

Correlates of Induced and Spontaneous Abortion in India: an empirical evidence from NFHS-4

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Introduction

Abortion is described as the expulsion of the products of the conception before the embryo or foetus is viable. Any interruption of human pregnancy prior to 28th week of gestation or the delivery of the foetus weighing less than 500grams is known as abortion. Spontaneous abortion is defined as the delivery of a nonviable embryo or fetus (the fetus cannot survive) before the 20th week of pregnancy due to fetal or maternal factors. On the other hand, Induced abortion is defined as a procedure intended to terminate a suspected or known intrauterine pregnancy and to produce a nonviable fetus at any gestational age (CDC, 2010), deemed necessary by the woman carrying it and performed at her request. Women's access to safe abortion services is essential to safeguard their health and is one of the important components of Reproductive and Child Health Programme. Arrangement of safe and legal abortion is important for women's survival and reproductive health, particularly in view of the fact that abortion is one of the leading causes of maternal mortality and morbidity. The magnitude of spontaneous abortion; and induced abortion whether legal or illegal has become an area of serious concern in developing countries. In developing countries, the risk of death following complications of unsafe abortion procedures is several hundred times higher than that of an abortion performed professionally under safe conditions (WHO, 1998). Abortion was liberalized in India after the 1971 Medical Termination of Pregnancy (MTP) Act came into effect on 1 April 1972, according to which a pregnancy may be terminated within 20 weeks of gestation. Despite the liberalization of abortion services since the early 1970s, access to safe abortion services remains limited for the vast majority of Indian women, particularly in rural areas. An overwhelming proportion of induced abortions (6.7 million annually as per indirect estimate¹) take place in unauthorized centres, which provide abortion services of varying degrees of safety. At the same time, in recent years significant changes in the abortion scenario have been taking place in the country, which have had wide ramifications. Before 1972, abortion was permitted only if it was necessary to save the life of the woman. Now it is also allowed on the grounds of preserving her mental or physical health, as well as in case of pregnancy due to rape, incest or contraceptive failure. However, it is illegal if performed just because a woman (or some other person) requests it or if it is sought only for social and/or economic reasons (United nations, 1993). The period since the 1990s has witnessed major changes in the field

of abortion including the adoption of new legislative measures, the introduction of new technologies and the growing demand for sex selective abortion. Some of these developments, such as the recent amendments to the Medical Termination of Pregnancy (MTP) Act and the introduction of innovative abortion technologies, such as the improved manual vacuum aspiration technique and medical abortion, are expected to increase the availability of safe abortion services. However, other trends, such as the growing demand for sex selective abortion, are likely to increase the incidence of unsafe abortion and adversely change the gender dynamics even further. Recognizing the failure of the MTP Act of 1972 to make legal abortions widely available, the government amended the Act in 2002. With the amendment, the authority for approval of registration of MTP centres has been decentralized from the state to the district level.²⁻³ In the year 2003, the government introduced a further amendment to MTP Rules which has rationalized the criteria for physical standards of abortion facilities -- fixing different criteria as appropriate for conducting first-trimester and second-trimester abortions. While facilities such as an operation table and instruments for performing abdominal or gynaecological surgery, and equipments for anaesthesia, resuscitation and sterilization continue to be the minimum requirements for centres offering second-trimester abortion, the MTP Rules 2003 require a gynaecological or labour table rather than an operation table and resuscitation and sterilization equipment but not anaesthetic equipments for centres offering first-trimester abortion. These rules also permit a registered medical practitioner to provide medical abortion services in the case of termination of pregnancy up to seven weeks, provided the practitioner has access to a facility for offering surgical abortion in the event of a failed or incomplete medical abortion. The Reproductive and Child Health Programme launched in 1997 and the National Population Policy, 2000 have also delineated a number of strategies to increase the access to safe abortion at the primary health care level. Amendments have also been introduced in the Prenatal Diagnostic Techniques (Regulation and Prevention of Misuse) (PNDT) Act of 1994. This was necessitated as the PNDT Act had failed to curb the practice of testing for sex determination and consequent sex-selective abortion in the country. With the recent amendment to the PNDT Act, preconception and pre-implantation procedures for sex selection are banned in the country. The Amendment stipulates compulsory maintenance of written records by diagnostic centres/ doctors offering sonography service. Local authorities have also been given powers to ensure the enforcement of the Act.³ With these measures, the government expects to prevent women from resorting to sex-selective abortions, which are conducted during the second-trimester and carry a high risk of complications for women. A study conducted by Chhabra and Nuna (1994), reveals that because of illegal abortions, 15000-

20000 abortion-related deaths occur in India every year, mainly among married women. In recent years, induced abortion has attained high public concern because of the alarming high levels of maternal mortality and morbidity due to unsafe abortion. It is observed that after the introduction of the Medical Termination of Pregnancy, reported MTP cases have been on increase. In India, every year approximately, 5-6 million abortions are conducted by private practitioners illegally. Majority of these cases are done in rural areas having inadequate facilities and done in an unhygienic and unscientific way. These illegal abortions carried out by untrained village practitioners are a major determinant of continued high levels of maternal mortality and morbidity. According to the Consortium on National Consensus for Medical Abortion in India (2008), every year an average of about 11 million abortions take place annually and around 20,000 women die every year due to abortion related complications. Most abortion-related maternal deaths are attributable to illegal abortions. Hence, there is a need to identify the important factors responsible for induced and spontaneous abortion in India and its major states where induced and spontaneous abortion is high. The literatures and past research shows that factors like age of the women, age at marriage, age at first birth, Caste, educational qualification, working status, Number of living sons, Number of living daughters, Children died before, Contraceptive use, Reproductive tract infections, Heard or seen message - prevention of sex selection mutually controls each other. Besides controlling each other, the predictors would have strong bearing on induced abortion as well as on spontaneous abortion.

Objectives

1. To depict the current scenario of spontaneous and induced abortion in India and its major states.
2. To determine the factors associated with spontaneous abortion in India and some selected states.
3. To find out the factors associated with induced abortion in India and some selected states.

Data and methods

The data used for this study is derived from National family health survey. The 2015-2016 National Family Health Survey (NFHS-3) is the fourth in the NFHS series of surveys. The International Institute for Population Sciences, Mumbai has been designated as the nodal agency for different rounds of NFHS and ORC Macro, Calverton, Maryland, USA, currently known as the ICF International have been providing the technical support in different rounds

of NFHS. The National Family Health Survey 2015-16 (NFHS-4), the fourth in the NFHS series, provides information on population, health and nutrition for India and each State / Union territory. Among the four survey schedules provided, this study has specifically focussed upon the women's data aged (15-49) where information on the woman's, reproductive health, sexual behaviour, HIV/AIDS, domestic and spousal violence, empowerment and awareness regarding contraception etc. are taken into consideration for the study. The information on women's educational level, different dimensions of women's empowerment, and contraceptive use among women have been collected from approximately 310,000 women age 15-49, living in 266,000 households across 18 states and UTs in India, which were included in the first phase of NFHS-4.

One-fourth of all pregnancies in the five years preceding the survey underwent an ultrasound test. Forty-four percent of pregnancies to urban women underwent an ultrasound test, compared with 16 percent in rural areas. Pregnancies to women with at least 12 years of completed education were almost eight times as likely to have an ultrasound test as pregnancies to women with no education. A higher percentage of pregnancies to women with no living son had an ultrasound test, and this percentage declines as the number of living son's increases. An examination of the sex ratio of births after a pregnancy with an ultrasound test provides strong evidence that ultrasound testing is being used for sex determination followed by sex-selective abortion. Simple univariate and bivariate analysis has been used to show the current abortion scenario and the possible linkages with selected characteristics of women with the abortion. Multivariate regression analysis further explores the direction and intensity of association. The analysis has been done for India as a whole and for eleven Indian States viz. Orissa, Assam, Uttar Pradesh, Bihar, Maharashtra, Tamil Nadu, West Bengal, Punjab and Kerala, Karnataka, Tamil Nadu which notes a high abortion rates.

Results

Table 1: the odds ratios of induced abortion by background characteristics in India and selected states, NFHS-4

Background Characteristics	Orissa	Assam	UP	Maharashtra	WB	TN	Punjab	Kerala	India
No. of living sons	1.2301***	0.989	1.032*	0.900*	1.142*	1.293***	1.106	0.992	1.012
Number of living daughters	1.021	0.996	0.995	0.974	0.973	1.089***	1.044	0.997	0.983
RTI									
No									
Yes	1.620**	1.580***	1.701***	1.473**	1.668***	1.720***	2.153***	2.135***	1.680***
Working status									
not working									
Working	0.789**	0.939	0.849***	0.684**	1.227***	1.113	1.179	0.913	0.831***
Children died									
No									
Yes	0.713**	0.793***	0.809	0.701**	0.608***	0.766*	1.238	0.794	0.783***
Age									
15-24									
25-34	2.081**	1.506***	2.344***	2.207**	1.886***	2.265***	1.860***	2.212***	2.210***
35 & above	2.884**	1.484***	2.446***	2.353**	2.397***	3.309***	2.436***	2.586***	2.880***
Heard/Seen message-prevention of sex selection	0.524**	0.657***	0.616***	0.577**	0.918	1.334**	0.378**	0.735	0.705***

Note: * ($p < 0.10$), ** ($p < 0.05$), *** ($p < 0.01$)

Table 2: the odds ratios of Spontaneous abortion by background characteristics in India and selected states, NFHS-4

Background Characteristics	UP	Bihar	Karnataka	Haryana	Kerala	TN	Orrisa	India
Age at marriage	0.981***	0.986	0.992	0.956**	0.995	0.972	0.991	0.981***
Women's Education								
No Education								
Primary	0.594**	0.827	0.198*	1.431	0.909	21.072	0.84	0.610***
Secondary	0.521***	0.763	0.2	1.603	0.957	22.852	0.761	0.608***
Higher	0.473***	0.710*	0.216*	1.453	0.829	19.854	0.672	0.576***
Age at First birth								
10-17								
18-30	1.134**	1.153*	1.192**	1.279*	1.053	1.153*	1.13	1.165***
31-49	2.052***	1.283	2.036**	1.889	1.794*	2.452***	2.190*	2.156***
Working Status								
Not working								
Working	1.185***	1.193*	1.057	1.045	1	1.253***	1.269**	1.116***
Caste								
Scheduled caste								
Scheduled tribe	0.581**	1.325	1.019	1.675	0.737	0.986	0.687**	0.707***
Others	1.068	1.146	1.02	0.902	1.07	1.058	0.944	1.076***
Children died								
No								
Yes	1.269***	1.195*	1.225*	1.240*	1.230*	1.139*	1.238*	1.356***

Note: * ($p < 0.10$), ** ($p < 0.05$), *** ($p < 0.01$)

The study shows that in Orissa, Assam Uttar Pradesh, Maharashtra, West Bengal, Tamil Nadu and Kerala where percentage of induced abortion is high, number of living sons, reproductive tract infections, women's age, message about prevention of sex selection and contraceptive use are the major determinants of induced abortion. However, women aged 25- 49 years are in the greatest need of interventions to prevent unsafe abortion. Women's age at marriage, women's educational qualification, age at first birth and death of children are the strong determinants of

spontaneous abortion in all the states where percentage of spontaneous abortion is high. Government should strengthen the programme pertaining to enhance education and health care utilization so that the chance of spontaneous abortion will reduce in these states.