			<.001	
Scheduled caste	1.9	317		16,517
Scheduled tribes	1.3	101		7,863
Other backward class	2.7	799		29,722
Other castes	3.3	1,158		35,330
Wealth index			<.001	
Lowest	1.0	160		16,569
Second	1.2	210		17,816
Middle	2.1	400		18,867
Fourth	3.0	563		18,948
Highest	5.8	1,056		18,103
Couple's education			<.001	
Both illiterate	1.1	265		24,979
Only husband literate	1.8	504		27,271
Only wife literate	3.2	88		2,781
Both literate	4.4	1,528		34,991
Couple's working status			.001	
Both not working	2.5	42		1,654
Only husband working	2.8	1,481		52,698
Only wife working	2.2	18		815

Both working	2.4	803		33,960
Mass media exposure			<.001	
No exposure	1.1	418		37,412
Partial exposure	3.4	1,441		42,082
Full exposure	4.9	530		10,784
Autonomy			<.001	
Low	2.0	648		32,679
Medium	2.4	679		28,024
High	3.6	1,064		29,602
Number of children ever born			<.001	
0	1.1	112		9,925
1-2	3.4	1,072		31,888
3	2.9	503		17,347
4+	2.3	702		31,142
Time since last birth			<.001	
Less than 1 year	0.2	21		11,089
1-2 years	1.7	307		17,697
More than 2 years	3.8	1,949		51,591
Total	2.65	2,390		90,304

Table 2 Specific reproductive health problems
Specific reproductive health problems among ever-married women aged 15-49 years, according to
number of induced abortions, India, National Family Health Survey 2 (1998-99)

Reproductive health problems	Number of induced abortions			
	None	One	2 or more	χ^2 *P* value
Any abnormal vaginal discharge	29.6	36.2	39.9	<.001
Vaginal discharge accompanied by:				
Itching /Irritation	17.0	21.2	21.1	<.001
Bad odour	11.3	13.1	15.5	.001
Severe lower abdominal pain[a]	18.6	20.8	29.1	<.001
Fever	8.1	8.9	13.0	.001
Other problems	8.0	10.5	11.0	<.001
Symptoms of a urinary tract infection[b]	17.6	20.2	26.6	<.001
Any abnormal vaginal discharge or symptoms of a urinary tract infection	35.4	41.9	48.1	<.001
Intercourse related problems:				
Pain during intercourse	12.4	16.7	19.3	<.001
Blood visible after sex	2.3	2.6	1.8	.524
Any of the above reproductive health problems	38.5	45.8	51.6	<.001
Number of women	87,913	1,991	399	

a Not related to menstruation.
b Includes pain or burning sensation while urinating or difficult or frequent urination.

Table 3 Associations between any reproductive health problem and induced abortion
Unadjusted and adjusted odds ratios with 95% CI from logistic regression analysis showing associations between any reproductive health problem and induced abortion, controlling for socioeconomic, demographic, and maternal characteristics among ever-married women aged 15-49 years, India, National Family Health Survey 2 (1998-99) (n = 89,141)

	Reproductive health problem							
	Unadjusted (95% CI)				Adjusted (95% CI)			
Predictor variables	Odds ratio	LL	UL	*P* value	Odds ratio	LL	UL	*P* value
Number of induced abortions								
None (ref)								
One	1.35	1.24	1.48	<.001	1.46	1.33	1.60	<.001
2 or more	1.71	1.40	2.08	<.001	1.85	1.52	2.27	<.001
Number of children ever born								
0 (ref)								
1-2	0.81	0.78	0.85	<.001	0.71	0.67	0.75	<.001
3	0.88	0.84	0.93	<.001	0.76	0.71	0.81	<.001
4+	0.92	0.88	0.96	<.001	0.80	0.75	0.86	<.001
Time since last birth								
Less than 1 year (ref)								
1-2 years	1.14	1.09	1.20	<.001	1.14	1.08	1.20	<.001
More than 2 years	1.15	1.10	1.20	<.001	1.34	1.27	1.41	<.001
Current age								
15-24 years (ref)								
25-34 years	1.10	1.07	1.14	<.001	1.05	1.01	1.10	.018
35 years or more	0.85	0.82	0.88	<.001	0.76	0.72	0.80	<.001
Type of residence								
Rural (ref)								
Urban	0.87	0.84	0.90	<.001	0.98	0.95	1.02	.404
Religion								
Hindu (ref)								
Muslims	1.53	1.47	1.60	<.001	1.59	1.52	1.66	<.001
Others	0.98	0.92	1.04	.471	1.03	0.97	1.09	.390
Caste/tribe								
Scheduled caste (ref)								
Scheduled tribes	1.01	0.97	1.05	.671	1.03	0.99	1.08	.107
Other backward class	1.12	1.06	1.17	<.001	1.14	1.08	1.20	<.001
Other castes	0.91	0.88	0.94	<.001	0.93	0.89	0.96	<.001
Couple's education								
Both illiterate (ref)								
Only husband literate	1.00	0.96	1.03	.893	1.02	0.99	1.06	.231
Only wife literate	0.99	0.92	1.07	.841	0.97	0.89	1.05	.420
Both literate	0.86	0.84	0.89	<.001	0.99	0.94	1.03	.513
Couple's working status								
Both not working (ref)								
Only husband working	1.08	0.98	1.20	.125	1.07	0.96	1.18	.216
Only wife working	1.17	0.99	1.39	.069	1.22	1.02	1.45	.028

Both working	1.15	1.04	1.27	.007	1.12	1.01	1.24	.037
Mass media exposure								
No exposure (ref)								
Partial exposure	1.00	0.97	1.03	.869	1.09	1.06	1.13	<.001
Full exposure	0.76	0.73	0.80	<.001	0.98	0.93	1.04	.567
Autonomy								
Low (ref)								
Medium	0.97	0.94	1.00	.044	0.97	0.94	1.00	.066
High	0.85	0.82	0.88	<.001	0.89	0.86	0.92	<.001
Wealth index								
Lowest (ref)								
Second	1.04	0.99	1.08	.085	1.05	1.00	1.10	.030
Middle	1.06	1.01	1.10	.010	1.06	1.01	1.11	.015
Fourth	0.99	0.95	1.04	.726	0.99	0.94	1.04	.615
Highest	0.76	0.73	0.80	<.001	0.79	0.74	0.85	<.001

Ref: Reference category;

Dependent variable: any reproductive health problem (0 = No; 1 = Yes).