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Abortion in India: What Does the National Family Health Survey Tell Us?

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Introduction

Abortion is possibly the most divisive women's health issue that policy makers and planners face particularly in developing countries where safe abortion facilities are not available to most women. The health risk of abortion multiplies manifold if a woman has to resort to it repeatedly. 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 not only experience abortion, which includes both spontaneous and induced abortion, once but perhaps more than once.

In India, where abortion has been legalised for over twenty-five years, various surveys suggest that abortions are responsible for 10-20 per cent of all maternal deaths. [1-2] While there is no reliable estimate of the magnitude of abortions that take place, a few sporadic studies tend to suggest that the proportion of women resorting to abortion could be alarming. [2] Very few studies have tried to present some kind of valid estimates about the incidence of abortion both at the national and global level. [3] This huge data gap in the area of abortion is to some extent due to the fact that safe and legal abortion services are far and few between with the result that a large number of women receive abortion services from illegal sources and these are never reported. Further, the lack of awareness about abortion services and its legal status, and more significantly, the socio-cultural contexts of abortion also confounds the reliability of abortion data. Abortion is an extremely sensitive topic and it is perhaps unreasonable to expect reliable figures for abortion in a country like India where even vital registration - the mere recording of births, deaths and marriages - is far from being accurate, complete or reliable.

Although there are indications of a steady increase in the number of abortions over the years, [4] data on knowledge, attitude and behaviour related to abortion are not very conclusive. Sporadic studies tend to suggest that the acceptance is greatly influenced by the social, economic and demographic characteristics of the acceptor including attitudes. [5-7] Most studies in recent years that have concentrated upon the characteristics of women seeking abortion in India have,

by and large, focussed on urban women and have analysed clinic data. These studies have shown that the majority of women who seek induced abortion come from nuclear and middle class families. [8, 9] Thus, in the absence of reliable information on the magnitude of abortion and the characteristics of the acceptors, it is difficult to ascertain the true extent to which abortions are performed in India. Obviously, there is a need to widen the scope of such studies by including several other relevant characteristics of women that might indicate the cultural and social contexts in which the abortion is sought.

In this context, the National Family Health Survey [10] (NFHS)* data on abortion deserves a closer examination for the simple reason that for the first time large-scale community based data on abortion has been collected. Moreover, the number of women reporting to have experienced abortion in the survey is considerably large.

Objectives

The NFHS data on abortion were analysed with the intention of examining:

1. State-wise variations in the extent of induced and spontaneous abortions;

2. The effect of socioeconomic and demographic factors on the acceptance of induced abortion;

3. State-wise variations in the incidence of repeated abortions and

4. The associated social, economic and demographic characteristics of women seeking repeated abortions.

Data and Methodology

The NFHS collected information on abortion by asking two questions to ever married women. The questions were: "Have you ever had an abortion?" And, if "yes", "How many times have you had induced abortions and spontaneous abortions?" The major limitation of the NFHS data on abortion is that it provides only lifetime estimates of abortion. Of the total sample size of 89,777 the number of women who reported to have experienced abortion irrespective of the type of abortion, at any time during their reproductive span prior to the date of survey, was 12,928 (14.5 per cent). The present analysis pertains to these women only.

A few words about the limitation of the NFHS data on abortion will be relevant here before we proceed to the findings of our study. It is almost certain that the NFHS data on the total number of pregnancies ending in abortion, spontaneous

or induced, is likely to be an underestimate. According to the NFHS, the reports of induced abortion are either likely to be suppressed by the respondents or induced abortions may be reported as spontaneous. [10] Additionally, the NFHS did not collect information on a number of relevant issues, which have obvious implications for determining the acceptance of abortion. For example, information on age at abortion, duration of pregnancy at the time of abortion, the women's parity at the time of abortion, post-abortion contraceptive behaviour, and reason for abortion. Inspite of these limitations, the NFHS provides data on a wide variety of background characteristics of women experiencing abortion comparable across the states of Indian, which has not been possible to obtain by any other source.

Findings

State-wise Variations in Induced and Spontaneous Abortions

Table 1 presents state-wise information on the abortion rate measured in terms of the induced abortion rate or the number of abortions per 100 pregnancies, the proportion of women who reported to have experienced abortion, and the average number of abortions experienced by a woman. Of all the pregnancies reported by the women interviewed in the survey, a little over one per cent were reported as induced abortions and five per cent as spontaneous abortions.

Table 1: State wise number of abortions per 100 pregnancies, percentage or women reporting to have experienced abortion* and the average number of abortions* experienced per woman**

State/Region	**Number of women interviewed**	**Number of abortions per 100 pregnancies**		**Percentage of women who experienced abortion**	**Mean number of abortions**	**Abortions per 100 live births**
		Induced	***Spontaneous abortion***			
North	3457	4.6	7.9	26.8	1.54	53.9
Delhi	2846	1.5	6.5	20.3	1.41	40.3
Haryana	2962	1.3	6.0	17.9	1.45	46.8
Himachal Pradesh	2766	2.0	5.4	19.1	1.43	NA
Jammu Region	2995	1.7	3.1	10.4	1.47	48.1
Punjab	5211	1.1	3.2	9.4	1.51	38.0
Rajasthan						
Central	6254	0.6	3.1	8.3	1.50	37.2
Madhya Pradesh	11438	0.9	5.0	15.8	1.50	37.3
Uttar Pradesh						
East	5949	0.3	3.9	10.5	1.32	43.4
Bihar	4257	0.9	3.7	12.1	1.27	46.7
Orissa	4322	1.7	3.5	11.6	1.39	49.3

West Bengal						
North East	882	0.5	3.7	8.6	1.64	41.3
Arunachal Pradesh	3006	2.8	4.8	20.5	1.48	43.1
Assam	953	2.4	5.0	18.6	1.52	66.3
Manipur	1137	0.1	2.4	5.5	1.25	41.1
Meghalaya	1045	--	3.5	8.9	1.70	NA
Mizoram	1149	0.2	1.1	2.6	1.37	72.0
Nagaland	1100	2.2	4.4	17.1	NA	54.6
Tripura						
West	3141	2.6	6.7	20.5	1.40	59.0
Goa	3832	0.8	5.0	13.2	1.37	48.5
Gujarat	4106	1.0	4.1	11.9	1.35	50.8
Maharashtra						
South	4276	0.8	4.0	9.7	1.43	51.2
Andhra Pradesh	4413	1.0	5.0	13.3	1.47	49.5
Karnataka	4332	1.6	6.4	16.6	1.29	72.8
Kerala	3948	4.3	7.0	24.0	1.48	61.4
Tamil Nadu						
All India	89777	1.3	4.5	14.5	1.43	46.1

Note: The values in the last column are estimates from Chhabra and Nuna and all others are from the NFHS.

* = irrespective of the type of abortion; ** = Rates and averages have been calculated giving due weightage to variations in sample size; NA = Not available.

As indicated in Table 1, the induced abortion rate was the highest in Delhi (4.6 induced abortion per 100 pregnancies) followed by Tamil Nadu (4.3). The other states in descending order were Assam (2.8), Goa (2.6), Manipur (2.4) and Tripura (2.2). These states were closely followed by Punjab (1.7), West Bengal (1.7), Kerala (1.6) and Haryana (1.58). While Mizoram reported no incidence of induced abortions, the rate was very low in Bihar, Madhya Pradesh and Uttar Pradesh (the most populous north Indian states). The incidence of spontaneous abortions was also found to be very high in Delhi (7.94 per 100 pregnancies) closely followed by Tamil Nadu (7.04). Goa (6.74), Kerala (6.44), Haryana (6.54) also reported a very high incidence of spontaneous abortions, and so did Uttar Pradesh, Karnataka and the Jammu region.

Not only were the induced and spontaneous abortion rates high in Delhi, even the number of women reporting to have experienced abortions wag high: 27 per cent of all women who reported to have had an abortion belonged to Delhi followed by those in Tamil Nadu (24.4 per cent), Goa (20.5 per cent), Haryana (20.5 per cent) and Assam (20.5 per cent). The proportion of women who reported having had an abortion experience was lowest in Rajasthan, Andhra

Pradesh and Madhya Pradesh (less than 10 per cent), including some of the states in the North eastern region where it was less than even five per cent.

The findings seem to suggest that Delhi, Tamil Nadu and Goa are in the lead as far as the incidence of abortion, both spontaneous and induced, is concerned. It must be noted that all the three states have very high female literacy rates and the accessibility of abortion facilities is also likely to be high. Consequently, the reporting of abortion may have also been better in these states as compared to many other states. If it is assumed that most of the abortions relate to recent pregnancies, then the higher abortion rates in Delhi and Tamil Nadu could also be a reflection of higher usage of the modern sex-selection test leading to the abortion. Very high abortion rates in Delhi, Tamil Nadu and Goa have also been estimated by Chhabra and Nuna. [2]

Findings a the Logistics Regression Analysis

In order to understand the individual effects of various background characteristics of women on induced abortion, binary logistic regression was used with experience of abortion (0 = no abortion, 1 = abortion) as the dichotomous dependent variable. The various predictor variables considered in the analysis and the reference categories were as follows:

1. Place of residence: urban and rural
2. Literacy status of woman: illiterate and literate
3. Caste: 'Other' and scheduled caste/scheduled tribe (SC/ST)
4. Religion: Hindu, Muslim and other
5. Standard of living: high, medium and low
6. Age at first cohabitation: less than 18 and more than 18 years
7. 'Region***: North, West, South, Central, and East

Exp (b) (the odds ratio) values along with the reference category for each variable are given in Table 2. Any value of Exp (b) greater than 1 implies a higher chance of abortion in that category as compared to the reference category when other variables in the model are fixed at a particular level.

Table 2: Results of logistic regression analysis with induced abortion as the dependent variable (0 = Never had induced abortion; 1 = Had at least one induced abortion)

Variable	Reference category	β	Sig	Exp (β)
Type	Rural	0.2332	0.0000	1.2752
Urban				
Education	Illiterate	0.0856	0.0000	1.2290
Literate				
Caste	SC/ST	0.1683	0.0000	1.1833
Other				
Religion	Hindu	-0.0791	0.0697	0.9318
Muslim		-0.0880	0.1917	0.7408
Other				
Standard of living	Low	0.0381	0.0456	1.0893
Medium		-0.0128	0.0512	0.9873
High				
Age at first cohabitation	≤ 18 years	0.3988	0.0000	1.0234
> 18 years				
Region	Central	0.2162	0.0000	1.0452
North		-0.1431	0.0000	0.9157
East		-0.1143	0.0046	0.9240
West		0.1647	0.0000	1.2177
South				

The regression results in Table 2 indicate that the likelihood of induced abortion was greater among urban women, literate women, women of 'other' castes, women with a high standard of living, women who began cohabiting at higher ages, who had fewer living children, and women from the Southern and Northern regions as compared to their respective reference categories.

Rural urban differentials in terms of experience of induced abortion are expected to exist due to vast differences in the availability of services as also differences in social and cultural norms affecting the behaviour of women. As a result, the incidence of induced abortion was found to be higher in urban areas than in rural areas. Similarly, studies have shown that the use of terminal methods is low among educated women as compared to their counterparts. As a result, failure of spacing methods is more likely to be experienced by educated women, and given the fact that they are more conscious of the small family size norm, are more likely to resort to induced abortion.

A high proportion of women belonging to households with a higher standard of living are likely to have undergone induced abortions than women belonging to households with a low standard of living. The underlying reason may be the same as postulated for the relationship between education and abortion. In India,

caste is closely related with socio-economic status and therefore, the relationship between caste and incidence of abortion was expected to follow the same pattern as that expected for standard of living, education and abortion i.e. a higher proportion of women of 'other' castes are likely to report having had an abortion than women from the SC/ST category.

The well-known fact that different religions have different cultural and religious practices associated with them, suggests that the religious affiliation of an individual would also have implications for the incidence of abortion. It was expected that a higher proportion of women from Hindu and other religions as compared to Muslim women would report experiences of induced abortion. In keeping with the direction of the relationship postulated above, a higher incidence of induced abortion was expected among women who began cohabitation at higher ages. A higher incidence of reported induced abortions in the Southern and Northern regions was primarily contributed by Delhi in the North and Tamil Nadu in the South (Table 1).

State-wise Variations in Incidence of Repeat Abortions

As mentioned earlier, given the very poor health and nutritional status of Indian women, and the little control that they have over their bodies, a large number undergo abortion not once but more than once during their reproductive lives.

Table 1 shows that a woman in the NFHS sample had experienced on an average, 1.43 abortions irrespective of the type of abortion. Almost all the states in the Northern region, except Haryana reported higher figures than the national average. An average woman in Uttar Pradesh, Madhya Pradesh, Rajasthan and Delhi was found to undergo more abortions during her lifetime than an average woman from any other part of the country. The only exception was the woman from the North-eastern states particularly Arunachal Pradesh and Nagaland where the average number of abortions per woman was almost two. It may be recalled that in these states the incidence of induced abortion was low and the

Table 3 presents information about the mean number of abortions experienced by women of various age groups by selected characteristics.

Table 3: Mean number of abortions by age group and selected characteristics of women

Characteristics	**Age group (in years)**		
	15-29	**30-39**	**40-49**
Education	1.35 (2545)	1.47 (2415)	1.58 (1849)
Illiterate	1.30 (941)	1.46 (917)	1.61 (619)
Literate/Primary	1.23 (1128)	1.45 (1127)	1.48 (495)

Middle school & above			
Caste SC/ST Other	1.31 (862) 1.31 (3752)	1.45 (752) 1.47 (3707)	1.53 (461) 1.59 (2501)
Religion Hindu Muslim Other	1.31 (3800) 1.32 (614) 1.21 (201)	1.46 (3682) 1.49 (521) 1.44 (256)	1.57 (2397) 1.66 (365) 1.43 (200)
Residence Urban Rural	1.32 (1341) 1.31 (3274)	1.49 (1589) 1.45 (2870)	1.60 (1017) 1.56 (1946)
SLI* Low Medium High	1.29 (2023) 1.34 (1768) 1.31 (824)	1.42 (1878) 1.47 (1522) 1.52 (1059)	1.60 (1205) 1.56 (1083) 1.55 (675)
Overall	1.31 (4615)	1.46 (4459)	1.57 (2963)

* SLI = Standard of Living Index developed by Roy et al (accepted for publication in Economic & Political Weekly) is a summary index formed on the basis of accessibility to the respondent of various household amenities, by assigning weights. A SLI score of 0-9 indicates low; 10-19 medium; 20-48, high standard of living.

incidence of spontaneous abortion was high (Table 1). Obviously, repeat abortions in these states are indicative of the higher incidence of spontaneous abortions. The data on women reporting repeat abortions indicates that 31 per cent had experienced more than one abortion.

Table 3 presents information about the mean number of abortions experienced by women of various age groups by selected characteristics.

The findings do not show much of a difference between the average number of abortions experienced by rural and urban women, although older urban women reported a slightly higher mean number of abortions. Overall, it appears that women with a low level of literacy, women from other caste groups and Muslim women experienced a higher number of abortions than their counterparts. Very few studies have provided information relating caste and religion with experience of abortion. These two variables were considered here for their cultural connotations and, by and large, the relationship was exploratory.

Results of the Multiple Classification Analysis

The association studied above between various characteristics and the experience of repeat abortions is bi-variate in nature and therefore it may be desirable to assess the nature of association between various correlates included in the study and the experience of abortion in a multivariate context. For the purpose of this

analysis, the dependent variable that is, the experience of abortions was defined in terms of the actual number of abortions that a woman reports to have experienced during her reproductive span. The independent variables considered for the analysis were as follows:

1. Place of residence: urban and rural
2. Literacy status of woman: illiterate and literate
3. Age at first cohabitation: less than 18 and more than 18 years
4. Region***: North, West, South, Central, East and North-East
5. Relationship with husband before marriage

The analysis was carried out controlling for the age of the respondent (woman) at the time of reporting. The results are presented in Table 4.

Table 4: Multiple classification analysis: Abortion and selected characteristics (Grand Mean = 1.43)

Variable	N	Unadjusted Mean	Adjusted Mean*	Correlation Ratio	
				Eta^2	$Beta^2$
Region	1460	1.47	1.49	0.09	0.09
North	2825	1.50	1.49		
Central	2287	1.33	1.33		
East	570	1.59	1.62		
North East	1612	1.36	1.35		
West	3264	1.43	1.42		
South					
Relation with husband	9763	1.42	1.42	0.02	0.02
Not a relative	1956	1.47	1.47		
Blood relative	300	1.39	1.39		
Non-blood relative					
Age at first cohabitation	7469	1.46	1.46	0.04	0.04
≤ 17 years	4469	1.39	1.39		
18-28 years	81	1.42	1.32		
29 and above					
Education	6796	1.45	1.45	0.04	0.03
Illiterate	2475	1.44	1.44		
Literate/Primary	2747	1.37	1.38		
Middle school and above					
Residence	3941	1.46	1.48	0.02	0.04
Urban	8078	1.42	1.41		
Rural					
Multiple R : 17.1 per cent					

Note: * - Adjusted for age of respondent

The results show that all the five variables included in the analysis explained a total of 17.1 per cent of the variation in the dependent variable. Among them, the variable of 'region' seemed to explain the maximum variation. For example women from North-east, North and Central regions reported a higher number of abortions as compared to women from other regions. Those who started cohabiting at very early ages (less than 17 years) as well as at younger ages (18-28 years) reportedly experienced a greater number of abortions. Thus, age at first cohabitation emerged as a very significant variable in our analysis. Further, urban women had also had more abortions as compared to rural women. It was also clearly evident that illiterate women and those who had married a blood relative (consanguineous marriage) had also experienced a higher number of abortions.

Summary and Discussion

In a nationally representative sample of 89,777 ever married women interviewed, the NFHS 1992-93 [10] found an abortion rate of about six per 1000 pregnancies. About 30 per cent of all the women who had experienced abortions reported to have experienced it more than once in their lifetime. The present paper presents a state level variation in the rate of induced and spontaneous abortions and also examines the background characteristics of those women who had experienced repeat abortions - both induced and spontaneous. The level of abortion reporting was found to be the highest among women from the North-Eastern region of the country. Women who had had consanguineous marriages had reportedly experienced more abortions than those who had not married a blood relative.

Large-scale surveys like the NFHS have always been criticised for their inadequacy to capture correct estimates of sensitive issues like abortion. [11] The NFHS estimates however correspond very closely to the ICMR multi-centric five-state study [12] which had also indicated an overall abortion rate of six per 100 pregnancies. [13] The NFHS also revealed the occurrence of repeat abortions. It is surely a matter of concern that a substantial proportion of women continued to experience repeat abortions particularly those from the Northern and Central regions where fertility is high, literacy is low and contraception is heavily terminal-method oriented. Obviously, women in these regions have little control over their own fertility and/or scant access to health facilities to regulate it. Since most of the women came from rural areas where traditional practitioners provide abortions by massage, insertion of objects into the uterus and other folk methods, the women may not reveal their experiences of abortion and suffer silently its complications and health hazards. The health needs of these women in general and abortion/family planning needs in particular should be addressed urgently.

From a research point of view, different techniques need to be developed to introduce questions in a non-threatening manner, especially while conducting large-scale surveys, in order to get reliable quantitative data on this extremely sensitive issue.

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* The National Family Health Survey (NFHS, 1992-93) is one of the largest data collection exercises undertaken in India in the area of fertility, family planning, mortality and maternal and child health care. The survey collected information from a nationally representative sample of 89,777 ever-married women in the age group of 13-49 years from 24 states and the national capital territory of Delhi.

** The information on both induced and spontaneous abortions were combined for this purpose, as there is likely to be gross under-reporting of the abortion experience. In any case, both induced and spontaneous abortions have serious health implications for a woman.

*** Along with the other variables, the major states have been combined into five regions, namely, north, central, east, west and south using NFHS classification. The central region constituting Uttar Pradesh and Madhya Pradesh has been taken as the reference region.