Social Science Spectrum ISSN 2454-2806
Vol. 5, No. 2, June 2019, pp. 99-111

Post-abortion Complications and Treatment-seeking Behaviour among Women in India

Chanda Maurya* and Harihar Sahoo**

Abstract

Studies on abortion, post-abortion complications and their treatment seeking behaviour is limited in Indian context mainly because of the stigma and taboos associated with abortion. The present study attempts to find out the place of abortion, post-abortion complication and determinants of treatment-seeking behaviour of post-abortion complications in India. Using the data from NFHS-4 and employing both bi-variate and multivariate analyses, it found that more than half of the abortions happened in private health facilities, one-fifth in public facilities and about one-fourth outside the health facilities. Post-abortion complication is higher in the northern region, followed by the central region. Fifteen per cent of women did not go for treatment for post-abortion complications mainly because they can't afford the treatment and social stigma. Therefore, these women should have a priority in policy. As there is social stigma attached to abortion in India, its reporting is a matter of concern. To minimize this, awareness about abortion to the people should be created and women educated.

Keywords: *Place of abortion, post-abortion complication, treatment-seeking behaviour, India.*

I. Introduction

Although abortion has been legal in India under the Medical Termination of Pregnancy (MTP) Act, 1971 for more than three decades, access to safe abortion services remains limited for most women. In practice, legal abortion services are limited owing to lack of awareness associated with induced abortion, cost of services of legal abortion and social stigma associated with induced abortion. As a result, unsafe abortions are performed in India (Gupte, 1997). According to the World Health Organization, unsafe abortion is a procedure for terminating an unintended pregnancy carried out either by persons lacking the necessary skills or in an environment that does not conform to minimal medical standards or both (WHO, 2014). It is estimated that 15.6 million abortions occurred in India in 2015 and abortions accounted for one-third of all pregnancies and nearly half of the pregnancies were unintended (Singh et al., 2018). It was found that 90 per cent of abortions are performed under unsafe conditions, either the person lacks necessary skills or in unapproved facilities. The MTP Act was amended in 2002 and 2003 to provide better implementation and increased access to women, especially in the private health sector (Cleland, 2003).

A study conducted in Haryana shows that women who had undergone an abortion were 1.7 times more likely to perceive their health status as worse as compared with women who had not had it (Agrawal, 2013). Even if effective contraceptives-related facilities are accessible to women in reproductive age, circumstances could still arise in which a pregnancy is unwanted and the woman in question feel the need to end it. So the society should give freedom to every vulnerable woman to terminate pregnancy in a safe manner (Berer, 2017). A study conducted in Tamil Nadu reveals that three-fourths of the women experienced post-abortion complications and it was higher among rural women and those with a higher birth order or higher age, and 24 per cent of the cases did not take

* Chanda Maurya, Ph.D. Scholar, Department of Survey Research and Data Analytics, International Institute for Population Sciences, Mumbai, India. E-Mail: chandamaurya159@gmail.com (Corresponding author).

** Harihar Sahoo, Associate Professor, Department of Family & Generations, International Institute for Population Sciences, Mumbai, India. E-Mail: harihar@iipsindia.ac.in

Acknowledgements: The earlier version of the paper was presented in 39th Annual Conference of Indian Association for the Study of Population, held at Banaras Hindu University, Varanasi during September 18-20, 2018. The authors thank the referees of the journal for their comments on the earlier version of the paper.

any treatment after a spontaneous abortion, bleeding and pains (abdominal pain, body/hand/leg pain and stomach pain) were the most common complications reported by many women after induced abortion (Krishnamoorthy et al., 2004).

Nearly 15 per cent of the pregnancy-related deaths occur due to post-abortion complications in developing countries (WHO, 1995). A community-based study conducted in Rajasthan on unwanted pregnancies and induced abortions shows that 13 per cent of women experienced induced abortion out of which 26 per cent experienced complications due to abortion. The most commonly reported complications were backache, fatigue, weakness, foul-smelling discharge and high fever. The complications are slightly higher among rural women than urban women (Barge, 2004). A study conducted in Haryana shows that the most common health problems are pain in the lower abdomen, weakness, tiredness, body pain, chest pain and respiration. Further, one out of ten women reported having other health problems which include allergy, headache, hypertension, heart problems, hearing problems, hysterectomy, hysteria, menstrual irregularities, swelling of the body and tuberculosis (Agrawal, 2013).

Unsafe abortion is a significant public health problem, especially where access to legal abortion is highly restricted. An estimated 7.9 per cent of maternal deaths are due to unsafe abortion (Say, 2014). It is also a leading cause of maternal morbidity. Up to 40 per cent women who experience abortion complications do not receive sufficient care. Inequalities in accessing abortion-related care have been identified in many settings associated with multiple individual characteristics including age, marital status, ethnicity, geographic location and economic circumstances. Women experience intersecting inequalities in access to abortion-related care (Coast et al., 2018). Owing to restricted contraceptive use based on religious beliefs and limited support from the family and husband, women are forced to seek an abortion, mostly from the private, unskilled and unregistered health facilities. Due to lack of safe abortion facilities, most women go for unsafe abortion (Behera, 2015). According to some observers, the use of abortion decreases as contraceptive use rises, while others claim that the increased use of family planning methods causes abortions to rise (Cohen, 1998; Westoff, 1978). When fertility levels in a population change, the relationship between contraceptive use and abortion is also changed (Cleland, 2003). Slightly more than half of the women reported that they had used a contraceptive method in the month they became pregnant and if a woman uses long-acting reversible methods, the chances of abortion are more (Jones, 2017). Abortion ratio increases with parity, within parity the prevalence is lowest among women without a son, and it is the highest among women with two sons and a daughter (Bairagi, 2001). There are many factors that influence induced abortion. Age structure in the case of abortions plays a bimodal role meaning women in the youngest age group have more abortions because they want to delay childbearing, while women at the end of childbearing also have more abortion as they have either completed their family size or they believe that they are unable to become pregnant (Mote, 2010).

Need for the study

Information on the incidence of induced abortion is crucial for identifying policy and programmatic needs aimed at reducing unintended pregnancy. Unsafe abortion is a cause of maternal morbidity and mortality. Because of the low status of women in India, they do not have freedom to plan their pregnancy or take a decision about their pregnancy. Due to lack of awareness, the prevalence of unsafe abortion is high causing complications for future pregnancy, mortality, morbidity, psychological disorder, etc. Women are the primary caregivers of family and also have an important role in economic productivity of the households. Hence, it is important to ensure good health for them. As abortion is not good for women's health, there is a need for identifying the risk factors associated with post-abortion complications and its treatment seeking behaviour. Therefore, the study explores the determinants of place of abortion and post-abortion complications, and the treatment-seeking behaviour for post-abortion complications.

II. Data and methods

Data

The present study used the data from the fourth round (2015-16) of the National Family Health Survey (NFHS-4). It covered a representative sample of 6,01,509 households and 6,99,686 women aged 15-49 years. It provides crucial information on reproductive and child health, including socio-economic characteristics of the members of households and visitors, fertility, family planning, water and sanitation, health insurance, nutrition, violence against women, certain non-communicable diseases, etc. It provides information on population, health and nutrition for each state and union territory. Abortion-related information like place of abortion, post-abortion complication, treatment -seeking behaviour and the reason for which women do not go for treatment are also provided by it. Our study uses these for analysis.

Methods

Bi-variate analysis has been done to show the distribution of place of abortion, post-abortion complications and treatment-seeking behaviour. Multivariate statistical methods have been used in the analysis. For explanatory variables in a categorised form, a category is designated as "reference" and if B_k is the logistic regression for category $_{k,}$ then exp (B_k) is the odds ratio, that is, the ratio of odds for the category $_k$ to the odds of reference category. Two sets of multivariate analysis have been carried out. In the first set, place of abortion has been taken into consideration. So the response is categorized as "Public health facility", "Private health facility" and "Home and others". Therefore, the multinomial logistic model has been adopted to examine the influences of various factors. In this model, three sets of relative risk ratios are estimated: (i) probability of having abortion in private health facility vis-à-vis public health facility; (ii) probability of having abortion in home and other places vis-à-vis public health facility; and (iii) probability of having abortion in private vis-à-vis home and other places.

In the second set of analysis, the binary logistic regression is used in order to find out the possible determinants of post-abortion complications and treatment-seeking behaviour. The dependent variable, post-abortion complications, is recoded in two categories, i.e., 'having complication' and 'not having complication'. The second dependent variable 'sought for treatment' is recoded into two categories, i.e., 'yes' and 'no'. The predictors which have been used are age group of women, children ever born, caste, religion, geographical region, place of residence, women's education and wealth index. The age group of women has been divided into three categories, i.e., 15-24 years, 25-34 years and 35+ years. Children ever born have been categorized into zero, one to two, and three+. Caste has been divided into four categories, namely, scheduled castes (SCs), scheduled tribes (STs), other backward classes (OBCs) and others. Religion has been grouped into Hindu, Muslim, Christian and others. The country has been categorized into six geographical regions, i.e., north, central, east, northeast, west and south. The place of residence has been categorized as rural and urban. Educational level of women has been divided into four categories, viz., illiterate, primary, secondary and higher, while the wealth index has been categorized as poorest, poor, middle, richer and richest. The analysis has been carried out using STATA 14.0.

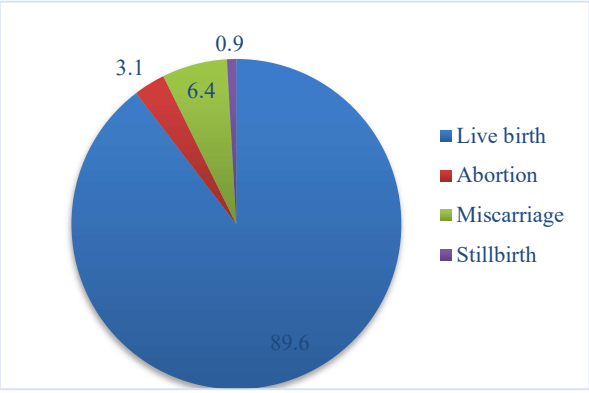
III. Results

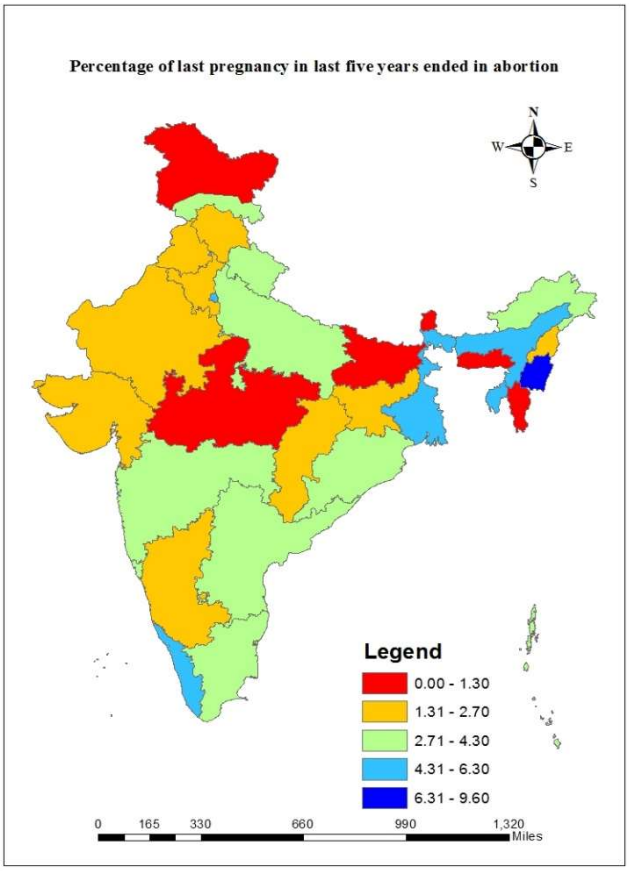
Pregnancy outcomes

Out of the pregnancies in five years preceding the Survey, 90 per cent pregnancies ended in live births and the remaining 10 per cent terminated in abortion, miscarriage or stillbirth. Miscarriage is the most common type of non-live birth, accounting for 6.4 per cent of all pregnancies, abortions 3.1 per cent and still births 0.9 per cent (Figure 1).

Prevalence of abortion is higher in the north-eastern region as compared with other regions of India. States with higher prevalence of abortion are Manipur (9.6 %), Chandigarh (6.3 %) and Delhi (6.1%), followed by Kerala (%), Assam (5.2%), West-Bengal (5.1%) and Tripura (4.9%); and states with lower prevalence are Madhya Pradesh (1.3%), Sikkim (1.1%), Bihar (1.0%), Meghalaya (0.9%); and Mizoram (0.4%). As against this, Telangana (4.4%), Odisha (4.3%), Uttar Pradesh (4%), Andhra Pradesh (3.4%) and Arunachal-Pradesh (3.3%) have a moderate level in the prevalence of abortion as compared with others (Map 1).

Figure 1: Pregnancy outcomes in India, NFHS-4





Map 1: Percentage of last pregnancy in the last five years ending in abortion.

Place of abortion in India

The percentage distribution of women who have had abortions during the five years preceding the Survey by place of abortion in India is presented in Table 1. The percentage of women going for abortion at various places varies from one health facility to another. More than half of the women (54%) go to private health facilities for abortion which is substantially higher than those who go to public health facilities (20%). One-quarter of the women avail of the home and others health facilities for abortion. Among the private health facilities, 48 per cent of women go to hospital/clinic, 4.7 per cent to dispensary/clinic and only 0.3 per cent women to other health facilities for abortion. Among the public health facilities, 10 per cent women go to the government/municipal hospitals, five per cent to the CHC/rural hospital/block PHC, two per cent to the PHC/additional PHC and only 0.1 per cent to the government mobile clinic or vaidya/hakim/homeopath for abortion. Among the home and other places, 26 per cent of women prefer home for abortion and 0.3 per cent favour elsewhere.

Table 1: Percentage distribution of women who have had abortion during five years preceding the NHFS 4 by place of abortion

Place of abortion	Per cent
Public	20.0
Govt./Municipal hospital	10.2
Vaidya/Hakim/Homeopath (AYUSH)	0.1
Govt. Dispensary/Clinic	1.2
UHC/UHP/UFWC	0.8
CHC/Rural hospital/Block PHC	4.8
PHC/Additional PHC	2.3
Sub-centre	0.5
Govt. mobile clinic	0.1
Other public health facilities	0.0
Private	54.2
NGO/Trust Hospital/Clinic	0.5
Hospital/Clinic	47.8
Vaidya/Hakim/Homeopath (AYUSH)	0.8
Dispensary/Clinic	4.8
Other private health facilities	0.3
Home and others	25.8
At home	25.5
Elsewhere	0.3
Total	100.0

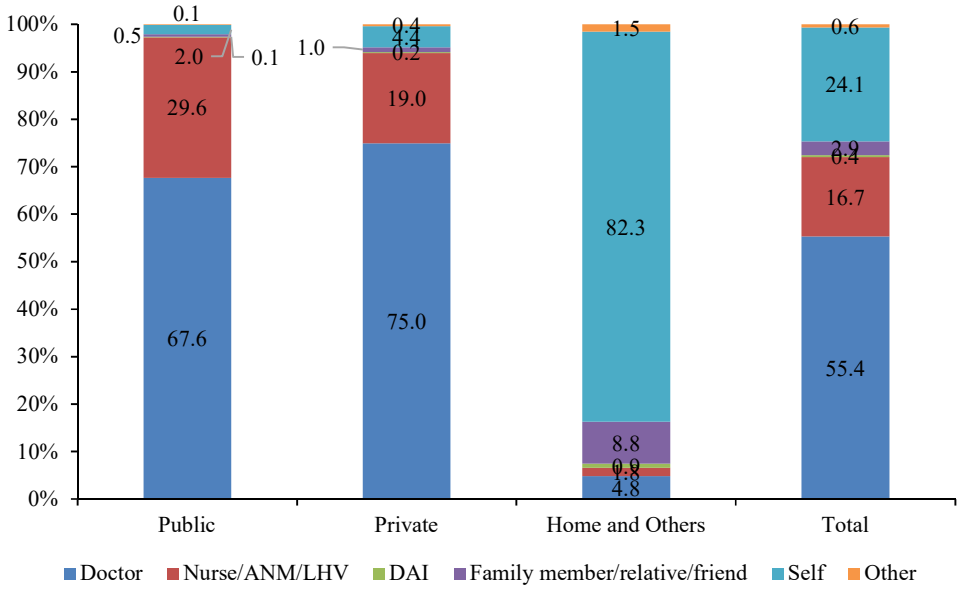
Source: Computed from NFHS 4 data.

The results of percentage distribution of women who have had abortions during the five years preceding the Survey by the person who performed the abortion revealed that 68 per cent and 75 per cent abortions were conducted by doctors in public and private health facilities respectively (Figure 2). The proportion of nurses/auxiliary nurse-midwives (ANMs)/lady health visitors (LHVs) who conducted abortions is higher in public health facilities (30 per cent) than private health facilities (19 per cent). As for abortions done at home, a majority of them were done by self (82%). Overall, 55 per cent abortion were done by doctors and one-quarter by self.

The percentage distribution of women who had the abortion during five years preceding the Survey by place of abortion and by background characteristics is presented in Table 2. A majority of women in the age group 15-24 and 25-34 years prefer private health facilities (55% and 54% respectively) for abortion. A higher proportion of low parity women go to private health facilities for abortion. As the children ever born increases, the proportion of women availing of private health facilities for abortion decreases, while their proportion to avail at home and others places increases. Most women belonging to scheduled castes go to the public health facilities and the least percentage

of women belonging to other categories to the public health facilities for abortion. Most women belonging to the schedule castes (38%) prefer public health facilities and home (30%) for abortion, while women belonging to other castes (57%) mostly favour private health facilities for abortion. While one-fifth of the Hindu women (20%) prefer public health facilities for abortion, more than half of the Muslim women (54%) prefer private health facilities. Women of other religions mostly prefer (65%) private health facilities for abortion. As education level increases, the number of women going from the public to the private health facilities increases.

Figure 2: Person who performed abortion by place of abortion



Illiterate women mostly prefer public health facilities (22%) for abortion but educated women mostly prefer (73%) private health facilities. Only 22 per cent of rural women prefer public facilities, whereas 62 per cent of urban women prefer private facilities. Nearly half of the women (48%) from the north-eastern region prefer public health facilities, 75 per cent women from the western region prefer private health facilities and 40 per cent women from the central region prefer home and others as the place for abortion. Women belonging to lower wealth index mostly prefer public health facilities (24%) and home (38%), but women belonging to higher wealth index mostly prefer private health facilities for abortion.

Multivariate analysis is done to understand the determinants of women going to public, private and 'home and other places' for abortion. As our dependent variable is categorical and consists of three outcomes, i.e., public, private and home and others, multinomial logistic regression analysis has been carried out to find out the determinants of place of abortion by the background characteristics and the result are presented in Table 3. It shows that women in the age group 15-24 years are more likely to go to the private health facilities for abortion than the women of 35 and above years. Women who have one or two children are less likely to go to the private health facilities as compared with women having three or more children. Women who belong to SC and ST categories are less likely (32% and 42% respectively) to go in private health facilities for abortion than women belonging to other categories. Hindu women are less likely to go in private health facilities. As for education, women who have no education or primary or secondary level education are less likely to go in private health facilities as compared with women having higher education. Urban women (12.5%) are more likely to go in private health facilities for abortion. In the case of wealth index, women belonging to the poorest, poorer, middle and richer wealth quintiles were less likely to go to private health facilities compared with women belonging to the richest wealth quintiles.

Table 2: Percentage distribution women who had abortion during five years preceding the NFHS-4 by place of abortion and background characteristics

Background characteristics	Public	Private	Home and others
Women's age (in years)			
15-24	19.2	54.9	25.9
25-34	20.1	54.3	25.6
35+	20.6	52.7	26.7
CEB			
Zero	19.6	63.4	17.0
One or two	20.7	56.3	23.0
Three+	18.5	46.3	35.1
Caste			
ST	25.3	49.7	25.0
SC	31.9	38.2	29.9
OBC	17.6	56.5	25.9
Others	17.3	57.0	25.7
Religion			
Hindu	20.4	53.5	26.1
Muslim	17.5	54.0	28.4
Others	21.2	64.8	14.0
Educational level			
Illiterate	21.7	45.7	32.5
Primary	22.2	46.3	31.5
Secondary	20.8	54.1	25.0
Higher	12.2	73.0	14.8
Residence			
Urban	16.6	61.9	21.5
Rural	22.3	48.8	28.9
Region			
North	26.7	52.5	20.8
South	22.6	69.4	8.0
East	15.6	47.5	36.8
West	16.2	74.5	9.3
Central	14.9	45.7	39.5
Northeast	47.6	26.2	26.2
Wealth index*			
Poorest	23.7	38.2	38.1
Poorer	22.6	45.3	32.1
Middle	22.9	50.6	26.5
Richer	19.1	59.2	21.8
Richest	13.9	68.4	17.7
India	20.0	54.1	25.9

Source: Computed from NFHS 4 data.

Women in the age group 15-24 and 25-34 years are more likely (85% and 28% respectively) to go in for the 'home and other places' as compared with women in the age group 35 years and more. Women not having any child or having one or two were less likely (46% and 34% respectively) to be go to 'home and other places' as compared with women having three or more children vis-à-vis public health facilities. Women from the SC category when compared with women from other categories show significantly negative odds for being at 'home and other places' for abortion. Illiterate women show less likelihood to remain at 'home and other places' as compared with women having higher educational attainment vis-à-vis public health facilities. Women from the southern region are less likely (41%) to 'go to home and other places' for abortion as compared with women from the north-eastern region. Women from the eastern and central regions are more likely to remain

at 'home and other places' for abortion. Taking the richest wealth index as the reference category, women from the poorest, poorer and middle wealth quintiles are less likely to choose 'home and other places' for abortion in relation to private health facilities. Women of the age group of 15-24 and 25-34 years were less likely (32% and 21% respectively) to go to the private health facilities as compared with women of 35 years and more.

Table 3: Relative risk ratio showing the effect of background variable on place of abortion in India: Results from multinomial logistic regression

Background variables	Private vs. Public			Home and others vs. Public		
		95% CI			95% CI	
	Relative risk ratio	Lower bound	Upper bound	Relative risk ratio	Lower bound	Upper bound
Women's age (in years)						
15-24	1.270**	1.036	1.556	1.853***	1.466	2.342
25-34	1.031	0.871	1.222	1.281**	1.058	1.552
35+ (Ref.)						
CEB						
Zero	0.815	0.638	1.040	0.536***	0.398	0.722
One or two	0.783***	0.665	0.922	0.656***	0.548	0.785
3+ (Ref.)						
Caste						
SC	0.680***	0.572	0.809	0.666***	0.546	0.813
ST	0.579***	0.447	0.749	0.858	0.648	1.136
OBC	0.997	0.857	1.160	0.987	0.831	1.171
Others (Ref.)						
Religion						
Hindu	0.767*	0.588	1.001	1.110	0.777	1.585
Muslim	0.836	0.613	1.139	1.202	0.808	1.787
Others (Ref.)						
Educational level						
Illiterate	0.532***	0.410	0.691	0.729**	0.534	0.995
Primary	0.507***	0.390	0.658	0.798	0.585	1.089
Secondary	0.545***	0.444	0.668	0.873	0.677	1.127
Higher (Ref.)						
Residence						
Urban	1.125*	0.978	1.294	1.123	0.953	1.324
Rural (Ref.)						
Region						
North	2.457***	1.848	3.267	1.288	0.947	1.752
South	4.076***	3.136	5.297	0.593***	0.436	0.806
East	5.820***	4.468	7.580	4.423***	3.390	5.770
West	5.636***	4.229	7.512	0.900	0.638	1.270
Central	4.742***	3.637	6.184	4.502***	3.441	5.889
Northeast (Ref.)						
Wealth index						
Poorest	0.393***	0.300	0.516	0.703**	0.519	0.952
Poorer	0.517***	0.410	0.653	0.780*	0.595	1.022
Middle	0.563***	0.458	0.692	0.789*	0.617	1.009
Richer	0.700***	0.580	0.844	0.880	0.701	1.106
Richest (Ref.)						

Note: CI: Confidence Interval; ***p<0.01, **p<0.05, *p<0.001 (Ref.): Reference category.
Source: Computed from NFHS 4 data.

Child ever born shows significantly positive odds with more chance to go to private health facilities for abortion than 'home and other places.' Women belonging to the ST category are less likely to go to the private health facilities (32%) as compared with women from other categories in

relation to 'home and other places.' As compared with women of other religions, Hindu and Muslim women are less likely to go to private health facilities for abortion vis-à-vis 'home and other places.' Taking higher education as reference, all the other levels of women show less likelihood to go in private health facilities for abortion vis-à-vis 'home and other places'. Women from the northern, southern, eastern and western regions show a significant result for the logistic regression. Women from the northern, southern, eastern and western regions are more likely to go to the private health facilities for abortion vis-à-vis 'home and other places.' Taking the richest as reference category, other groups are less likely (poorest 44%, poorer 33%, middle 29% and richer 21%) to go in private health facilities vis-à-vis home and other health facilities.

Post-abortion complications and treatment seeking behaviour

Women in early age (15-24) and 35 years and above have more complications due to abortion. Nineteen per cent of women in the age group of 15-24 years and 20 per cent aged 35 years and above had a complication after abortion (Table 4). Out of total women who have had complication after abortion, 85 per cent women sought treatment. One-quarter of them who had not a child have more complication after abortion out of whom 85 per cent sought treatment. Twenty-one per cent women with more than three children had complication after abortion out of whom 85 per cent women sought treatment. Women of SC category (21%) have more complication after abortion, but fewer women (74%) belonging to this category sought for treatment compared with other categories. Maximum number of Muslim women have complications after abortion as compared with other women. But only 87 per cent Muslim women sought treatment. Complication after abortion is maximum in illiterate women. As education improves, lesser women have complications due to abortion (20 per cent among illiterate and 16 per cent among educated). With greater education more women sought treatment for complication. Nearly one-fifth (19%) of the rural women had complications from abortion as compared with women from urban areas (17%), but more women seeking treatment who belong to urban areas. More women from the northern region (23%) and central region (21%) have complication after abortion as compare with women from other regions. Fewer women from the southern region (15%) had complication after abortion but most of them (88%) sought treatment as compared with those in the northern and central regions. Wealth index and complications from abortion are inversely related. As many as 21 per cent women from the lowest wealth index had complications after abortion as compare with 17 per cent women belonging to the richest wealth index. The percentage of women with complications due to abortion decreases as their position in the wealth index improves and more women (89%) in the richest wealth index sought treatment. Women having more complications go to the private health facilities for abortion as compared with other women going to the public health facilities for abortion. Out of those women who go for abortion in private health facilities and have complications, 90 per cent seek treatment.

To understand the possible determinants of post-abortion complication and treatment for complication, binary logistic regression analysis has been carried out and the results are presented in (Table 5). It is evident from the analysis that the odds of having post-abortion complications reduce with an increase in the number of children. Women of ST category are more likely (34%) to have complication after abortion as compare with women belongs to SC category. Women who belong to Muslim religion are more likely to have a post-abortion complication (23%) compared with women of Hindu religion. Women of the eastern, north-eastern, western and southern regions are less likely to have post-abortion complications but women of the eastern region are less likely to go for treatment. Women belonging to the richer and richest wealth index are less likely to have complications after abortion (21% and 25% respectively). Women who go for the private sector for abortion are more likely to have complications after abortion (35.6%) as compare with those who go to the public sector for abortion.

Table 4: Percentage distribution of women having complications from abortion and seeking treatment by background characteristics as per NFHS 4

Background characteristics	Complications	Treatment
Women's age (in years)		
15-24	18.6	84.9
25-34	17.2	84.2
35+	19.8	85.4
CEB		
Zero	24.6	85.4
One or two	15.7	84.5
Three+	20.5	84.5
Caste		
ST	17.8	84.2
SC	21.1	73.6
OBC	18.0	86.5
Others	17.5	85.1
Religion		
Hindu	17.4	83.6
Muslim	20.6	87.1
Others	19.3	91.4
Educational level		
Illiterate	20.3	84.2
Primary	20.2	83.8
Secondary	17.0	84.0
Higher	16.3	88.7
Residence		
Urban	16.8	85.6
Rural	18.8	84.1
Region		
North	22.5	86.9
South	15.0	88.3
East	16.9	75.6
West	16.3	89.9
Central	21.1	86.4
Northeast	12.2	79.3
Wealth index		
Poorest	20.6	77.9
Poorer	19.2	89.4
Middle	18.5	81.5
Richer	16.5	83.4
Richest	16.5	89.5
Place of abortion		
Public	15.5	87.8
Private	19.3	89.4
Home and others	17.0	71.2
India	18.0	84.7

Source: Computed from NFHS 4 data.

Among the women who had complications due to abortion, 24 per cent went to the public health facility and 74 per cent to the private facilities for treatment (Table 6). Only 2 per cent women preferred 'home and other places' for treatment after complications. Among the public health facilities, 14 per cent women went to the government/municipal hospitals, 6 per cent to the CHC/Rural hospital/block PHC and only 0.2 per cent to the government dispensary/clinic or sub centres for treatment. As for private facilities, 67 per cent women went to t a hospital or clinic for treatment. Four per cent women went to the dispensary/clinic for treatment and only 0.4 per cent to an NGO/trust hospital/clinic for treatment.

Table 5: Odds ratio showing the effect of background variables on post-abortion complications and treatment in India

Background variables	Post-abortion complications	Treatment
	Odds ratio	Odds ratio
Women's age (in years)		
15-24 (Ref.)		
25-34	0.947	0.894
35+	1.026	1.032
CEB		
Zero (Ref.)		
One or two	0.584***	1.363
3+	0.676***	1.540
Caste		
SC (Ref.)		
ST	1.340**	0.633
OBC	1.018	1.224
Others	1.017	1.180
Religion		
Hindu (Ref.)		
Muslim	1.225**	1.444
Others	1.208	2.509**
Educational level		
Illiterate (Ref.)		
Primary	1.128	1.006
Secondary	1.048	1.132
Higher	1.001	1.622
Residence		
Urban (Ref.)		
Rural	1.056	1.051
Region		
North (Ref.)		
South	0.557***	1.016
East	0.620***	0.555**
West	0.617***	1.423
Central	0.849	1.286
Northeast	0.432***	0.675
Wealth index		
Poorest (Ref.)		
Poorer	0.957	2.122***
Middle	0.934	0.870
Richer	0.792**	0.896
Richest	0.755**	1.019
Place of abortion		
Public (Ref.)		
Private	1.356***	1.095
Home and others	1.036	0.301***
Constant	0.413***	4.199***

Notes: (i) ***p<0.01, **p<0.05, (Ref.): reference category.
(ii) Results from Logistic Regression Analysis.

Fifteen per cent women had complications after abortion but did not go for treatment owing to many reasons (Table 7). One-quarter of them did not go for treatment because they could not afford it, 4 per cent did not afford transport, 3 per cent feared stigma by the community and 1.6 per cent feared stigma by the provider. Almost 16 per cent women did not go for treatment because their husbands did not give permission and another 33 per cent women had minor problems which would be solved naturally without treatment.

Table 6: Percentage distribution of women having complications from abortion by place of treatment as per NHFS 4

Place of treatment	Percentage
Public	23.9
Govt./Municipal hospital	14.2
Vaidya/Hakim/Homeopath (Ayush)	0.4
Govt. dispensary/Clinic	0.2
UHC/UHP/UFWC	0.6
CHC/Rural hosp./block PHC	6.2
PHC/additional PHC	2.1
Sub-centre	0.2
Private	73.9
NGO/ trust hospital/clinic	0.4
Hospital/Clinic	66.7
Vaidya/Hakim/Homeopath (Ayush)	2.0
Dispensary/Clinic	4.3
Other private health facility	0.5
Home and others	2.1
At home	1.7
Elsewhere	0.4
Total	100.0

Source: Computed from NFHS 4 data.

Table 7: Percentage of women who have had complications from abortion by reasons for not seeking treatment as per NFHS 4

Reasons for not seeking treatment	Percentage
Could not afford treatment	23.9
Could not afford transport	4.0
Fear of stigma by provider	1.6
Fear of stigma by community	3.0
Did not require treatment	13.1
Problem resolved itself	32.6
Could not get away from family responsibilities	6.7
Husband did not give permission	16.2
Others	7.5

Source: Computed from NFHS 4 data.

V. Discussion and conclusion

The study sought to find out the factors which are related to the place of abortion, post-abortion complications and treatment-seeking behaviour among women in India. Out of the last pregnancy among women aged 15-49 years during the five years preceding the Survey, 3 per cent ended in abortion. More than half the abortions were performed in the private health facilities. The results of this study are consistent with those of other studies (IIPS, 2010; Malhotra et al., 2003; Duggal, 2004). With increasing age, more women go to public or private facilities for abortion (Krishnamoorthy et al., 2004). Abortion in private health facilities increases with the increase in wealth index. One-quarter of the women had undergone abortion at home during the five years preceding the Survey. Nearly 18 per cent women had post-abortion complications and out of them 84 per cent sought treatment. Women going for treatment mostly prefer the private health facilities. Most of them had not gone for treatment as they can't afford.

Abortions for terminating an unintended pregnancy should be carried out either by persons having the necessary skills or in an environment that conforms to minimal medical standards. But about one-fourth of them are done in homes or other places, other than health facilities. Therefore, these women should be given a priority from the policy point of view. An unsafe abortion can lead

to serious complications for women. Therefore, the government should take immediate action to tackle the issue. More than half of the abortions are performed in private health facilities, the reason being lack of access to the facilities or the non-availability of the doctor or trained medical staff in public health facilities. So the government should provide qualified persons in public health facilities and easily accessible health services. As there is social stigma attached to abortion, its reporting is a problem. To minimize it, awareness among the people should be created. One of the commonly mentioned reasons for not going for treatment for post-abortion complications is that families can't afford the treatment. Hence, the government should launch programmes under National Health Mission and Reproductive and Child Health Programme to provide free maternal health services.

References

Agrawal, S., and Unisa, S. (2013) Pregnancies, abortion and women's health in rural Haryana, India. *Journal of Community Medicine Health Education, 3*: 207.doi:10.4172/2161-0711.1000207

Bairagi, R. (2001). Effects of sex preference on contraceptive use, abortion and fertility in Matlab, Bangladesh. *International Family Planning Perspectives*. *27*(3), 137-143.

Behera, D., Bharat, S., & Gawde, N. C. (2015). Induced abortion practices in an urban Indian slum: Exploring reasons, pathways and experiences. *Journal of Family & Reproductive Health*, *9*(3), 129-135.

Berer, M. (2017). Abortion law and policy around the world. *Health and Reproductive Rights*, *19*(1) 13-27.

Barge, S., et al. (2004). Formal and informal abortion services in Rajasthan, India: Results of a Situation Analysis. New Delhi: Population Council.

Cleland, J., & Marston, C. (2003). Relationships between contraception and abortion: A review of the evidence. *International Family Planning Perspectives*, *29*(1), 6.

Coast, E., Norris, A. H., Moore, A. M., & Freeman, E. (2018). Trajectories of women's abortion-related care: A conceptual framework. *Social Science and Medicine*, *200*, 199-210.

Cohen, C.F. (1998). *The role of contraception in reducing abortion, Issues in brief.* New York: The Alan Guttmacher Institute.

Duggal, R. (2004). The political economy of abortion in India: Cost and expenditure patterns. *Reproductive Health Matters, 12*(24 Suppl.), 130–137.

Gupte, M., Bandewar, S., & Pisal H. (1997). Abortion needs of women in India: A case study of rural Maharashtra. *An International Journal on Sexual and Reproductive Health and Rights*. 5(9), 77-86.

IIPS (2010). *District Level Household and Facility Survey (DLHS-3), 2007–08: India,* Mumbai: IIPS.

Jones, R. K., & Jerman, J. (2017). Population group abortion rates and lifetime incidence of abortion: United States, 2008–2014. *American Journal of Public Health*, *107*(12), 1904–1909.

Krishnamoorthy, S., et al. (2004). *Pregnancy outcome in Tamil Nadu: A survey with special reference to abortion complications, cost and care*. Department of Population Studies, Bharathiar University, Coimbatore.

Malhotra, A., et al. (2003). *Realizing reproductive choice and rights: Abortion and contraception in India,* Washington, DC: International Center for Research on Women.

Mote, C.V., et al. (2010). Factors associated with induced abortion among women in Hohoe, Ghana. *African Journal of Reproductive Health*, *14*(4), 110–116.

Saseendran P., & William, R. (2006). Maternal and social factors associated with abortion in India: A population-based study. *International Perspective on Sexual and Reproductive Health*, *32*(3), 120-125.

Say, D., et al., (2014). Global causes of maternal death: A WHO systematic analysis., *The Lancet Global Health*, *2*(6), e323-e333.

Singh, S., et al. (2018). The incidence of abortion and unintended pregnancy in India, 2015. *The Lancet Global Health, 6*(1), e111–e120.

Westoff, C. F. (1978). The unmet need for birth control in five Asian countries, *International Family Planning Perspectives, 4*(1):9-18.

World Health Organization (2014). *Safe and unsafe induced abortion*. Geneva: WHO

World Health Organization (1995). *Complications of abortion: Technical and managerial guidelines for prevention and treatment.* Geneva: WHO.