CHAPTER

14

How far Wealth Influences the Uptake of Abortion in India

Kirti Gaur*

Abstract

Worldwide, approximately 70 out of the 205 million pregnancies yearly end in abortion. Of these, 42 million are induced abortions. Only a marginal dip in the abortion rate is seen over a decade. The present engagement is an attempt to enhance our understanding of the wealth inequalities and various factors associated with the uptake of abortion among Indian women. Data for the present study was obtained from National Family Health Survey-4 conducted in 2015–16. The findings from the income related inequalities indicate a pro-rich bias with relatively large inequalities in the uptake of abortion. Results further starks out the variations by different background characteristics in the incidence and intensity of inequality, thus discounting the fact that the unit of aggregation plays a key role in the assessment of relative inequalities in health. The inequalities are larger among the rural, illiterate, belonging to the lower strata, Hindu and other religion, and women from the Western region. Results from the regression analysis suggest that the chances of abortion are higher among richer women, women from rural areas, belonging to SC, OBCs or other caste and Hindus. Further, it increases with the increasing age of women at the time of abortion and with the education of women.

Introduction

Abortion has been research interest of not only public health experts and demographers but it had been well researched by historians and social scientists also due to its perilous impact on the health of women. There were several incidences of forced termination of pregnancies during the early 20th century in South Asia (Sharafi, 2021). This period was also a transition

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* ICSSR Post Doctoral Fellow, G. B. Pant Social Science Institute, Prayagraj - 211019, (U.P.)

phase when some cities of India concerns over rapid population growth gained momentum, and poor women were found to use dangerous methods of induced abortion to avoid having more children (Srinivasan, 2017).

Worldwide, approximately 70 out of the 205 million pregnancies yearly end in abortion. Of these, 42 million are induced abortions (WHO, 2011). An alarming trend of increasing proportion of abortion has been observed in recent years (Sedgh et al., 2012). India alone accounts for 15.6 million abortions in 2015 (Singh et al., 2015). To add, most of these abortions are performed in unsafe conditions (Banerjee and Andersen 2012; Banerjee et al., 2012; Duggal and Ramachandran 2004) and often without any contraceptive counselling or services (Banerjee and Manning 2010). It is estimated that out of 20 unsafe abortions 19 take place in less developed regions of the world and 98 percent of abortion related deaths occur in these regions (Safe Motherhood, 2000).

India has observed only a marginal dip in the abortion rate over a decade. As per the recent rounds of the National Family Health Surveys, the percentage of women experiencing abortion is 3 percent and has not declined from 2015-16 to 2019-21 (IIPS and ICF, 2017; IIPS and ICF, 2021). Like other developing countries, the level of unsafe abortions is very high in India, despite the fact that the abortion has been legalized in India through Medical Termination of Pregnancy (MTP) Act. This act was enacted in 1971 and it governs the provision of abortions in India under certain circumstances. It allows the termination of pregnancy up to 20 weeks, for a broad range of indications. This act was amended in December 2002 and the Rules, in June 2003. Under this act, a pregnancy can be terminated by a registered medical practitioner (under the MTP Act) if (i) the continuation of pregnancy involves a risk to the life of the pregnant woman or causes grave injury to her physical or mental health The anguish caused by the unwanted pregnancy in the following situations is presumed to cause grave injury to the mental health of the pregnant woman: (a) rape or incest (b) failure of any device or method used by a married woman or her husband for the purpose of limiting the number of children (ii) there is a substantial risk that, if the child was born, s/he would suffer from such physical or mental abnormalities as to be seriously handicapped.

Even after 51 years of MTP act, the access to services is still a challenge, especially in the rural and remote regions of the country. Therefore, to facilitate the equity-based efforts it is important to explore the socio-economic inequalities that exists in uptake of abortion in India. The present engagement is an attempt to enhance our understanding of the wealth inequalities and various factors associated with the uptake of abortion in India. The results from the study will not only enrich the abortion literature

but also significantly help in drawing new programmes and policies that aim to improve the reproductive health of women.

Materials and Methods

Data

Data for the present study was obtained from National Family Health Survey-4 conducted in 2015–16. The NFHS is a cross-sectional multi-stage household survey, similar in structure to the Demographic Health Surveys. The protocol for the NFHS-4, including the survey questionnaires, was approved by the Institutional Review Board of International Institute for Population Sciences (IIPS) and the ICF. The protocol was also reviewed by the United States Centre for Disease Control and Prevention (CDC). The NFHS-4 collected health, demographic and socioeconomic information at the national, state and district levels. Additionally, the NFHS-4 collected month by month history of various key events such as pregnancy status, pregnancy outcomes and contraceptive use. As well, the survey collected information on the reasons for each episode of contraception discontinuation in the 60 months preceding the survey. Monthly data was recorded in a calendar matrix, consisting of rows (months) and columns (information recorded: use of contraceptive method, reason for discontinuation, etc.) (IIPS & ICF, 2017). Each birth was denoted by the letter B in the month the birth took place. Further, each preceding month of pregnancy was denoted by the letter P. The termination of pregnancy in the period covered by the calendar was denoted by the letter T in the month the pregnancy was terminated. For the last termination, the type of termination was recorded with the letter M (miscarriage), A (abortion) and S (stillbirth) in the month the pregnancy was terminated. The above information was utilized to ascertain outcome variables. The study sample constituted of women who had an abortion during the 60 months prior to the survey date. Abortion in this study is defined as a voluntary termination of pregnancy. The final sample size consisted of 2,86,791 women aged 15–49 years.

Outcome Variables

The outcome variable is abortion which was based on a dichotomized response: "yes" if a women had an abortion and "no" if the women had not undergone an abortion in the past five years preceding the survey.

Predictor Variables

On the basis of previous studies on abortion relevant socioeconomic factors have been taken into consideration for the multivariate analysis. The logistic regression models were controlled for a wide range of socioeconomic and

demographic variables, including), place of residence (urban, rural), region of residence in the country (central, east, north-east, west, south and north), caste/ethnicity of the head of household (Scheduled Tribes [STs], Scheduled Castes [SCs], Other Backward Classes [OBCs] and Others), religion of the head of household (Hindu, Muslim and Others), wealth quintile (poorest, poorer, middle, richer and richest, mother's age (in years) at the time of abortion and respondent's education (no education, completed primary education, completed secondary education, completed higher secondary education or more).

Analytical Strategy

Concentration curve (CC) and concentration index (CI) are employed to examine socioeconomic rank-related inequalities in the distribution of contraceptive use and incidence of abortion (Wagstaff, Paci, & Doorslaer, 1991). CC displays the share of health accounted for by cumulative proportions of individuals in the population ranked from poorest to richest (Kakwani 1977; Kakwani et al. 1997; Wagstaff et al. 1991). The CC are generally used for examining the inequalities in the any health-related variable of interest. Health inequalities across time and space can be examined by CC. For example, in our study it has been used to assess whether the uptake of abortion is concentrated among the poor or rich. The two important variables used to draw the CC are the health variable, the distribution of which is the subject of interest, and the other variable captures the living standard in our study it is the wealth quintile against which the distribution is to be assessed.

In CC the cumulative percentage of the uptake of abortion (y axis) is plotted against the cumulative percentage of the population, ranked by wealth quintile, beginning with the poorest, and ending with the richest (x-axis). In other words, it plots share of the variable uptake of abortion against wealth quintile variable. For instance, if everyone, irrespective of his or her wealth quintile, has exactly the same value of the abortion, the concentration curve will be a 45-degree line, running from the bottom left-hand corner to the top right-hand corner which is known as the line of equality. On the other hand, if the abortion takes higher (lower) values among poorer people, the concentration curve will lie above (below) the line of equality. The farther the curve is above (below) the line of equality, the more concentrated the health variable is among the poor (rich).

Concentration curves are used to understand whether the socioeconomic inequalities in health variable exists and whether it is more pronounced at one point in time than another or in one country than another. However, it is to be noted that the concentration curve does not give a measure of the magnitude of inequality. The concentration index (Kakwani 1977, 1980),

which is directly related to the concentration curve, quantifies magnitude of socioeconomic related inequality in the health variable (Kakwani, Wagstaff, and van Doorslaer 1997; Wagstaff, van Doorslaer, and Paci 1989). It has been used, for example, to measure and to compare the degree of inequalities due to socioeconomic factors in various health outcomes such as child mortality (Wagstaff 2000), child immunization (Gwatkin et al. 2003), child malnutrition (Wagstaff, van Doorslaer, and Watanabe 2003), adult health (van Doorslaer et al. 1997), health subsidies (O'Donnell et al. 2007), and health care utilization (van Doorslaer et al. 2006).

## Results

Income Related Inequalities in Abortion

The anomalies in the distribution of socio-economic status and health can be visualized using the concentration curves. Figure 1-Figure 6 plot the cumulative socioeconomic distribution of the uptake of abortion against their cumulative population shares. The concentration curve for the uptake of abortion lies below the diagonal and informs that women who had an abortion are heavily concentrated among the high-income households indicating a pro-rich bias. The distance from the diagonal entails that the income-related inequalities in the uptake of abortion are relatively large.

The analysis based on rural-urban classification reveals that the abortion is concentrated more among high-income households. It is worth reporting that an aggregated profile such as Figure 1, evens out the stark variations by different background characteristics in the incidence and intensity of inequality, thus discounting the fact that the unit of aggregation plays a key role in the assessment of relative inequalities in health. Separate CCs for different background characteristics are plotted as Figure 2 to Figure 6. All the CCs suggests that the uptake of abortion among women is highly concentrated among the richer section of the society. The inequalities, however, are larger among the rural compared to urban women.

Disaggregated results by education show that the prevalence of abortion is more or less equally distributed among the secondary or higher educated women while the women with no education have the highest poor-rich inequality. The CC was farthest for women residing in the western region of India showing the highest socio-economic inequality while the least inequality exists among the women residing in southern region. Further, the socio-economic inequality is more or less similar among the SCs, STs and OBCs whereas others caste women have the lowest inequality in terms

of abortion. Hindu and other religion women have higher inequalities while the Muslim women have lowest inequality in the uptake of abortion.

Figure 1: Concentration curves showing economic inequalities in the uptake of abortion, India, NFHS, 2015-16
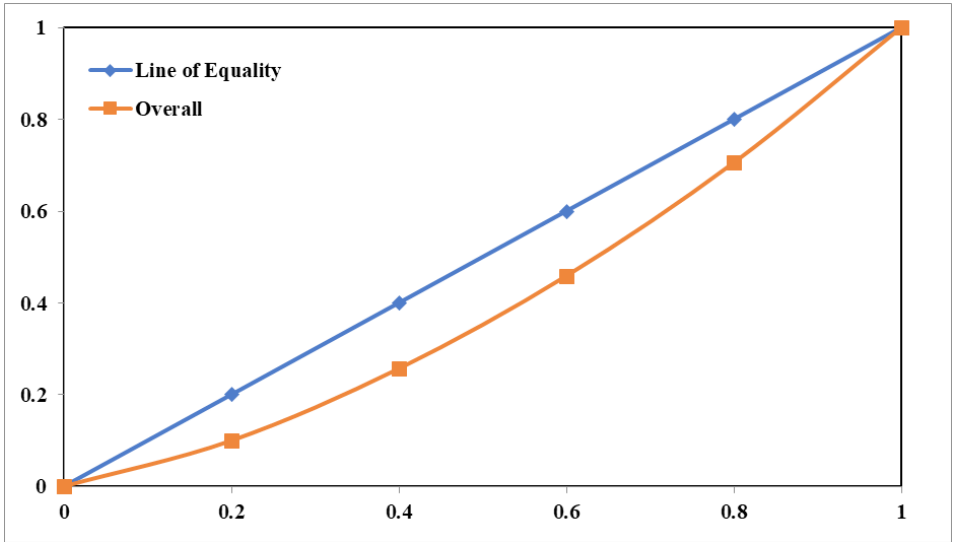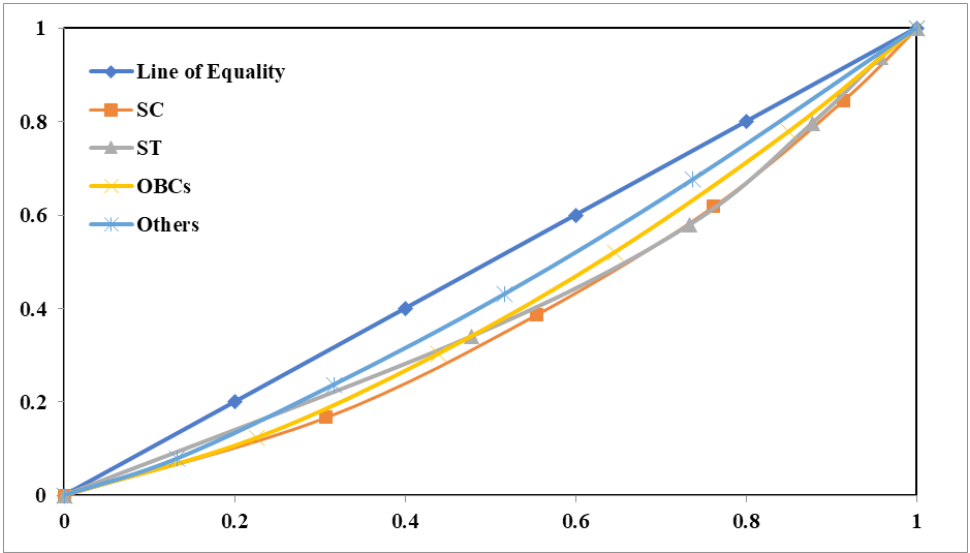

Figure 2: Concentration curves showing economic inequalities in the uptake of abortion by the place of residence, India, NFHS, 2015-16

Figure 3: Concentration curves showing economic inequalities in the uptake of abortion by education, India, NFHS, 2015-16

Figure 4: Concentration curves showing economic inequalities in the uptake of abortion by region, India, NFHS, 2015-16
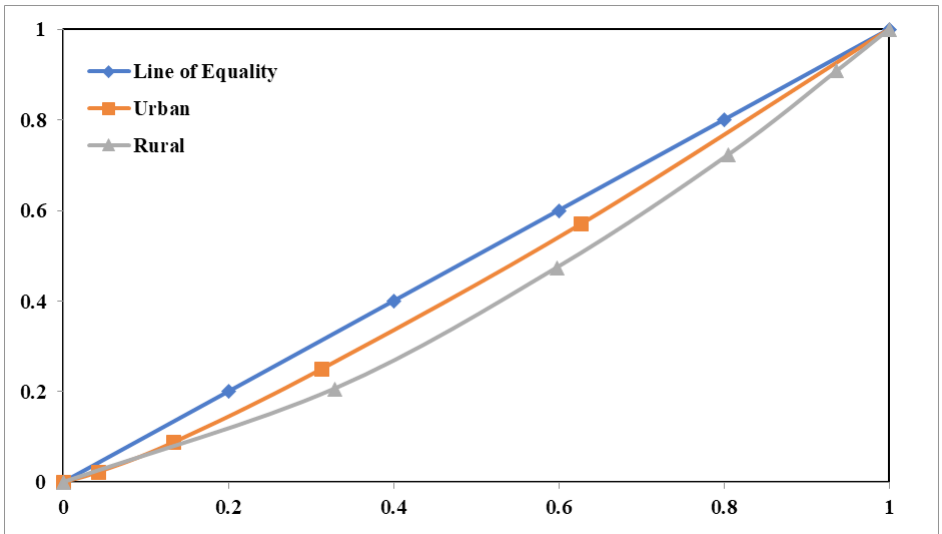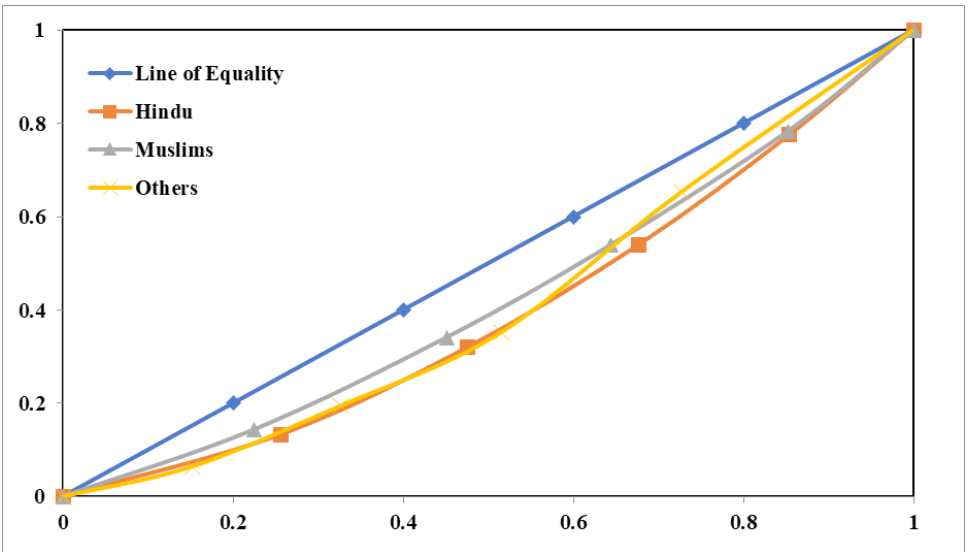
Figure 5: Concentration curves showing economic inequalities in the uptake of abortion by caste, India, NFHS, 2015-16

Figure 6: Concentration curves showing economic inequalities in the uptake of abortion by religion, India, NFHS, 2015-16

The CI values for income-related inequalities in women's uptake of abortion are reported in Table 1. In general, magnitude of abortion inequalities

are larger for rural compared to urban areas [CI for rural is 0.17 and urban is 0.09]. The inequalities are much higher among the women who had no education [CI: 0.20] it is more or less similar among the primary and secondary educated women and least among the higher educated women [CI: 0.02]. Socioeconomic inequalities in the prevalence of abortion are lowest among the Southern region of India [CI: 0.11] while among the other regions it ranges from [CI: 0.19 to 0.28]. Caste-wise results suggests that the inequalities in the uptake of abortion is higher among the Scheduled Castes [CI: 0.22] and lowest among the Other caste women [CI: 0.11]. A wide inequality in the uptake of abortion exists by the religion of women with Hindu having the highest [CI: 0.15] and Muslims the least inequality [CI: 0.15].

Table 1: Income related inequalities in the uptake of abortion, India, NFHS, 2015-16

Background characteristics	CI	SE	t-Test
Place of residence			
Urban	0.09	0.04	2.10
Rural	0.17	0.04	4.54
Education			
No education	0.20	0.04	4.93
Primary	0.12	0.01	9.23
Secondary	0.14	0.04	3.73
Higher	0.02	0.04	0.49
Region			
North	0.23	0.08	3.07
Central	0.20	0.04	5.31
East	0.24	0.04	6.75
Northeast	0.19	0.03	6.59
West	0.28	0.05	5.34
South	0.11	0.04	2.76
Caste			
Scheduled Tribes	0.18	0.04	4.87
Other Backward Classes	0.18	0.05	3.83
Others	0.11	0.04	2.79
Religion			
Hindu	0.20	0.05	4.09
Muslims	0.15	0.04	3.93
Others	0.18	0.07	2.64
Overall	0.19	0.05	4.06

Factors Associated with the Uptake of Abortion

After controlling for all the theoretically pertinent background variables, namely, wealth quintile, place of residence, region, caste, religion, mother's age and education are found to be significantly associated with the uptake of abortion. The uptake of abortion increases consistently across the wealth quintiles. For instance, the OR among the poorest is 1.56 [1.44-1.69] and among richest it is 2.11 [1.91-2.34]. Furthermore, the women belonging to the rural areas have the higher odds of abortion (OR: 1.14 [1.08-1.21]. As compared to the women from Northern region, the women from all other region have higher odds of the uptake of abortion. The caste-wise results suggest that as compared to STs the likelihood of the uptake of abortion is higher among the women from SC (OR: 1.93 [1.75-2.13], OBC (OR: 1.86 [1.69-2.04] and Other castes (OR: 2.16 [1.97-2.37]. Compared to Muslims the odds of the uptake of abortion are higher among the Hindu women (OR: 1.27 [1.19-1.35] whereas it is lower among the other religion women (OR: 0.68 [0.61-0.76]. It is found that as the age of the mother at the time of birth/abortion increases the likelihood of the uptake of abortion also increases. The educational status is significantly and positively associated with the abortion. For example, the likelihood of the abortion is higher among the educated women compared to the illiterate women.

Table 2: Logistic regression: Odds Ratio for uptake of abortion relative to others, India, NFHS, 2015-16

Background Characteristics	Odds Ratio
Wealth quintile (Poorest®)	
Poorer	1.56*** (1.44-1.69)
Middle	1.94*** (1.79-2.11)
Richer	2.06*** (1.88-2.25)
Richest	2.11*** (1.91-2.34)
Place of residence (Urban®)	
Rural	1.14*** (1.08-1.21)
Region (North®)	
Central	1.46*** (1.36-1.56)
East	1.36*** (1.25-1.48)
Northeast	2.41*** (2.22-2.62)
West	1.05 (0.95-1.17)
South	1.35*** (1.24-1.48)
Caste (Scheduled Tribes®)	
Scheduled Castes	1.93*** (1.75-2.13)
Other Backward Classes	1.86*** (1.69-2.04)

Others	2.16*** (1.97-2.37)
Religion (Muslim®)	
Hindu	1.27* (1.19-1.35)
Others	0.68*** (0.61-0.76)
Mother's age at the time of birth or abortion	1.09*** (1.09-1.10)
Educational status of mother (No education®)	
Primary	1.34*** (1.24-1.45)
Secondary	1.62*** (1.51-1.73)
Higher	1.27*** (1.15-1.40)

Note: Significance level *$p < 0.1$. **$p < 0.05$. ***$p < 0.01$.

Discussion and Conclusion

Abortions are one of the most common adverse outcomes of pregnancy, however, its underlying causes are subject to continuing investigation (Kumar, 2014). The findings from the income related inequalities indicate a pro-rich bias with relatively large inequalities in the uptake of abortion. Results further starks out the variations by different background characteristics in the incidence and intensity of inequality, thus discounting the fact that the unit of aggregation plays a key role in the assessment of relative inequalities in health. The inequalities are larger among the rural, illiterate, belonging to the lower strata, Hindu and other religion, and women from the Western region. An average nationwide inequality profile evens out the stark intra-country variations in the incidence and intensity of inequality highlighting that unit of measurement plays a key role in assessment of health inequalities.

Results suggest higher chances of abortion among richer women which is consistent with the studies conducted in Nepal and Ghana (Sundaram et al., 2012; Yogi et al., 2018). It is envisaged that the wealthier women have the higher purchasing power than their counterparts. Further, we found higher rates of abortion among the rural women reflecting the lower demand among rural women due to lesser mass media exposure and also due to lack of services in these areas compared to urban centres. Other studies done in India and Nepal also found similar results (Pallikadavath and Stones, 2006; Tamang et al., 2012). However, Yogi et al. (2018) found no association of place of residence with abortion among women in Nepal.

Scheduled Tribe women have the lowest chances of abortion compared to their counterparts, this is in contrast to Pallikadavath and Stones (2006). On the other hand, similar to this study we found that fewer Muslim women compared to Hindus go for abortion in India may be due to their religious belief. Alber (2001) found that the Islamic jurists are stricter and many would not allow abortion at any time of pregnancy except to save the life

of expectant mother. Other Islamic jurists would allow abortion only in the first 40 days of contraception. In correspondence to Pallikadavath and Stones (2006) we found that age of the mother at the time of birth/abortion is positively associated with the abortion in India. The educational status is significantly and positively associated with the abortion. It is because the educated women have exposure to mass media, are more informed and have better access to services. Also the educated women are more likely to indulge in employment and want to postpone their births to meet the demand of their ongoing education or employment (Marston and Cleland, 2003; Visaria et al., 2002).

In conclusion the uptake of abortion is higher among the women from the higher socio-economic background than women from lower socio-economic background which also gives an indication of the sex-selective abortion rather than the unintended and unwanted pregnancy. However, this contention needs further investigation utilizing the recently available round of NFHS which gives information on the reasons of abortion that was not present in the earlier rounds.

Limitations

Study has some limitations also, which need to be mentioned. First, there may be chances of a recall error as the analyses for this study are based on the reproductive calendar which asks information during the five years preceding the survey. Second, due to paucity of information, we could not assess the facility or provider related factors. However, there are evidences that provider's attitude, counselling and quality of care are important factors determining the contraceptive uptake and subsequent abortions (Blanc et. al., 2002; Borges et.al., 2015; Muchie et.al., 2021; RamaRao et.al., 2003).

Acknowledgement

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