

**RURAL URBAN DIFFERENTIALS IN ABORTION PRACTICES
IN INDIA, ITS CORRELATES AND SAFE ABORTION:
EVIDENCE FROM DLHS-4 AND NFHS-4 SURVEYS**

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**A dissertation submitted in partial fulfillment of the
requirements for the Degree of Master of Health Administration**

School of Health Systems Studies

Tata Institute of Social Sciences

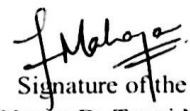
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DECLARATION

I, Dr. Tanvi Mahajan hereby declare that the dissertation entitled “Rural Urban Differentials In Abortion Practices In India, Its Correlates And Safe Abortion: evidence from DLHS-4 and NFHS-4 surveys” to be submitted for the Degree of Master Of Health Administration is my original work under the guidance of Dr. Priyanka Dixit, Assistant Professor, School of Health Systems Studies, Tata Institute of Social Sciences, Mumbai. The dissertation has not formed the basis for the award of any degree, diploma, associate ship or fellowship of similar other titles. It has not been submitted to any other University or Institution for the award of any degree or diploma. I have duly acknowledged all the sources used by me in the preparation of this dissertation.

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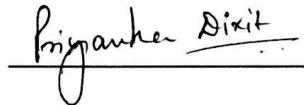
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CERTIFICATE

This is to certify that the dissertation entitled "Rural urban differentials in abortion practices in India, its correlates and safe abortion: evidence from DLHS-4 and NFHS-4 surveys" is the record of original work done by Dr. Tanvi Mahajan under my guidance and supervision. The result of the research presented in the research has not previously formed the basis of any degree, diploma or certificate or any other institute or university. I have acknowledged all the sources used by her in the preparation of this dissertation.

Tiss, Deonar

Date:26-02-2018



Dr. Priyanka Dixit

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LIST OF ABBREVIATIONS

WHO- World Health Organisation

UN- United Nation

ST- Scheduled Tribe

SC- Scheduled Caste

OBC- Other Backward Class

MTP- Medical Termination of Pregnancy

IIPS- International Institute of Population Studies

DLHS- District Level Household Survey

NFHS- National Family Health Survey

UNFPA- United Nation Population Fund Agency

EAG- Empowered Action Group

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CHAPTER 1

Introduction

1.1. ABORTION IN INDIA

Since, India is a country with varied socioeconomic and demographic characteristics embedded in its culture and tradition. The literature suggests that the earlier studies on pregnancy and abortion had biomedical basis rather than social basis. The main focus of the earlier studies was finding out the incidence of abortion cases and the medical reasons associated with the same. The recent studies explained that apart from biomedical reasons, the abortion experienced by women has evidence based on certain social determinants ; individual, family and community characteristics. The previous studies support that Gender hierarchies, cultural norms, preference for son are important factors embedded in Indian culture. (Ahmed and Ray; 2013) In many parts of India, daughters are not preferred and hence sex-selective abortion is commonly practiced which is evident through sex ratio of India. In India, cultural, religious, socioeconomic and societal pressures play a significant role in influencing the decision of women for abortion. (Ahmed and Ray; 2013)

1.2. PROBLEM OF UNSAFE ABORTION

As mentioned above, unsafe abortion is defined by the World Health Organization (W.H.O, 2018) as 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. (W.H.O, 2018).Across the globe there is high maternal mortality, but the high number of cases is reported in developing and least developed countries, compare to develop. One of the major reasons of maternal mortality is attributed to practice of unsafe abortion. The major concern is that unsafe abortion leads to post abortion complications, hence causes problems ranging from reproductive tract morbidity to maternal mortality. (Chhabra and Nuna; 1994). Studies have pointed out that women living in low-income countries and poor are more likely to have an unsafe abortion due to certain factors which include financial cost associated with legal abortion, less knowledge and awareness about the abortion act and stigma attached to the abortion. The rate of unsafe abortions is higher where access to effective contraception and safe abortion is limited or unavailable. (Khan and Sinha; 1998).

Certain socioeconomic determinants like household wealth, caste, religion, education, occupation, place of residence play key role in decision making in choosing the provider and health facilities for induced abortion. In India, due to disparity in urban and rural health facilities, availability of resources, providers and quality of services play important role in choosing safe or unsafe, legal or illegal induced abortion practices by women in India.

1.3. COMPLICATIONS OF UNSAFE ABORTION

Unsafe abortion can lead to certain life threatening complications and may as well affect the quality of life of women. The major life-threatening complications which can result from unsafe practice include hemorrhage, infection, and injury to the genital tract and internal organs by inserting dangerous objects such as sticks, knitting needles, or broken glass into the vagina or anus.

According to UN human rights standards, immediate and unconditional treatment to anyone seeking emergency medical care has to be provided. Health-care providers are under the obligation to provide treatment to woman who suffers from abortion-related complications, irrespective of the legal grounds for abortion. However, it has been seen that in many cases only after the woman provides information about unsafe and illegal abortion, treatment is administered. This process of delay care endangers the health and life of woman.

1.4. ECONOMIC IMPACT OF ABORTION

In addition to the deaths and disabilities caused by unsafe abortion, there are major social and financial costs to women, families, communities, and health systems. In 2006, it was estimated that US\$ 553 million was spent treating serious consequences of unsafe abortion. An additional US\$ 375 million would be required to fully meet the unmet need for treatment of complications from unsafe abortion.(WHO Factsheet, 2017)

In the study conducted, abortion practices in rural and urban areas have been examined based on the socioeconomic factors of the household and women characteristics and the differences, if any

exist, for these practices. We have also explored the kind of providers and choice of facilities used by the women both in rural and urban areas for seeking abortion. This will find out the proportion of women who have opted for unsafe abortion in rural and urban areas. Unsafe abortion and its complications have been acknowledged as an important public health problem, but reliable data to monitor and evaluate its effects are difficult to obtain. Some key policies have contributed to improved availability, accessibility and safety of induced abortion services; these include revised regulations expanding services to primary health centers, the approval of medical abortion for terminating pregnancies, and the promotion of manual vacuum aspiration as the preferred method for early surgical abortion. The impact of these efforts has not been seen due to difficulties in implementation. There is uneven provision of abortion services at the lower level facilities with few public facilities that provide the services.

1.5. EVOLUTION OF MEDICAL TERMINATION OF PREGNANCY ACT, 1971

The first enactment on abortion was established long time back in 1860 under the Indian penal code before the independence. The induced abortion is considered illegal under any situations except when the life of women is put in risk. Further, in 1971, the revision was made in the original act through the establishment of Medical Termination of Pregnancy Act (MRTP) (Abortion in India, Wikipedia). As per the Act, only medical practitioners with necessary skills are allowed to perform the abortion and that too, only in those clinics or hospitals that abide by the required norms. The women can undergo abortion only within the stipulated first 12 weeks of pregnancy under the condition of danger to her physical and mental health. The abortion procedure is further allowed within 12 to 20 weeks of pregnancy, but the consent from two medical practitioners is required (Dwivedi undated).

The certain circumstances under which abortion is permitted are pregnancy resulting from rape, financial constraint, contraceptive failure, malformations in fetus. The decision to seek abortion depends totally upon women and there is no need of consent from her husband or any family member. However, in case of minor or mentally challenged, the consent of guardian is mandatory. (Still man, et al; 2014).

1.6. REVIEW OF MTP ACT, 2002

Multiple stakeholders, governmental as well as nongovernmental participated in the amendment of certain parts of Medical Termination of Pregnancy 1971 and revised act was established, MTP Act 2002(with amendments) and amended Rules and Regulations 2003. The new act allowed decentralizing the procedure of approval and regulation of facilities for conducting abortion services from state to district level committee. Within the period of two months of applying for registration by the clinics, District committee had to finish the task of inspection of facilities. After the process is over and no deficiencies are found, the health facilities had to be given approval for the registration within next two months. The health facilities, if found to perform abortion, without fulfilling the requisite norms shall be imprisoned for 2-7 years. No measures to be taken have been mentioned under the new rules, if the approval process is not completed within the stipulated time.

The standards for a facility providing second trimester abortions have not changed compare to the previous rules of MTP Act 1971. The requirements are (operating table, abdominal or gynecological surgery equipment, Boyle's apparatus for general anesthesia, autoclave, drugs and supplies for emergency resuscitation). However, certain changes have been made in standard norms for first trimester abortions. There is no more need to have on-site capability of managing emergency complications. Trained health personnel to recognize and deal with emergency situations and further able to refer women for emergency care is mandatory. As specified in the Act, all public health facilities have to provide abortion services and are exempted from regulatory and approval procedure .On the other hand, these regulatory procedures is applicable only to private sector

1.7. SCOPE OF MTP ACT

Despite more than four decades of the establishment of the Act, majority of women in India still lack access to safe abortion care. Due to legality of abortion services and restriction of performing abortion only by trained allopathic doctors in the required skills or gynecologist, the existing studies have highlighted that there is high prevalence of unsafe induced abortion. In rural areas of India, with scarcity of doctors, it is difficult to obtain opinion of second medical practitioners in case pregnancy exceeds 20 weeks. Moreover, woman has not been given any

right to terminate a pregnancy beyond 20 weeks in case of rape or fetal abnormalities. Therefore, this further limited access to safe and legal abortion in rural India. In addition, there are inadequate equipments as per the physical standards mentioned in the rules of MTP 2002, to provide abortion services in primary health centers of rural areas, which is the major aggravating factor of post abortion complications. Hence, public facilities should also be covered under the ambit of regulation process. Private sector in India is also still unregulated to a large extent which is the major cause of unsafe abortion. The act also doesn't talk about the price cap or charges which doctors can charge for performing abortion. There is a possibility that doctors can overcharge for the services provided, hence, making women from poor background more prone to unsafe abortion.

In 2017, a rape survivor was allowed by the Supreme Court to terminate pregnancy in the 24th week .The court appointed a medical board who examined that the fetus had multiple congenital anomalies and the pregnancy could end and her physical and mental health of the survivor, hence, was allowed by the Supreme Court to terminate the pregnancy.

1.8. SETS OF DEFINITION

Abortion is a termination of pregnancy before the fetus become viable, i.e., capable of independent existence. A fetus is assumed to be viable after 28 weeks of pregnancy. (W.H.O,2018)

An abortion may occur spontaneously in the course of pregnancy, in which case it is called a miscarriage or spontaneous abortion. (W.H.O,2018)

An abortion which takes place due to deliberate outside intervention is called induced abortion or M.T.P. (Medical Termination of Pregnancy). A pregnancy that terminates after the fetus is at least 28 weeks comes under the category of still birth. Spontaneous abortion is the natural death of an embryo or fetus before it is able to survive independently. Induced abortion is the intentional termination of pregnancy before the fetus can live independently. Abortion may be because of one's own personal choice or in case of health issues or complications. Unsafe abortion is defined by W.H.O as a procedure for terminating an unwanted pregnancy either by persons lacking the necessary skills or in an environment lacking minimal medical standards or

both. Providers are Doctors, Nurses, ANMs, Multipurpose workers, trained dais, untrained Dias, anganwadi workers, others.

CHAPTER 2

LITERATURE REVIEW

This chapter on review of literature provides a foundation for this research. Study of the various literatures available provided a deeper understanding on the abortion status and the issues associated with the abortion faced by women. It provided an understanding about the various determinants which have an influence on the abortion status of the women. It also tells us about the abortion services available and gaps in the services in India.

In the total span of four years, 2010–2014, 56 million induced (safe and unsafe) abortions occurred worldwide each year. There were 35 induced abortions per 1000 women aged 15–44 years. (W.H.O Factsheet, January 2018). The rate of abortions was higher in developing regions than in developed regions. In developing countries, around 25 million unsafe abortions have taken place each year. Over half of all the estimated unsafe abortions were in Asia. 3 out of 4 abortions that occurred in Africa and Latin America were unsafe. Each year between 4.7% – 13.2% of maternal deaths can be attributed to unsafe abortion. Around 7 million women are admitted to hospitals every year in developing countries, as a result of unsafe abortion. The annual cost of treating major complications from unsafe abortion is estimated at US\$ 553 million. ((W.H.O Factsheet, 2018)

2.1. GLOBAL STATUS OF ABORTION

Around the year 2000, almost 22% of all pregnancies worldwide end in an induced abortion—approximately 50 million. (Stanaley K, et. al 1999) About 20 million of these abortions are estimated to be performed in unsafe conditions, and almost all of them (97%) take place in developing countries (Henshaw, 1999). The number of women who die from an unsafe abortion each year is estimated to be 68 000, accounting for 13% of all maternal deaths around the world, and 17% in Latin America (World Health Organization, 2004).

2.2. ABORTION IN DEVELOPED COUNTRIES Vs DEVELOPING COUNTRIES

According to Reilly(2016), abortion rates in developed countries are at a historic low, , due to the increase in use of contraception However, the rates of abortion have remained unchanged in developing countries, where there is still low usage of contraception.

The analysis of abortion data compiled by the Guttmacher Institute and the World Health Organization and published in *The Lancet* shows the annual abortion rate per 1000 women aged 15 to 44 dropped from 46 to 27 between 1990 and 2014 in developed countries. In developing countries, that rate fell only from 39 to 37. In developed countries, use of modern contraception has given women greater control over the timing and number of children they want,” Gilda Sedgh, the lead author at the Guttmacher Institute, said in a statement.

In developed regions, it is estimated that 30 women die for every 100 000 unsafe abortions. The number rises to 220 deaths per 100 000 unsafe abortions in developing regions and 520 deaths per 100 000 unsafe abortions in sub-Saharan Africa (Mueller ,1990).

2.3. ABORTION IN INDIA

As reported in the Wikipedia, according to the Consortium on National Consensus for Medical Abortion in India, about 11 million abortions take place annually and around 20,000 women die every year due to abortion related complications. Abortion assessment project India,2000-2002 was the largest abortion study ever undertaken which studied the components like policy review , multicentre facility study, eight qualitative studies on decision making , decision pathways ,reasons for seeking abortion , community based studies to estimate abortion incidence and out of pocket expenditure on abortion in 2 states.

As per Consortium on National Consensus for medical abortion in India, an average of about 11 million abortions take place annually and near about 20,000 women die each year due to abortion related complications. In India, each year an estimated 453 women die due to maternal causes for every 100,000 live births (UNFPA 1997). Orissa and Madhya Pradesh had approximately 738 and 711 maternal deaths per 100,000 births in 1992. Among the large states, Kerala has a singularly low ratio of 87 maternal deaths reported per 100,000 births. On an average, roughly fifteen percent of maternal deaths in India are thought to result from unsafe abortion (Chhabra and Nuna, 1994).

National and state level studies suggest that the majority of women in India who seek abortion services do so to limit family size, space births or protect their health, or because of poverty and economic constraints. Only a small proportion of all abortions are likely performed for sex-selective reasons.

2.4. ABORTIONS STUDY USING NFHS AND DLHS DATA

Women seeking abortion in India come from all socioeconomic groups, live in both urban and rural areas. Majority of women reside in rural areas and are from poor or low-income, a large proportion of abortions occur among women with these characteristics. It has been found in analysis of NFHS-2 and DLHS-3 that women who are older, more affluent and from urban locations are more likely than other women to report having had an abortion.

Agrawal (2006), using NFHS-2 data found that 26% of women residing in urban areas accounted for 44% of abortions. Pallikadavath and Stones (2006) found positive associations between abortion and higher education, urban residence and maternal age at subsequent birth. Recent published data on abortions have analyzed a few states like :3 northern states with poor health and socioeconomic indicators: Bihar, Odisha , Madhya Pradesh in DLHS-3.

Bose & Trent (2006) use data from the National Family Health Survey (NFHS2) to examine the effects of social and demographic characteristics of women on the likelihood of abortion and differences between abortion practices in women from northern and southern states were also

studied. (p. 261). Elul (2011) extends the evidence on the determinants of induced abortion in India provided by Bose & Trent (2006) by using data from the Indian state of Rajasthan to consider a wider set of determinants that include community and contextual factors.

2.5. UNSAFE ABORTION

Based on data from 2010–2014, there are approximately 25 million unsafe abortions annually. Of these, one third or approximately 8 million were performed under the least safe conditions by untrained persons using dangerous and invasive methods. Unsafe abortions lead to an estimated 7 million complications.

Mortality from unsafe abortion disproportionately affects women in Africa. While the continent accounts for 29% of all unsafe abortions, it sees 62% of unsafe abortion-related deaths.

2.6. FACTORS INFLUENCING ABORTION

The desire to postpone a birth or to stop childbearing is a very common reason given by women seeking abortion. In three South Asian countries (Bangladesh, India and Pakistan), one-half to two-thirds of the couples gave multiple reasons cited postponing or stopping childbearing. Poverty and unemployment are also cited as reasons to restrict family size. Economic condition was cited as the main reason for seeking an abortion in developed as well as developing countries. U.S. women were of the view that baby would disrupt employment (Bankole , Singh, Haa,1998).

Risk to maternal health has been cited as the main reason by 5-10% in seven countries and by 20-38% in three (Kenya, Bangladesh and India). Maternal health risk may include risk to physical as well as mental health.

In developing countries, where advanced testing and modern medical care is not available, it is not easy to detect fetal defect cases. Therefore, in India, 11% of Indian women have experienced abortion due to fetal defect and 5-8% women in other developing countries (South Korea, Thailand, Taiwan) also cited the above reason for seeking abortion. The other sensitive reasons for abortion that are categorized as "other" include rape or incest (which are rarely mentioned), sex selection and pressure exerted by others to have the abortion. In one of the study, it was reported that the reason for abortion in Asian countries is to limit the family size. Rest of the social, cultural factors tends to play minimal roles (Bankole, et al ;1998).

2.7. SPONTANEOUS ABORTION

Older maternal age, obesity, smoking, alcohol and caffeine consumption have been accounted as factors for spontaneous abortion. It has also been shown in some studies that socio cultural factors like educational status, employment, place of residence and social classes play role in spontaneous abortion. Women with lower educational levels, unemployed women, women in lower social classes have increased risk of spontaneous abortion. In a study conducted in Turkey, it was found that five years or less educational level, employment of women, non-using of ANC during the early period of gestation and spousal violence during pregnancy have been identified as the risk factors for spontaneous abortions. (Catak B, et.al. 2016.)

CHAPTER 3

OBJECTIVE AND METHODOLOGY

This chapter presents the rationale of study, objectives of study, research questions. It further presents the conceptual framework and information on study design, study area, sampling technique and data collection. Further the chapter also provides the detailed analysis plan adopted for the study.

3.1 RATIONALE OF STUDY

RATIONALE

A review of the existing literature indicates that most previous studies on abortion practices in India have been performed either on underdeveloped states or a few individual states which have been generalized for the entire country. The earlier studies on abortion were done using data from DLHS-3 which was conducted during 2007-2008 and NFHS-3. There is no robust studies on abortion practices conducted using DLHS-4 data. In DLHS-4, household surveys and facility surveys of non EAG states have been studied for the first time. DLHS-4 is a nationwide survey which was conducted during 2012-2013.

The district level household survey-4 conducted during 2012-2013 has first time collected information on number of spontaneous abortion along with induced abortion. In previous surveys; no information was gathered on the number of spontaneous abortions. DLHS-4 survey has also covered a few questions regarding the treatment seeking behaviour among women as well for the abortion services.

Therefore, using this dataset, the present study aims to examine the prevalence of abortion practices and its correlates. Attempt has been made to identify the factors associated with

treatment seeking for the abortion practices. As majority of population in India resides in rural, therefore, this is an attempt to study rural urban differences in abortion in non EAG states of India.

In the study conducted, abortion practices in rural and urban areas have been examined based on the socioeconomic factors of the household and women characteristics and the differences, if any exist, for these practices. We have also explored the kind of providers and choice of facilities used by the women both in rural and urban areas for seeking abortion. This will find out the proportion of women who have opted for unsafe abortion in rural and urban areas.

Unsafe abortion and its complications have been acknowledged as an important public health problem, but reliable data to monitor and evaluate its effects are difficult to obtain. Some key policies have contributed to improved availability, accessibility and safety of induced abortion services; these include revised regulations expanding services to primary health centers, the approval of medical abortion for terminating pregnancies, and the promotion of manual vacuum aspiration as the preferred method for early surgical abortion. The impact of these efforts has not been seen due to difficulties in implementation. There is uneven provision of abortion services at the lower level facilities with few public facilities that provide the services.

3.2. OBJECTIVES AND RESEARCH HYPOTHESES

The first three objectives have been carried out on a comparative basis involving women in rural and urban areas who have experienced spontaneous or induced abortion and to understand the utilization of abortion services between them.

- 1) To assess the prevalence of spontaneous and induced abortions among women in urban and rural areas in non Empowered Action Group (EAG) states using DLHS-4 data.

2) To compare the significant socio-economic and demographic factors of women who had ever experienced spontaneous or induced abortion in rural and urban areas in non Empowered Action Group separately using DLHS-4 data.

Research hypothesis: Women who experienced spontaneous abortion are mainly from poorest household.

Women who have experienced induced abortion mainly have more sons than daughters.

2. To assess the relationship between socioeconomic and demographic factors and choice of providers and facilities for induced abortion in Rural and urban area separately and to identify the determinants of unsafe abortion using DLHS-IV survey.

Research Hypothesis: Women from wealthier household tend to choose safe abortion.

Women's whose partners are educated tend to choose safe abortion.

3.To identify the change in prevalence of spontaneous and induced abortions from 2012 to 2016 and factors associated it with using DLHS-IV and NFHS-IV.

3.3. OPERATIONAL DEFINITIONS

SPONTANEOUS ABORTION: It is the natural death of an embryo or fetus before it is able to survive independently

INDUCED ABORTION: It is the intentional termination of pregnancy before the fetus can live independently. Abortion may be because of one's own personal choice or in case of health issues or complications.

Safe Abortion: Those abortions which are performed by doctors in Government facilities.

UNSAFE ABORTION: as defined as a procedure for terminating an unwanted pregnancy either by persons other than in private institutes or self.

Choice of Providers: Doctors, Nurses, ANMs, Multipurpose workers, trained Dais, untrained Dais, anganwadi workers, others.

Type of facilities include public, private, home, self, others.

3.4. CONCEPTUAL FRAMEWORK

There are several factors which affect the abortion practices in urban as well as rural women. Figure 3.1 showing a conceptual framework which reflects the determinants of different types of abortion and factors which affect the choice of facility and kind of providers for seeking abortion.

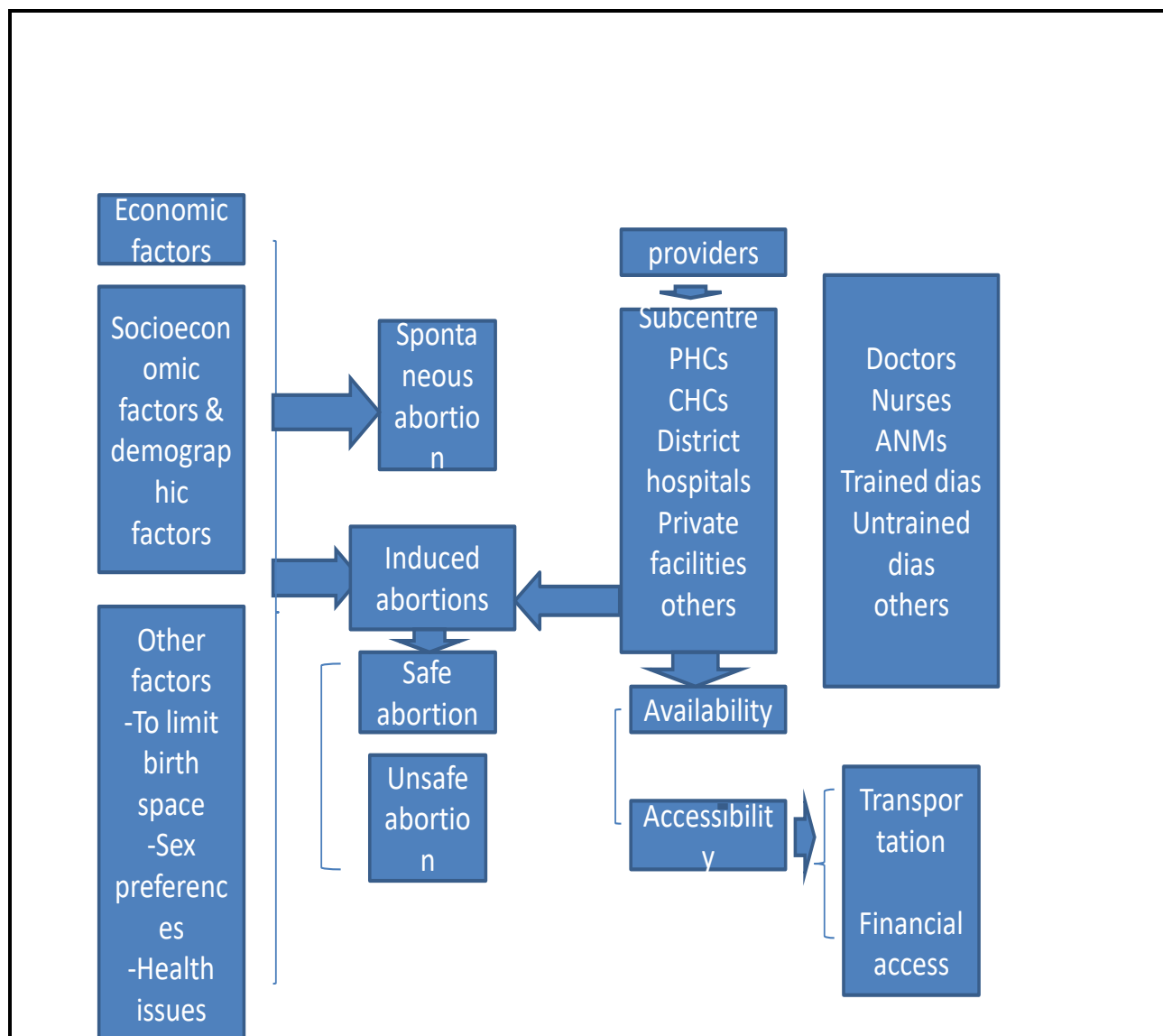
Socio-economic factors as well as demographic factors of a woman has a significant role in the abortion seeking behaviour which includes choice of provider and choice of health facility . The prevalence of spontaneous and induced abortion is also influenced by the individual characteristics of women as well as their household characteristics.

Through studies, it has been found that socio-economic status of women has impact on the utilization of health services for seeking abortion. Certain socioeconomic conditions such as religion, low wealth index, low education status, caste are also the determinants of choice of provider as well as facility for seeking abortion services. Lack of education and low income level also contribute to low use of approved abortion services.

Abortion experienced by women, spontaneous or induced, directly or indirectly are influenced by demographic factor such as age of the women, age at the time of the birth, number of parity, total number of children . Certain factors which influence the decision to undergo induced abortion are total number of children of a woman, parity, sex combination of children , age of the women at the time of birth, education status of the woman .Women who conceive at an early age or quite a late age , both have higher chances of experiencing spontaneous abortion.

In addition, in country like India, where cultural values are gives due importance, decision of husband, in-laws and other family members also hold important place for seeking abortion. Another factor which plays a major role in affecting woman abortion seeking behaviour is cultural factor via social norms, beliefs and values, for instance, male child is preferred over female child. Apart from socioeconomic determinants, availability of health centre in the vicinity, easy accessibility, transportation facility and financial constraint contribute to low utilization of facility of abortion services.

Figure 3.1. CONCEPTUAL FRAMEWORK



3.5.1. Socio-economic & demographic factors

Socio-economic factors namely religion, place of residence, caste, tribe, wealth index, education of husband as well as wife has been considered in the conceptual framework. These determinants may have direct or indirect effect on the different forms of abortion experienced by women in India. Socioeconomic factors play a major role in utilization of different type of health facilities for undergoing abortion or choosing the service provider, that is, one who will perform the abortion.

Place of residence

Place of residence play an important role in differentials in abortion practices and utilization of abortion related services. Abortion practices as well as provision of abortion services vary according to place of residence. Women in urban areas may undergo more induced abortion and due to more availability of providers and health centers, there are more chances of undergoing safe abortion practices. In contrast, rural women are more likely to be at the risk of unsafe abortion due to lack of doctor who is authorized to perform abortion and health centers in the rural areas which can lead to unsafe and illegal abortion.

Religion

Religion represents the key characteristic of population both in urban as well as rural area, that is, throughout India. In some of the religion, abortion practices and using contraceptives are restricted. Different food habits in different religion may have implication on a balanced diet of pregnant women, which may have consequences like spontaneous abortion.

Caste

Caste system in India is deeply rooted in the society, hence, has significance in relation to abortion practices. Due to inadequate education, low economic status, financial constraint,

Schedule Caste and Schedule Tribe are considered as vulnerable and at disadvantage than the other caste groups. Usually, people of schedule caste and schedule tribe has less access to healthcare services as well as low level of awareness about the safe abortion practices. This social and economic disadvantage group may have chances of experiencing high prevalence of spontaneous abortion due to deprivation of food, basic amenities and medicines.

Education

Education is one of the important indicators of human development. Education increases the awareness level of women of their sexual and reproductive rights. Women who are educated have more power of making their own decision of whether to seek abortion or not. Hence, education has a major role in utilization of health services for abortion and to make the right choice of provider. Education plays a key role in improving awareness and promotion of safe abortion practice behaviour.

Region

Regions are the division of India in five different parts. Some regions are more developed, have more facilities, better education than the others. Therefore, the prevalence of spontaneous as well as induced abortion varies in different regions.

Standard of living

As a proxy, an index of standard of living has been created based on the ownership of assets and housing conditions. Wealth index of the households is used as a proxy indicator and plays a major role in determining the access to nutrition and other basic amenities. It also determines the utilization of legal abortion services. Women who get better nutrition during pregnancy have less likely the chances of experiencing abortion.

3.4.2. Demographic Factors

There are several demographic factors which influences the abortion practices such as age of women, age at the time of birth, and total number of children.

Age of women

Age is an important factor that determines the abortion. Women at young age as well as women who are aged, both are at higher risk of experiencing spontaneous abortion.

Age at Time of Marriage

In the country like India, women generally get married at an early age and get pregnant at an early age, which put young women at higher risk of experiencing abortion.

Total number of children & sex combination

Total number of children and sex combination of children, whether there is a girl child earlier or boy child is also an important determinant of induced abortion. More the number of children a woman have, more likely there are chances of abortion.

3.4.3. Services related factors

Services related determining factor such as availability of health facility with abortion services, accessibility of services and most important affordability influences the utilization of abortion services.

Availability of Health Facility and provision of abortion related services

Availability of health facility in the vicinity of household or community influences the abortion seeking utilization by increasing the awareness of safe abortion practice. Availability of doctor and modern medicine as well as equipments and capacity required for performing abortion increases the chance of safe delivery. It has been seen that in places where health centers are situated and authorize doctor to perform an abortion is present in health facility, those places have less likely to have unsafe abortion with post complications. The various reasons which force women to abort at places other than health facilities are lack of transport, inaccessibility, unavailability, poor economic conditions or illegal abortion due to unwanted pregnancy.

Accessibility of abortion services

Nearness of health facility available has an influence on utilization of abortion services. Women who reside in areas where services are available are more likely to utilize services than those residing at a distant place. It has been seen that mostly socially excluded and disadvantage social group resides at far flung area so chances of availing the services are less likely among them.

Affordability of abortion services

Affordability plays a major role in utilizing legal and safe abortion services. Women who belong to upper quintile generally avail services from private services with fee-charging in contrast households which belong to lower quintile generally seek abortion services free of cost or with minimal cost.

3.5. METHODOLOGY

In this study, review of secondary data is done using DISTRICT LEVEL HOUSEHOLD AND FACILITY SURVEY-4 data, unit of analysis is eligible married women 15-49 years in rural and urban areas in non EAG states as DLHS-4 study was conducted in non EAG states of India for the first time. The sample size to be studied is 87595 married pregnant women after Jan 2008 from DLHS-4 data, out of which 53940 women belong to rural area and 33655 women reside in urban dwellings.

3.6. RESEARCH DESIGN

The research design is presented in the conceptual framework. Individual, socio-economic, demographic characteristics and service related factors influence the choice of provider and type of facility chosen which are the key determinants of safe and legal abortion seeking behaviour. A large number of sample is needed to get information on the prevalence of abortion to understand the association with various independent factors under consideration. The present research study involves individual level analysis of factors associated with prevalence of abortion and abortion seeking behaviour. The unit of analysis is married women in the age group 15-49 years who have experienced any form of abortion.

3.7. Data source

DLHS: 4

The District Level Household and Facility Survey is the fourth round of (DLHS-4) nationwide survey which was conducted during 2012-13. The information on women's characteristics, maternal care, immunization and childcare, contraception and fertility preferences, reproductive health including knowledge about HIV/AIDS has been asked from ever-married women that contained under the ever-married women's questionnaire. DLHS-4 survey is the population-linked facility survey.

During this survey all Community Health Centres (CHCs), District Hospitals and Sub Divisional Hospitals were covered. Further, all Sub-Health Centres and Primary Health Centres (PHCs) which serve the population of the selected PSUs were also covered. It contains district wise data on population and household profile, percentage of households having electricity, improved source of drinking water, having access to improved toilet facility, use clean fuel for cooking, mean age of marriage for girls and boys and percentage of currently married women married below age 18 years and 21 years, characteristics of women, fertility, current use of family planning methods, Unmet need for family planning, quality of family planning services, antenatal care, delivery care, percentage of women who received JSY benefits, percentage of women who had any pregnancy complication, any delivery complication, any post-delivery complication, problem of vaginal discharge and menstrual related problems, percentage of pregnancy resulted in live birth, still birth, induced abortion and spontaneous abortion, child immunization, child feeding practices, birth weight, awareness about Diarrhoea, awareness about ARI, treatment of childhood diseases, awareness of RTI/STI and HIV/AIDS, utilization of government health services, birth registration, personal habits, reported prevalence of morbidity, reported prevalence of chronic illness during last one year, Anemia status by Hemoglobin level, blood sugar level and hypertension.

3.8. MEASURES OF VARIABLES

3.8.1. For the first and second objective:

Abortion is determined by the women's response to the question if any pregnancy has terminated into spontaneous or induced abortion. In this study, dependent variable is the abortion, induced or spontaneous reported in women based on the survey after January 2008. The list of selected explanatory variables for the present study is: Community level variables like region (north/east/northeast/west/south), place of residence (rural/urban), household level variables such as wealth index (poorest/poorer/middle/richer/richest) which is a proxy for the socioeconomic status of women, religion (Hindu/Muslim/Others) and caste (Scheduled Caste/Scheduled Tribe/other backward classes/Others) have been considered.

Individual-level variables included were woman's education (illiterate/literate but below primary/ middle & secondary level/ graduation & above), partner's education (illiterate/literate but below primary/ middle & secondary level/ graduation & above); sex composition of living sons and daughters (number of sons greater than number of daughters/number of sons less than number of daughters/ number of sons equal to number of daughters; age of women (15-24years/25-34 years/35-44 years/45-49 years), age of women at time of marriage(15-24years/25-34 years/35-44 years/45-49 years).

Wealth index construction

The wealth index is a measure of a household's living standard. In DLHS-4 survey, wealth index information was not given directly, therefore, information on household's ownership of selected assets, such as television and bicycles, source of drinking water access and sanitation facilities, materials used for housing construction and other characteristics that were related to wealth status were collected . A new wealth index is generated with a statistical procedure known as principal components analysis. With the use of wealth index, each household is placed on a continuous scale of relative wealth. Each household asset for which information is collected is assigned a weight or a factor score generated through principal component analysis and transformed into a new variable wealth index. Further, on the basis of assets present, Households are categorized into five quintiles ; poorest, poorer , middle, rich and richest to compare the influence of wealth on abortion status and abortion seeking services..

Under this objective, prevalence of spontaneous abortion and induced abortion in rural and urban areas are found out, uni-variate analysis and bivariate analysis of independent variable with dependent variable is studied and binary logistic regression to analyze the significance and association of independent variables with dependent variable is applied.

3.8.2. For the third Objective:

To analyze the relationship between socioeconomic & demographic factors and choice of providers in Rural and urban area separately, the dependent variable choice of provider and type of facility for availing abortion services both taken separately with reference to socioeconomic and demographic variable to check there influence on utilization of services for seeking abortion. In addition, to show the significant association between choice of provider for induced abortion and all independent factors, we have applied binary logistic regression.

Choice of providers and kind of facilities are determined by women's response to question "who performed the abortion' and where the abortion was performed". The choice of provider (doctors/others) and kind of facility (public/private/others) are important determinants of safe and legal abortion. According to Medical Termination of Pregnancy Act, 2002; only doctors who are trained in performing abortion and who have license to perform abortion are authorize to perform abortions. Apart from doctor, if any of the health personnel performs abortion, the abortion is considered as illegal.

3.8.3. For Fourth Objective:

Change in prevalence of spontaneous and induced abortions from 2012 to 2016 and factors associated with it using DLHS-IV and NFHS-IV. Bi-variate analysis was performed to establish the association between different forms of abortion with reference to selected socioeconomic characteristics and demographic characteristics using NFHS-4 data. The binary logistic regression to analyze the significance and association of independent variables with dependent variable is applied. For safe and unsafe abortion, bi-variate analysis was performed with reference to selected socio-economic characteristics and chi-square test was applies to check for significance.

3.9. STASTICAL ANALYSIS

To identify the factors associated with abortion, bi-variate and multivariate analyses were performed. Bi-variate analyses were performed to examine the nature of the association between different forms of abortion with reference to selected socioeconomic characteristics in rural and urban areas separately. But the binary logistic regression was applied to investigate which factors best explain the prevalence of abortion. We applied two binary logistic regression models in this case. In the first model, the dependent variable was coded as '0' for no abortion and as '1' for induced abortion. In the second model dependent variable was coded as '0' for no abortion, as '1' for spontaneous abortion. The adjusted odds ratio (AOR) and its 95% confidence interval (CI) were calculated. A P value of <0.05 was considered significant.

The binary response (y, women ever undergone abortion or not) was related to a set of categorical predictors, X, and a fixed effect by a logit link function as following.

$$\text{Logit}(\pi_i) = \log \left[\frac{\pi_i}{1-\pi_i} \right] = \beta_0 + \beta(x) + \varepsilon$$

The probability of a woman who could suffer from spontaneous or induced abortion is π_i . The parameter β_0 estimates the log odds of experiencing abortion for the reference group, and the parameter β estimates with maximum likelihood the differential log odds of history of abortion. These parameters are associated with the predictor X as compared to the reference group and ε represents the error term in the model.

For safe and unsafe abortion, the dependent variable was coded as '0' for safe abortion, as '1' for suffering with unsafe abortion. Adjusted odds were calculated at 95% confidence interval to examine which factors best explain the prevalence of unsafe abortion.

CHAPTER 4

Rural and Urban Differentials in Abortion, Trends, Levels and Its Correlates in Non -EAG States Using DLHS-4 Survey

4.1. INTRODUCTION

The previous studies on abortion practices in India have been performed either on underdeveloped states or a few individual states as already mentioned in literature review .There is no robust support for study on rural and urban differences in abortion practices in India. The DLHS-4 has been conducted in non EAG states for the first time, therefore, there is not sufficient literature on abortion practices in these regions. The information on number of pregnancy terminated into spontaneous or induced abortion has also been gathered for the first time in DLHS survey. As majority of population in India resides in rural areas, therefore, the present study is an attempt to examine rural urban differences in abortion in non EAG states of India.

Therefore, using this dataset, the first objective of the study aims to assess the prevalence of spontaneous and induced abortions, its correlates in non EAG states separately for urban and rural women.

With DLHS-4 as data source, out of the total ever married pregnant women from 1st January (n=87595), it was recorded that 9.8% of the women had history of spontaneous abortion and 3.5% of women had undergone induced abortion. Of the total women who belong to rural(n=53940) and urban areas(n=33655), the study revealed that women in rural areas have experienced 9.2% of spontaneous abortion and 2.9% of induced abortion whereas; the percentages of spontaneous and induced abortion are 10.6% and 4.3% respectively in women from urban areas.

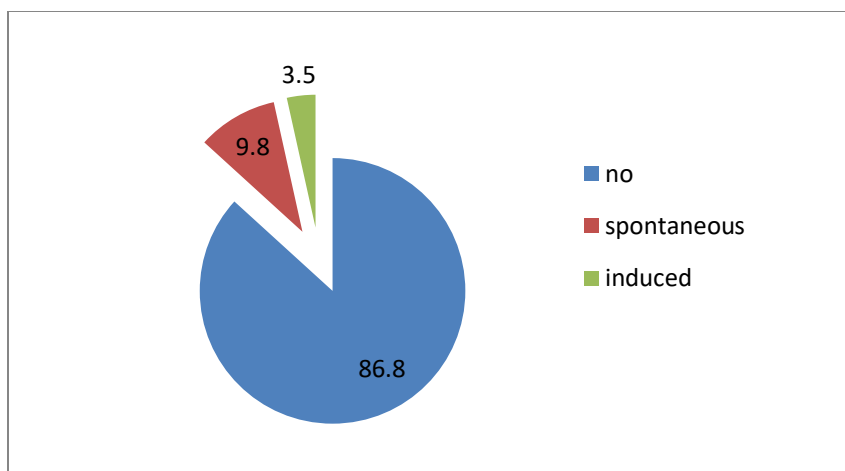


Figure4.1. Pregnancy terminated into spontaneous/induced abortion

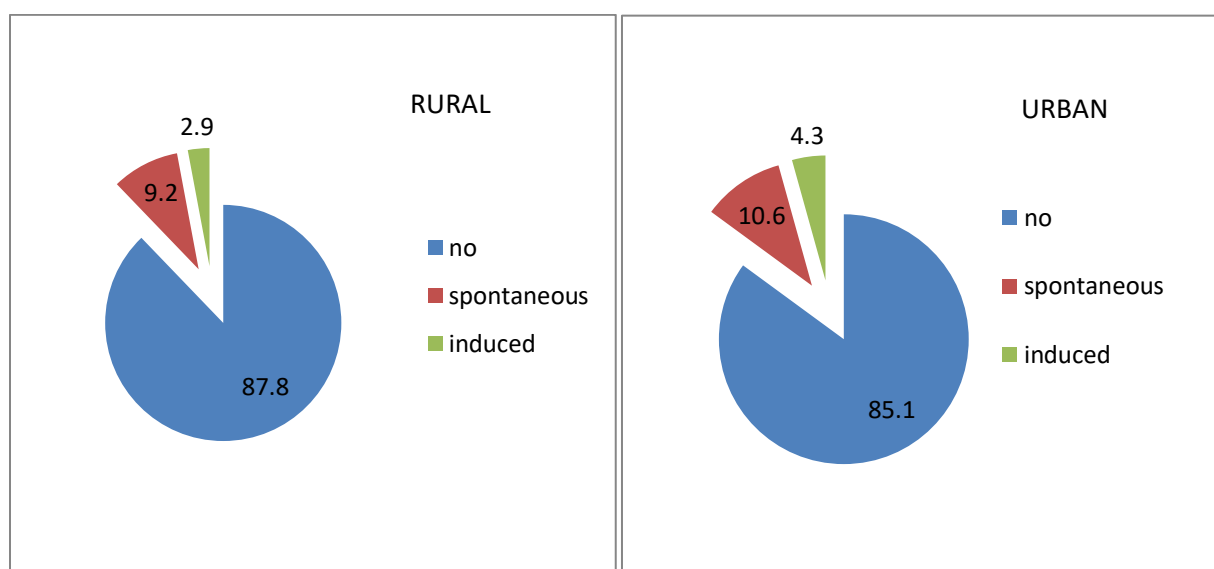


Figure 4.2. Pregnancy terminated into spontaneous and induced abortion in Rural and Urban areas in non-EAG states of India

4.2. Individual characteristics and Socio-economic characteristics of ever married pregnant women in urban and rural areas who had ever undergone for abortion

Table 4.1. Individual characteristics of women in rural and urban areas who have undergone abortion

INDIVIDUAL CHARACTERISTICS	RURAL SPONTANEOUS ABORTION		RURAL INDUCED ABORTION		URBAN SPONTANEOUS ABORTION		URBAN INDUCED ABORTION	
	NUMBER	PERCENT	NUMBER	PERCENT	NUMBER	PERCENT	NUMBER	PERCENT
AGE AT TIME OF MARRIAGE								
15-24	4194	91.2	1338	89.8	2925	85.8	1210	85.9
25-34	388	8.4	149	10.0	470	13.8	197	4.0
35-44	14	0.3	4	0.2	13	0.4	2	0.1
45-49	1	.0						
TOTAL	4984	100	1590	100.0	3571	100	1454	100.0
AGE IN COMPLETED YEARS								
15-24	1564	31.4	417	26.2	825	23.1	269	18.5
25-34	2877	57.7	981	61.7	2261	63.3	966	66.4
35-44	513	10.3	178	11.2	469	13.1	213	14.6
45-49	31	0.6	14	0.9	16	0.5	7	0.5
TOTAL	4984	100.0	1590	100.0	3571	100.0	1454	100.0
WOMEN'S EDUCATION								
Illiterate	1030	20.7	216	13.6	411	11.5	85	5.9
1-5(primary)	1070	21.5	289	18.2	454	12.7	170	11.7
(middle& secondary)	2573	51.6	953	59.9	1954	54.7	834	57.4
Graduation And above	311	6.2	132	8.3	753	21.1	365	25.1
Total	4984	100.0	1590	100.0	3571	100.0	1454	100.0
HUSBAND'S EDUCATION								
Illiterate	825	16.6	158	9.9	320	9.0	74	5.1
Primary	1018	20.4	255	16.0	469	13.1	130	8.9

Secondary and above	2692	54.0	981	61.7	1903	53.3	833	57.3
Graduation and Above	449	9.0	196	12.4	879	24.6	417	28.7
Total	4984	100.0	1590	100.0	3571	100.0	1454	100.0
PREGNANCY MONTHS DURING ABORTION								
1-3months	48	1.0	1237	77.8	29	0.8	1188	81.7
4-6months	19	0.4	284	17.8	12	0.3	202	13.9
7-9months	4917	98.7	69	4.4	3530	98.9	64	4.4
Total	4984	100.0	1590	100.0	3571	100.0	1454	100.0

Table 4.2.Socio-economic characteristics of married women in urban and rural areas

SOCIOECONOMIC CHARACTERISTICS	RURAL SPONTANEOUS ABORTION		RURAL INDUCED ABORTION		URBAN SPONTANEOUS ABORTION		URBAN INDUCED ABORTION	
	NUMBER	PERCENT	NUMBER	PERCENT	NUMBER	PERCENT	NUMBER	PERCENT
RELIGION								
HINDU	3471	69.6	1112	69.9	2473	69.2	1087	74.8
MUSLIM	437	8.8	155	9.7	591	16.5	186	12.8
OTHER	1076	21.6	324	20.3	508	14.2	181	12.4
TOTAL	4984	100	1590	100.0	3571	100	1454	100.0
CATEGORY OF CASTE								
SC	1322	26.5	387	24.3	718	20.1	267	18.4
ST	816	16.4	201	12.6	355	10.1	106	7.3
OBC	1664	33.4	526	33.1	1397	39.1	553	38.0
OTHERS	1181	23.7	476	30.0	1101	30.8	527	36.3
TOTAL	4984	100.0	1590	100.0	3571	100.0	1454	100.0
REGION								
NORTHERN ZONE	1368	27.5	331	20.8	837	23.4	239	16.5
NORTH-EASTERN	608	12.2	288	18.1	344	9.6	178	12.3
EASTERN ZONE	395	7.9	177	11.1	205	5.7	96	6.6
WESTERN ZONE	625	12.5	269	16.9	628	17.6	408	28.1
SOUTHERN ZONE	1988	39.9	524	33.0	1558	43.6	532	36.6
TOTAL	4984	100.0	1590	100.0	3571	100.0	1454	100.0
WEALTH INDEX								
Poorest	1271	25.7	289	18.5	218	6.2	44	3.1
Poor	1305	26.4	379	24.2	434	12.3	150	10.4
Middle	1042	21.1	403	25.7	719	20.3	281	19.5
Rich	764	15.5	298	19.0	932	26.4	433	30.0

Richest	561	11.4	197	12.6	1229	34.8	533	37.0
Total	4984	100.0	1590	100.0	3571	100	1454	100.0
SEX COMBINATION								
More Daughters	1283	25.7	376	23.6	964	27.0	385	26.5
More Sons	1364	27.4	495	31.1	1031	28.9	452	31.1
Equal Number Of Son And Daughter	2336	46.9	719	45.2	1576	44.1	617	42.5
Total	4984	100.0	1590	100.0	3571	100.0	1454	100.0

Table 4.1 and Table 4.2 exhibit the percentage distribution of spontaneous and induced abortion in rural and urban areas in relation to selected background characteristics of Indian women in non EAG states of India using DLHS-4 during last five years from the date of survey, i.e., after 1st January 2008. The tables reflect individual characteristics such as demographic profile and socio-economic characteristics of the married women in rural as well urban areas who have experienced different forms of abortion, induced or spontaneous. Various demographic factors studied are age of the women, age of women at time of birth, women's education, husband's education. Socioeconomic determinants of importance are religion, caste, wealth index, region, sex combination.

In rural areas, a total of 4984 women had history of spontaneous abortion and 1590 women had undergone induced abortion. Out of total 4984 women who had experienced spontaneous abortion during last five years from the date of survey; 57.7% of the women fall in the age group 25-34 years, about 70% of the women were Hindu, and 33.4% belong to other backward castes. It has also been drawn from the table that of the total women with history of spontaneous abortion; 47% of women were those who had equal number of sons and daughters and 40% were those who reside in southern region of India. Less proportion of women in age group 45-49 years (0.6%), up to graduation level of education (6.2%) and those who belong to Muslim religion (8.8%) had reported spontaneous abortion.

However, out of 1590 women who had undergone induced abortion in rural areas; 61.7% of women were in age group 25-34 years, almost 70% are from Hindu religion and 33% belong to other backward castes followed by 30% of women from other castes .It was found out that almost 33.0% of the women belong to southern region and 45.2% were those who had equal number of sons and daughters. Majority of the women were those who themselves and their partners had attained middle and secondary level of education (approx 60%), and those who were in the age group of 15-24 years at the time of marriage (90%). It can be observed that 25.7 % of women from middle household followed by 24.2% from poor household had undergone induced abortion in rural areas. The low proportion of induced abortion cases were recorded in women who follow Muslim religion (9.7%), belong to eastern region (11%), were from scheduled tribe caste (12%) and fall in the richest household (12%).

In urban areas, a total of 3571 women had history of spontaneous abortion and 1454 women had undergone induced abortion. Majority of women who had experienced spontaneous abortion during last five years from the date of survey were those who follow Hindu religion (69%), falls in the age group 25-34 years (63.2%) and had up to middle and secondary level of education (60%).It could be observed from the table that 39% of the women belong to other Backward classes followed by 30% of women from other castes, 43.6% were from the Southern region followed by 23.3% from northern region. It was also found that 44% of women who had reported spontaneous abortion were those with equal number of daughters and sons followed by 29% women with more sons than daughters. Approximately, 35% of women who had history of spontaneous abortion belong to richest household and 26.4% to rich household. The less number of cases were reported in women who belong to scheduled tribe caste (9.8%), are from eastern region (5.7%) and belong to poorest quintile (6.2%).There were hardly any cases of spontaneous abortion reported in women who fall in age group 45-49 years (0.5%), had 1-3months(0.3%) and 4-6 months(0.8%) of pregnancy during abortion.

However, out of total 1454 women who had experienced induced abortion in urban areas, major proportion of women were Hindu (75%), almost 66% of the women were `in age group 25-34

years, had up to middle and secondary level of education (57.4%), and their partners also had up to middle and secondary level of education (57%). Around same proportion of women, that is, 37%, who had experienced induced abortion belong to the richest household, southern region and other castes followed by 30% of women in rich household and 28.6% in western region. It was revealed through the study that out of the total 1454 induced abortion cases, 42.5% of women were those who had equal daughters and sons followed by 31% who had more sons over daughters. The less number of induced abortion cases were reported in women who were in age group 45-49 years(0.5%), belong to poorest household(3.1%), eastern region(6.6%), scheduled tribe(7.3%) and whose husbands were illiterate(5%).

4.3. DIFFERENT FORMS OF ABORTION: LEVEL, TRENDS AND DETERMINANTS

4.3.1. Abortion by selected background characteristics of women in rural and urban areas in non-EAG states using DLHS-4 data

TABLE 4.3. Bi-variate analysis of factors associated with abortion-spontaneous and induced

SOCIOECONOMIC, DEMOGRAPHICS, MATERNAL CHARACTERISTICS	RURAL			Chi- squa re	URBAN			Chi- square test
	Spontaneous Abortion	Induced Abortion	Total		Spontaneo us Abortion	Induced Abortion	Total	
AGE IN COMPLETED YEARS								
15-24	7.9%	2.1%	19869	.000	8.6%	2.8%	9571	.000
25-34	9.9%	3.4%	29179		11.0%	4.7%	20576	
35-44	11.4%	3.9%	4517		14.1%	6.4%	3335	
45-49	8.3%	3.8%	372		9.7%	4.2%	165	
TOTAL	4985	1590	53937		3571	1455	33647	
AGE AT THE TIME OF MARRIAGE								
15-24	9.2%	2.9%	45530	.145	10.8%	4.5%	26992	.002
25-34	8.5%	3.3%	4573		9.3%	3.9%	5068	
35-44	12.4%	3.5%	113		12.4%	1.9%	105	
45-49	50%	0%	2					
TOTAL	4597	1491	50218		3408	1409	32165	
RELIGION								
HINDUS	9.7%	3.1%	35787	.000	10.9%	4.8%	22674	.000
MUSLIMS	10.0%	3.6%	4365		11.4%	3.6%	5198	
OTHERS	7.8%	2.4%	13786		8.8%	3.1%	5776	
TOTAL	4984	1591	53938		3572	1454	33648	
EDUCATION OF WOMEN								

ILLETRATE	7.8%	1.6%	13239	.000	10.2%	2.1%	4000	.000
PRIMARY	10.4%	2.8%	10325		11.6%	4.3%	3911	
MIDDLE & SECONDARY	9.6%	3.5%	26877		10.6%	4.5%	18361	
GRADUATION & ABOVE	8.9%	3.8%	3495		10.2%	4.9%	7375	
TOTAL	4984	1590	53936		3572	1454	33647	
CASTE								
SC	9.6%	2.8%	13719	.000	10.7%	4.0%	6704	.000
ST	6.5%	1.6%	12582		8.0%	2.4%	4435	
OBC	10.6%	3.3%	15750		11.2%	4.4%	12528	
OTHER	9.9%	4.0%	11885		11.0%	5.3%	9979	
TOTAL	4983	1590	53936		3571	1453	33646	
HUSBAND'S EDUCATION								
ILLETRATE	7.5%	1.4%	10946	.000	9.4%	2.2%	3412	.000
PRIMARY	10.2%	2.6%	9971		11.7%	3.2%	4013	
MIDDLE & SECONDARY	9.6%	3.5%	28115		10.6%	4.6%	17953	
GRADUATION & ABOVE	9.2%	4.0%	4904		10.6%	5.0%	8269	
TOTAL	4984	1590	53936		3571	1454	33647	
WEALTH INDEX								
Poorest	8.2%	1.9%	15589	.000	10.5%	2.1%	2085	.000
Poor	9.1%	2.6%	14302		10.4%	3.6%	4189	
Middle	9.8%	3.8%	10650		10.5%	4.1%	6870	
Rich	9.9%	3.8%	7753		10%	4.7%	9274	
Richest	11.2%	3.9%	5011		11.4%	4.9%	10802	
Total	4943	1566	53305		3532	1441	33220	

REGION								
Northern Region	11.2%	2.7%	12171	.000	13.1%	3.7%	6374	.000
North Eastern	5.6%	2.6%	10916		7.2%	3.7%	4809	
Eastern	8.1%	3.6%	4875		9.8%	4.6%	2084	
Western	8.8%	3.8%	7073		9.9%	6.4%	6333	
Southern	10.5%	2.8%	18900		11.1%	3.8%	14046	
Total	4984	1589	53935		3572	1453	33646	
SEX COMBINATIONS								
Total daughters > total sons	8.6%	2.5%	14868	.000	9.8%	3.9%	9808	.000
Total daughters < total sons	7.8%	2.8%	17479		9.0%	3.9%	11508	
Total daughters = total sons	10.8%	3.3%	21587		12.8%	5.0%	12331	
Total	4983	1590	53934		3571	1454	33647	
PREGNANCY MONTH DURING LAST ABORTION								
1-3 MONTHS	3.7%	94.8%	1305	.000	2.4%	96.4%	1232	.000
4-6 MONTHS	6.2%	92.5%	307		5.2%	92.7%	218	
7-9 MONTHS	9.4%	0.1%	52323		11.0%	0.2%	32196	
TOTAL	4984	1590	53935		3571	1454	33646	

We examined the bi-variate differentials to explore how the prevalence of different form of abortion varied across the selected socioeconomic and demographic characteristics. Table 4.3 presents the prevalence of abortion and selected socioeconomic and demographic characteristic age of women with pregnancy terminated in spontaneous or induced abortion.

In rural area, the prevalence of spontaneous abortion had been found highest among the age group of 35-45 years (11.5%) and women in the same age group had reported 3.9% of induced abortion. The highest proportion of spontaneous and induced abortion was prevalent among

Muslims women, 10% and 3.6%, respectively. Women's education plays an important role in pregnancy terminated in spontaneous or induced abortion. Majority of spontaneous abortion cases had been reported in women with primary level of education (10.4%) and lowest cases, 7.8% in women with no education. The highest and lowest percentages of induced abortion cases had been reported in women with graduation or above level of qualification (3.8%) and with primary level of education (1.6%) respectively. Along with women's education, women whose husbands had attained primary education had major proportion of spontaneous abortion cases (10.6%) whereas; women whose husbands' had completed graduation and above level of qualification reported highest number of induced abortion (4.0%). The lowest proportion of spontaneous and induced abortion cases had been reported in women whose husbands were illiterate. Women who belong to scheduled tribe had reported lowest cases of spontaneous abortion (6.5%) and induced abortion (1.6%). The highest rate of both spontaneous (10%) and induced cases (4%) had been noticed in women who belong to castes other than SC, ST and OBC.

In urban areas, approximately 14% of spontaneous abortion cases were reported in women in 35-45 years age group whereas; only 2.9% of induced abortion cases were reported in women from age group 15-25 years. In Hindu women, a quite high percentage of induced abortion cases (4.8%) were reported as compare to women of other religions. Women whose husbands' have education status up to primary level had history of highest proportion of spontaneous abortion (11.7%). Those women whose husbands had finished graduation and above level of qualification had undergone 5.0% of induced abortion. The lowest cases of induced abortion (2.2%) had been reported in women whose husbands were illiterate. Those women who had up to primary level of education had high prevalence of spontaneous abortion cases (11.6%). Women who had graduation or above level had reported 5% of induced abortion followed by 2% in those with primary level of education. Majority of spontaneous abortion cases were recorded in women who belong to northern region (13.1%) and minimum cases were recorded in women who belong to southern region (7.2%). The reported cases of induced abortion in women from western region were 6.4% followed by 4.6% in women from Eastern region.

The reported cases of induced abortion were same in 3 of the regions 3.7% except Middle East region where the rate is 6.2%. In urban areas, almost equivalent cases of spontaneous abortion;

11% have been recorded in women of all caste except STs ; where spontaneous abortion is recorded at 8% and induced abortion at 2.4%, less than the values recorded for the rest of the caste.

The chi-square test shows that except age at the time of marriage in rural areas, the various variables such as age of women, age at time of marriage in urban areas, religion, caste, education of women and husband, wealth index, region , sex combination of children are significantly associated with abortion as p value is less than 0.05.

4.4. ASSOCIATION OF INDUCED ABORTION WITH BACKGROUND CHARACTERISTICS

Table 4.4: Adjusted Odds Ratio (with 95% Confidence Interval) of Induced Abortion Using Logistic Regression

SOCIOECONOMIC, DEMOGRAPHICS, MATERNAL CHARACTERSTIC S	Exp(B)	95% Confidence Interval	
		Lower Limit	Upper Limit
AGE IN COMPLETED YEARS			
15-24®	.268	.208	.345
25-34	.226	.184	.279
35-44	.187	.149	.236
45-49	.136	.068	.272
RELIGION			
HINDUS®			
MUSLIMS	.823	.723	.936
OTHERS	.885	.783	1.001
EDUCATION OF WOMEN			
ILLETRATE®			
PRIMARY	1.497	1.263	1.774
MIDDLE & SECONDARY	1.484	1.267	1.737
GRADUATION & ABOVE	1.420	1.167	1.729

AGE AT TIME OF BIRTH			
10-17®			
18-24	.268	.208	.345
25-35	.226	.184	.279
36-49	.187	.149	.236
Else	.136	.068	.272
CASTE			
SC®			
ST	.772	.618	.965
OBC	1.011	.857	1.192
OTHER	1.081	.828	1.410
HUSBAND'S EDUCATION			
ILLETRATE®			
PRIMARY	1.264	1.047	1.526
MIDDLE & SECONDARY	1.561	1.313	1.855
GRADUATION & ABOVE	1.569	1.283	1.919
WEALTH INDEX			
Poorest®			
Poor	1.395	1.201	1.622
Middle	1.800	1.548	2.094
Rich	1.814	1.547	2.126

Richest	1.906	1.603	2.268
REGION			
Northern Region®			
North Eastern Region	2.295	1.943	2.711
Eastern	1.767	1.484	2.105
Western	1.858	1.634	2.113
Southern	1.215	1.078	1.370
SEX COMBINATIONS			
Total daughter > total son®			
Total daughter < total son	1.038	.940	1.148
Total daughter = total son	1.120	1.014	1.237

The results of logistic regression displayed in the Table show the adjusted odds ratio of a dichotomized outcome variable, induced abortion and its 95 percent confidence interval in relation to selected covariates which includes individual characteristics, socioeconomic and demographic characteristics. Women aged 25-34 years (OR=1.878, 95% CI: 1.700-2.074) were more likely to have abortion than those aged 15–24 but glaring results were seen in women of age group 45-49 years. (OR -3.735, 95% CI: 2.345-5.949) . The adjusted odds demonstrated that Muslim women (OR: 0.823, 95% CI: .723-.936) were less likely to report induced abortion as compare to Hindu women. However, women with primary education (OR=1.497, 95% CI: 1.263-1.774), middle and secondary education (OR=1.484, 95% CI: 1.267-1.737), had an increase in the odds of having abortion, when compared with women who are illiterate. Urban residents (OR=1.089, 95% CI: 1.001-1.186) were also more likely than rural residents to experience induced abortion

After controlling other factors, women in the age group of 25-34 years (odds ratio-0.758, 95% CI: .649-.885) at the time of marriage had significant negative impact on induced abortion. In 35-44 years (OR=.401, 95%CI: .151-.107) and 45-49 years at the time of marriage(OR: .000 , 95% CI: .000), the results were insignificant; respectively. Significant wealth index differentials in induced abortion were evident among richest quintile women (odds ratio: 1.906), in comparison to poorest quintile women.

After controlling others variables, Table clearly indicates that women who had equal number of sons and daughters are more likely to report induced abortion, as compared to women having more daughters than sons. (OR=1.120, 95%CI: 1.014-1.237).Significant association is recorded in women's whose partners have attained secondary level (OR: 1.561, 95% CI: 1.313-1.855) and graduation & above level have (OR: 1.569, 95%CI: 1.283-1.919) in reference to illiterate partners.

However, other variables like caste tribe, other backward class and castes other than scheduled caste, religions other than Muslim and Hindu, number of daughters less than sons was found to be insignificant.

Table 4.5: Adjusted Odds Ratio (with 95% Confidence Interval) of Spontaneous Abortion Using Logistic Regression

SOCIOECONOMIC, DEMOGRAPHICS, MATERNAL CHARACTERSTICS	Exp(β)	95% Confidence Interval	
		Lower Limit	Upper Limit
AGE IN COMPLETED YEARS			
15-24®			
25-34	1.561	1.470	1.659
35-44	2.432	2.207	2.680
45-49	1.753	1.249	2.460
RELIGION			
HINDUS®			
MUSLIMS	1.324	1.208	1.451
OTHERS	1.206	1.106	1.314
EDUCATION OF WOMEN			
Illiterate®			
Primary	1.324	1.208	1.451
Middle & secondary	1.206	1.106	1.314
Graduation & above	1.013	.898	1.142
AGE AT TIME OF BIRTH			
10-17®			

18-24	.047	.040	.056
25-35	.041	.035	.048
36-49	.041	.035	.048
Else	.050	.034	.075
CASTE			
SC®			
ST	.940	.840	1.053
OBC	1.081	1.011	1.157
Other	1.078	1.000	1.162
HUSBAND'S EDUCATION			
Illiterate®			
Primary	1.300	1.179	1.433
Middle & secondary	1.204	1.099	1.319
Graduation & above	1.209	1.076	1.358
WEALTH INDEX			
Poorest®			
Poor	.935	.861	1.015
Middle	.921	.844	1.004
Rich	.863	.786	.947
Richest	.940	.847	1.042
REGION			

Northern Region®			
North Eastern Region	.500	.443	.564
Eastern	.698	.621	.784
Western	.755	.694	.822
Southern	.887	.827	.950
SEX COMBINATIONS			
Total daughter > total son®			
Total daughter < total son	.889	.835	.947
Total daughter = total son	.975	.916	1.037

Statistical analyses were done using logistic regression to adjust odds ratio through the β coefficient. A dichotomized outcome variable, representing spontaneous abortion and different independent variables which includes individual characteristics, socioeconomic and demographic characteristics are studied. The logistic regression model results reveal that 45-49 years of age (OR=17.303, 95% CI) at time of marriage is significant and highly associated with spontaneous abortion as compare to 15-24 years of age at the time of marriage. Age of the women is also significantly associated with spontaneous abortion. While controlling for other individual factors, 35-44 years of women (OR= 2.432, 95% CI: 2.207-2.680) have experienced more spontaneous abortion compare to other categories and is significant.

Spontaneous abortion was significantly and likely associated with women who had attained primary, middle and secondary level of education in reference to illiterate women. The chances of experiencing spontaneous abortion were more likely in women up to primary level of education (OR=1.324, 95% CI: 1.208-1.451) compare to other categories. Husbands with any level of education were significantly associated. Those women whose husbands had literacy up to primary level (OR=1.300, 95% CI: 1.179-1.433) have the most likely chances of experiencing

spontaneous abortion compare to rest of the categories, but husband's education at any level was significantly associated.

The adjusted odds showed that those women who had more sons than daughters (OR=.889, 95% CI-.835-.947) and those who belong to rich household (OR=.863, 95% CI-.786-.947) are significantly less likely associated with spontaneous abortion. The adjusted odds demonstrated negative significant association of spontaneous abortion with women from all the regions in reference to women from northern region. In urban areas also, women were more likely to experience spontaneous abortion in comparison to women from rural area. (OR-1.130, 95% CI-1.070-1.194) .

Variables like scheduled tribe, all kinds of religions; Muslim, Hindu and others, number of daughters equal to sons were not found to be statistically significant with spontaneous abortion. The adjustment demonstrated an insignificant association of spontaneous abortion in relation to Scheduled tribe (OR= 0.940, 95% CI 0.840-1.053), education (women who have attained graduation and above level, OR=1.013 , 95% CI =.898 -1.142), wealth index (poorer, OR=.935 , 95% CI =.861-1.015), (middle, OR=.921, 95% CI =.844-1.004), (richest, OR=.940 , 95% CI =.847-1.042).

CHAPTER 5

Rural Urban Differentials in Abortion Seeking Behaviour; Safe Abortion and Its Associated Factors

5.1.Introduction

Utilization of safe abortion services is influenced by transport facilities, affordability in terms of economic status, services related factors such as accessibility and availability of health facilities, equipments required for abortion, doctors in the community. Due to dearth of these factors, illegal and unsafe abortion is prevalent. Individual and social determinants have strong impact on the utilization behaviour of the abortion services. Attempts have been made to identify the factors associated with abortion seeking behaviour separately in women from urban and rural areas using DLHS-4 survey.

DLHS-4 survey also covered a few questions regarding the abortion seeking behaviour among women. The questions asked were where was the abortion performed and who performed the abortion. Combining both the variables together, a new variable, type of abortion with two categories safe abortion and unsafe abortion was created. It has not been mentioned in the DLHS-4 dataset if the private institutions registered or not under the MTP Act. Therefore, for the study purpose, all those abortions performed only by the doctors and in government facilities as these are automatically approved for performing abortion are considered as safe.

Therefore, the objective of study is to assess the relationship between induce abortion and choice of provider differences in Rural and urban areas separately. Out of the total facilities where abortions were performed, in rural areas, 85% of the facilities constitute public and private facilities. In urban areas, almost 90% of the facilities constitute public and private facilities. Doctors who performed abortion in rural and urban areas account to 72% and 80% respectively. Appendix I contains table displaying how the place where abortion was performed varied across women from different socioeconomic characteristics.

Figure 5.1. Percentages of facilities where abortion is performed in Rural and Urban areas of non EAG states of India.

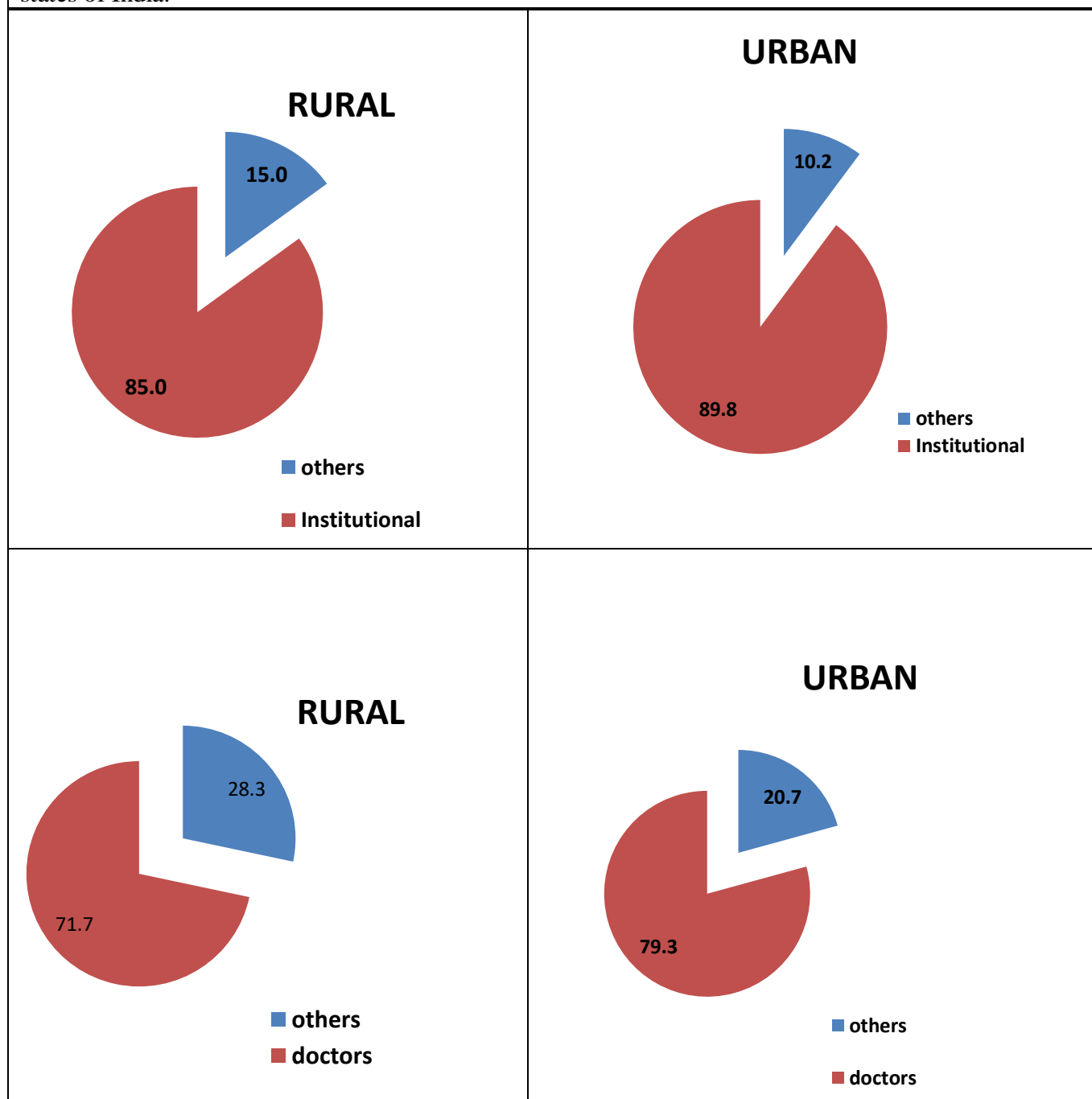


Figure 5.2. Percentages of providers who perform abortions in Rural and Urban areas of non EAG states of India

5.2 SAFE ABORTION: LEVEL, TRENDS AND DETERMINANTS

TABLE 5.1. Bi-variate analysis of factors associated with abortion-spontaneous and induced using DLHS-4 dataset

SOCIOECONOMIC, DEMOGRAPHICS, MATERNAL CHARACTERSTICS	RURAL				URBAN			
	Type of Abortion				Type of Abortion			
	Unsafe	Safe	Total	χ^2	Unsafe	Safe	Total	χ^2
WEALTH INDEX								
Poorest	55.4%	44.6%	289	.000	75.0%	25.0%	44	.000
Poor	48.3%	51.7%	379		52.7%	47.3%	150	
Middle	51.1%	48.9%	403		45.0%	55.0%	282	
Rich	38.3%	61.7%	298		37.2%	62.8%	433	
Richest	41.1%	58.9%	197		31.2%	68.8%	532	
Total	744	822	1566		566	875	1441	
REGION								
Northern	63.1%	36.9%	331	.000	56.1%	43.9%	239	.000
North Eastern	64.9%	35.1%	288		64.0%	36.0%	178	
Eastern	46.9%	53.1%	177		42.7%	57.3%	96	
Western	26.8%	73.2%	269		21.8%	78.2%	408	
Southern	39.7%	60.3%	524		35.9%	64.1%	532	
Total	759	830	1589		569	884	1453	
RELIGION								
Hindus	44.9%	55.1%	1112	.000	39.6%	60.4%	1087	.000
Muslims	43.9%	56.1%	155		27.4%	72.6%	186	
Others	59.4%	40.6%	323		48.6%	51.4%	181	
Total	759	831	1590		569	885	1454	
EDUCATION OF WOMEN								
Illiterate	58.3%	41.7%	216	.000	62.4%	37.6%	85	.000
Primary	55.0%	45.0%	289		48.8%	51.2%	170	
Middle & Secondary	45.4%	54.6%	953		40.2%	59.8%	834	
Graduation & Above	31.1%	68.9%	132		27.1%	72.9%	365	
Total	759	831	1590		570	884	1454	
HUSBAND'S EDUCATION								
Illiterate	59.5%	40.5%	158	.000	60.3%	39.7%	73	.000
Primary	52.9%	47.1%	255		46.2%	53.8%	130	
Middle & Secondary	47.6%	52.4%	981		40.5%	59.5%	833	
Graduation & above	32.0%	68.0%	197		30.7%	69.3%	417	
Total	759	832	1591		569	884	1453	
CATEGORY OF CASTE								
SC	54.3%	45.7%	387		48.3%	51.7%	267	
ST	56.7%	43.3%	201		50.9%	49.1%	106	

OBC	39.5%	60.5%	526		36.7%	63.3%	553	
OTHERS	47.7%	52.3%	476		34.8%	65.2%	528	
TOTAL	759	831	1590		570	884	1454	
PREGNANCY MONTH DURING ABORTION								
1-3 months	48.8%	51.2%	1237	.007	39.8%	60.2%	1188	.589
4-6months	40.3%	59.7%	283		36.1%	63.9%	202	
7-9months	58.0%	42.0%	69		37.5%	62.5%	64	
Total	758	831	1589		570	884	1454	

Bi-variate analysis is performed to establish how safe and unsafe abortion varied across the selected socioeconomic and demographic characteristics. The table displays the prevalence of both safe and unsafe abortion among the women against the exploratory variables. In rural area, out of total 1590 women; the prevalence of unsafe abortion had been found to be highest among the women who were from poorest household (55.4%) followed by women from middle household women(51.1%). Women from wealthier household had tend to choose safe abortion. Women's education plays an important role in pregnancy terminated in safe or unsafe abortion. The highest proportion of safe abortion had been recorded in women with graduation & above level of qualification (69%) followed by middle & secondary level(54.6%). The high prevalence of unsafe abortion had been reported in women who were illiterate (58.3%) followed by those up to primary level of education (55%). Likewise, women whose husbands were illiterate had reported highest prevalence of unsafe abortion (59.5%). There was not much difference in reported cases of safe abortion between Hindu and Muslim women whereas; unsafe abortion was recorded more in women who belong to religion other than Hindu and Muslim (59.4%). Women who belong to scheduled tribe category (56.7%) had reported highest percentage of unsafe abortion followed by women from scheduled caste. (54.3%).

In urban areas, approximately 75% of unsafe abortion had been reported in women who belong to poorest household. Women who belong to north-eastern region had high prevalence of unsafe abortion (64%) In Muslim women, compare to women of other religions, a quite high percentage of safe abortion (72%) was reported. Women who were graduate or above level had seek more safe abortion(80%) whereas, women who were illiterate had reported high proportion of unsafe abortion (62.4%). Women whose husbands have finished graduation and above level of qualification; their women have reported highest cases of safe abortion (69.3%). More than half of the unsafe abortion cases were reported in women who belong to scheduled tribe. Those

women who seek abortion in second trimester of pregnancy had opted for safe abortion (64%). The chi-square test shows that the various variables such as religion, caste, education of women and husband, wealth index, region are significantly associated with abortion both in rural as well as urban areas. However, pregnancy month during last abortion is not significant in urban area.

5.3 ASSOCIATION OF SAFE AND UNSAFE ABORTION WITH BACKGROUND CHARACTERISTICS

Table5.2: Adjusted Odds Ratio (with 95% Confidence Interval) of Unsafe Abortion Using Logistic Regression

SOCIOECONOMIC, DEMOGRAPHICS, MATERNAL CHARACTERSTICS	Exp(Beta)	95%Confidence Interval	
		Upper Limit	Lower Limit
PLACE OF RESIDENCE			
Urban	1.149	.968	1.365
RELIGION			
HINDUS®			
MUSLIMS	.820	.626	1.073
OTHERS	.901	.730	1.154
EDUCATION OF WOMEN			
ILLETRATE®			
PRIMARY	.823	.589	1.150
MIDDLE &SECONDARY	.769	.564	1.050
GRADUATION & ABOVE	.490	.329	.730

CASTE			
SC®			
ST	.769	.550	1.075
OBC	.853	.682	1.067
OTHER	.721	.575	.903
HUSBAND'S EDUCATION			
ILLETRATE®			
PRIMARY	.859	.589	1.252
MIDDLE &SECONDARY	.832	.590	1.173
GRADUATION& ABOVE	.710	.473	1.066
WEALTH INDEX			
Poorest®			
Poor	.792	.587	1.069
Middle	.764	.565	1.035
Rich	.535	.388	.738
Richest	.446	.312	.637
REGION			
Northern Region®			
North Eastern Region	.926	.678	1.265
Eastern	.346	.243	.492
Western	.184	.139	.243

Southern	.333	.257	.430
PREGNANCY MONTH DURING ABORTION			
1-3 months®			
4-6months	.636	.511	.793
7-9months	1.036	.713	1.507

The results of logistic regression in the Table show the adjusted odds of an outcome variable unsafe abortion and its 95 percent confidence interval in relation to selected determinants.

Analysis has revealed that place of residence, that is rural and urban areas were not significantly associated with unsafe abortion. The factors such as wealth index except women from poor and middle households, first and second trimester of pregnancy in which abortion was performed; women from all regions except north east, women who were illiterate and have graduation and above level of qualification were significantly associated with unsafe abortion.

The model demonstrates that women who were illiterate were more likely to seek unsafe abortion compare to women with some level of education .It could be figured out from the adjusted odds that women from the northern region were significantly more likely associated with unsafe abortion compare to other regions.

After controlling other characteristics, the adjusted odds showed that women from the poorest households were more likely to choose unsafe abortion compare to women from rest of the households. Women in second trimester of pregnancy (OR= .636, 95% CI:.511-.793) were less likely to choose unsafe abortion than women in first trimester of pregnancy

However, other characteristics such as caste, religion, sex combination, women with primary, middle and secondary level of education and their partners' education were found to be insignificant.

CHAPTER 6

Rural Urban Differentials in Abortion Practices in India, Its Correlates, Safe Abortion Using NFHS-4 Data.

6.1. IMPORTANCE OF THIS STUDY

This theme of the study is rural urban differentials in abortion practices in India and safe abortion using NFHS-4, 2015-16 data which is a recent published survey. The National Family Health Survey is the fourth round of (NFHS-4) nationwide survey which was conducted during 2015-16. The information on women's characteristics along with information on maternal care, pregnancy, family planning, immunization and childcare, contraception, abortion had been asked from ever-married women. Since, the data is recently published; it offers a wide scope of research to be undertaken. Therefore, using this dataset, the present study aims to examine the prevalence of abortion practices and its correlates. Different form of abortions; spontaneous or induced ever experienced by married women abortion in rural and urban areas had been examined based on the socioeconomic factors of the household and women characteristics. Hence, the results of the study will help to support or contradict the existing evidences in the previous literature.

Table 6.1. Pregnancy end in miscarriage, abortion, or stillbirth

	Frequency	Percent
Spontaneous	18641	69.1
Induced	8320	30.9
Total	26961	100.0

Table 6.2: Pregnancy end in miscarriage, abortion

Type of place of residence		Frequency	Percent
Urban	Spontaneous	5525	66.5
	Induced	2786	33.5
	Total	8311	100.0
Rural	Spontaneous	13116	70.3
	Induced	5534	29.7
	Total	18650	100.0

With NFHS-4 as data source, out of the total ever married women who undergone abortion from 2011 to 2016 (n=26961) it was reported that 69% of the women have the history of spontaneous abortion and 40% had experienced induced abortion. Of the total women who had ever undergone abortion in rural(n=18650) and urban areas(n=8311), the study revealed that women in rural areas have experienced 70.3% of spontaneous abortion and 29.7% of induced abortion whereas; the percentages of spontaneous and induced abortion are 66.5% and 33.5% respectively in women from urban areas.

6.2. DIFFERENT FORMS OF ABORTION: LEVEL, TRENDS AND DETERMINANTS

Table 6.3: Bi-variate analysis of factors associated with abortion-spontaneous and induced

SOCIOECONOMIC, DEMOGRAPHICS, MATERNAL CHARACTERSTICS	RURAL				URBAN			
	Spontaneous Abortion	Induced	Total	χ^2	Spontaneous	Induced	Total	χ^2
WEALTH INDEX								
Poorest	75.4%	24.6%	4323	.000	69.8%	30.2%	268	.138
Poor	70.4%	29.6%	5115		68.2%	31.8%	736	
Middle	67.5%	32.5%	4392		65.9%	34.1%	1517	
Rich	67.4%	32.6%	2971		64.8%	35.2%	2492	
Richest	69.6%	30.4%	1849		67.4%	32.6%	3298	
Total	13116	5534	18650		5525	2786	8311	
REGION								
Northern	74.9%	25.1%	2081	.000	68.9%	31.1%	1019	.000
North Eastern	58.7%	41.3%	2879		63.5%	36.5%	1173	
Eastern	72.8%	27.2%	3849		67.2%	32.8%	1045	
Central	72.5%	27.5%	6466		68%	32%	2983	
Western	77.7%	22.3%	2148		70.6%	29.4%	1226	
Southern	57.8%	42.2%	1227		55.8%	44.2%	865	
Total	13116	5534	18650	5525	2786	8311		
RELIGION								
Hindus	69.9%	30.1%	14306	.027	65.4%	34.6%	5710	.002
Muslims	70.9%	29.1%	2502		67.8%	32.2%	1831	

Others	72.9%	27.1%	1842		71.2%	28.8%	770	
Total	13116	5534	18650		5525	2786	8311	
EDUCATION OF WOMEN								
No education	72.7%	27.3%	4899	.000	66.2%	33.8%	1185	.209
Primary	72.6%	27.4%	2702		66.7%	33.3%	962	
Secondary	68.5%	31.5%	9396		65.7%	34.3%	4414	
Higher	70%	30%	1653		68.5%	31.5%	1750	
Total	13116	5534	18650		5525	2786	8311	
CASTE								
SC	72.3%	27.7%	3738	.000	64.4%	35.6%	1361	.000
ST	74.1%	25.9%	2938		76.5%	23.5%	719	
OBC	70.7%	29.3%	7446		66.3%	33.7%	3428	
Others	65.5%	34.5%	4528		65.1%	34.9%	2803	
Total	13116	5534	18650		5525	2786	8311	
AGE IN COMPLETED YEARS								
15-24	78.9%	21.1%	6636	.000	74.2%	25.8%	2254	.000
25-34	67.3%	32.7%	9626		65.7%	34.3%	4787	
35-44	58.8%	41.2%	2211		55.8%	44.2%	1218	
45-49	58.8%	41.2%	177		55.8%	44.2%	52	
TOTAL	13116	5534	18650		5525	2786	8311	
ULTRASOUND AT ANY TIME								
No	70.1%	29.9%	13044	.132	64%	36%	4800	.000
Yes	70.9%	29.1%	5606		69.9%	30.1%	3511	
Total	13116	5534	18650		5525	2786	8311	
SEX COMBINATION								

Total Daughters>Total sons	76%	24%	4400	.000	70.6%	29.4%	2084	.000
Total Daughters<Total sons	66.1%	33.9%	4899		63.7%	36.3%	2291	
Total Daughters=Total sons	69.9%	30.1%	9351		65.9%	34.1%	3936	
Total	13116	5534	18650		5525	2786	8311	

Bi-variate analysis was performed to explore how the prevalence of spontaneous and induced abortion varied across certain socioeconomic and demographic characteristics. The results are demonstrated in the above Table 7.1.

In rural area, out of total 18650 women who have had ever experienced abortion; spontaneous abortion had been found highest among the women of age group of 15-24 years(79%) . Women who fall in the age group of 35-44 years and 45-49 years have reported same prevalence of induced abortion(41%). Out of the three categories of religion, the highest proportion of spontaneous abortion was found among women who belong to religions other than Hindu and Muslims(73%).The majority of induced abortion cases were recorded in Hindu women(30%) followed by Muslims(29%).Women who belong to poorest households have recorded the highest spontaneous abortion cases(75.4%). Pregnancy terminated into miscarriage or abortion also varied across Women's level of education. The highest proportion of spontaneous abortion (72%) had been reported in women with no education as well as primary level of education. Women with secondary level of education (31.5%) and higher level of education (30%) had reported high prevalence of induced abortion compare to the women in rest of the categories. Among the women from various castes, 74% of spontaneous abortion cases were recorded in ST women and 34.5% of induced abortion cases were recorded in women who belong to other castes. As displayed in the above table, women from western region had the highest proportion of spontaneous abortion (77%), whereas; women from southern region had found to have experienced 42% of induced abortion cases. Characteristics such as sex combination of children, ultrasound performed before the pregnancy were also explored to study how they varied across pregnancy terminated into different form of abortion. Women with more daughters than sons had the highest proportion of spontaneous abortion (76%) and women with total daughters less than the total sons had reported the high prevalence of induced abortion cases(34%). There is no

difference in prevalence of spontaneous abortion as well as induced abortion in women, irrespective of whether the ultrasound was performed or not.

In urban areas, out of the total 8311 women who have had ever experienced abortion, approximately 74.2% of spontaneous abortion was recorded in women of 15-24 years age group and 44% of induced abortion cases were reported both in age group 35-44 years and 45-49 years. In Hindu women, 34.6% of induced abortions cases were reported followed by 32.2% in Muslim women. The highest rate of spontaneous abortion was found in women from western region (70.6%) and that of induced abortion was reported in women from southern region (42%). Women with graduation or above level of education had reported high proportion of spontaneous abortion(68.5%) whereas; reported cases of induced abortion are high in women with secondary level of education(34.3%).Near about 76% of spontaneous abortion cases were recorded in women who belong to scheduled tribe. Women from scheduled caste had experienced high proportion of induced abortion (35.6%) compare to women rest of the categories of caste. There is not much difference in the rate of spontaneous abortion reported by women of poorest, poor and richest household. Women who are rich have experienced 35% of induced abortion cases followed by women from middle households (34%). As mentioned in the above table, those women who performed the ultrasound had clearly reported more proportion of spontaneous abortion (70%) and those that had not performed ultrasound had experienced 36% of induced abortion cases. Women with more daughters than sons had the highest proportion of spontaneous abortion (70%) and women with total daughters less than the total sons had the high prevalence of induced abortion cases(36%).

The chi-square test shows that except whether ultrasound test performed by women, various variables such as age of women, religion, caste, education of women, wealth index, region, sex combination of children are significantly associated with abortion in rural areas. In urban areas, except wealth index and education of women, rest of the variables was significantly associated.

6.3. Association of Induced abortion with background characteristics

Table 6.4: Adjusted Odds Ratio (with 95% Confidence Interval) of Induced Abortion Using Logistic Regression

Socioeconomic Characteristics; Maternal Characteristics		Exp(B)	95% of Confidence Interval	
			Lower Limit	Upper Limit
ULTRASOUND TEST PERFORMED				
Ultrasound done(yes)	.000	.847	.797	.899
Region				
Northern	.000			
North Eastern	.000	2.122	1.892	2.379
Eastern	.001	1.218	1.089	1.362
Central	.015	1.129	1.024	1.246
Western	.691	.977	.869	1.097
Southern	.000	2.287	2.019	2.591
AGE IN COMPLETED YEARS				
15-24years®	.000			
25-34years	.000	1.735	1.629	1.848
35-44years	.000	2.584	2.364	2.825
45-49years	.000	2.726	2.070	3.590

CATEGORY OF CASTE				
Others®	.000			
Scheduled Caste	.004	.885	.813	.963
Scheduled Tribes	.000	.631	.568	.700
OBC	.000	.875	.817	.937
SEX COMBINATION				
Total Daughters>Total Sons®	.000			
Total Daughters<Total Sons	.000	1.520	1.409	1.640
Total Daughters=Total Sons	.000	1.365	1.274	1.462
RELIGION				
Other®	.000			
Hindus	.000	1.564	1.399	1.749
Muslims	.000	1.331	1.169	1.515
WEALTH INDEX				
Poorest®	.000			
Poor	.000	1.208	1.102	1.325
Middle	.000	1.363	1.238	1.502
Rich	.000	1.433	1.290	1.593
Richest	.000	1.407	1.248	1.587

EDUCATION OF WOMEN				
No education®	.000			
Primary	.519	1.032	.938	1.134
Secondary	.004	1.123	1.038	1.215
Higher	.061	.898	.803	1.005
PLACE OF RESIDENCE				
Rural	.256	.963	.903	1.028
Constant	.000	.105		

The results of logistic regression displayed in the Table 7.4 show the adjusted odds ratio of outcome variable, induced abortion and its 95 percent confidence interval in relation to selected covariates which includes individual characteristics, socioeconomic and demographic characteristics. Women aged 35-44 years (OR=2.584, 95% CI: 2.364-2.825) and 45-49 years (OR=2.726, 95% CI:2.070-3.590) were more likely to have abortion than those aged 15–24 years. The adjusted odds demonstrated that Hindu women (OR: 1.564, 95% CI: 1.399-1.749) were more likely to report induced abortion as compare to women from other religion such as Christianity, Sikh, Buddhism etc. However, women with secondary education (OR=1.123, 95% CI:1.038-1.215) had an increase in the odds of having abortion, when compared with women who were illiterate. With reference to poorest women, rich women (OR=1.433, 95% CI:1.290-1.593) followed by richest women (OR=1.407, 95% CI:1.248-1.587) were more likely to experience induced abortion. Significant association is recorded in women who have more sons than daughters (OR=1.520, 95% CI:1.409-1.640) in reference to women who have more daughters than sons. After controlling for other characteristics, women from all the caste groups had significant negative impact on induced abortion. There are also significant region differentials in induced abortion practices except in Western regions. It can be drawn from the model that compare to northern women, southern women (OR=2.287, 95% CI:2.019-2.591) were more likely to had induced abortion. With reference to ultrasound not performed by

the women during pregnancy, it was found that those women who had performed the ultrasound test (OR=.847,95%CI:.797-.899) were significantly less likely to report induced abortion. However, place of residence of women is not significantly associated with the induced abortion. The other variables like women with primary and higher level of education and those who were from western region had no significant association with induced abortion.

NFHS-4 survey also covered a few questions regarding the treatment seeking behaviour among women for the abortion services. The questions asked were where was the abortion performed and who performed the abortion. Combining both the variables together, a new variable type of abortion had been created with two categories, safe and unsafe abortion. . It has not been mentioned in the DLHS-4 dataset if the private institutions registered or not under the MTP Act. Therefore, for the study purpose, all those abortions performed only by the doctors and in government facilities as these are automatically approved for performing abortion are considered as safe.

Table 6.5. Type of Abortion

Type of Abortion	Frequency	Percent
Safe Abortion	1484	5.5
Unsafe Abortion	25477	94.5%
Total	26961	100%

Out of 26961 abortion which had ever taken place from 2011 to 2016, 1484 abortions were considered as safe as these were performed in Government facilities and by doctors. Rest 25477 cases of unsafe abortion had taken place in private institutes or at home and performed by health personnel other than doctors like ANMs, Nurses, traditional trained and untrained dais, birth attendants. Therefore, the focus of the next objective was to assess the relationship between type of abortion, that is safe or unsafe with socioeconomic and maternal characteristics.

6.4. Type of Abortion by selected background characteristics of women in rural and urban area

Table 6.6. Bi-variate analysis of factors associated with type of abortion- safe and unsafe

SOCIOECONOMIC, DEMOGRAPHICS, MATERNAL CHARACTERSTICS	RURAL				URBAN			
	Safe Abortion	Un safe	Total	χ^2	Safe Abortio n	Unsafe Aborti on		χ^2
WEALTH INDEX								
Poorest	4.0%	96%	4323	.000	6.3%	93.7%	268	.000
Poor	6.4%	93%	5115		6.7%	93.3%	736	
Middle	7.1%	92.9%	4392		7.1%	92.9%	1517	
Rich	6.2%	93.8%	2971		5.5%	94.5%	2492	
Richest	4.4%	95.6%	1849		2.9%	97.1%	3298	
Total	1078	17572	18650		406	7905	8311	
REGION								
Northern	7.8%	92.2%	2081	.000	5.4%	94.5%	1019	.000
North Eastern	16.5%	83.5%	2879		11.7%	88.3%	1173	
Eastern	3.9%	96.1%	3849		3.8%	96.2%	1045	
Central	1.6%	98.4%	6466		2%	99%	2983	
Western	3.4%	96.6%	2148		3.6%	96.4%	1226	
Southern	9.4%	90.6%	1227		8.1%	91.9%	865	
Total	1078	17572	18650		406	7905	8311	
RELIGION								
Hindus	5.5%	94.5%	14306	.029	4.7%	95%	5710	.040
Muslims	6.6%	93.4%	2502		4.6%	95.4%	1831	
Others	6.6%	93.4%	1842		6.8%	93.2%	770	

Total	1078	17572	18650		406	7905	8311	
EDUCATION OF WOMEN								
No education	3.7%	96.3%	4899	.005	5.1%	94.9%	1185	.000
Primary	5.4%	94.6%	2702		6.1%	93.9%	962	
Secondary	6.9%	93.1%	9396		5.2%	94.8%	4411	
Higher	6.0%	94.0%	1653		3.4%	96.6%	1750	
Total	1078	17572	18650		406	7905	8311	
Caste								
SC	5%	95%	3738	.000	6.2%	93.8%	1361	.000
ST	7.5%	92.5%	2938		6.7%	93.3%	719	
OBC	4.0%	96%	7446		3.9%	96.1%	3428	
Others	8.2%	91.8%	4528		5.1%	94.9%	2803	
Total	1078	17572	18650		406	7905	8311	
SEX COMBINATION								
Total Daughter > Total sons	5.4%	94.6%	4400	.002	4.1%	95.9%	2084	.001
Total Daughters < Total sons	6.8%	93.2%	4899		6.2%	93.8%	2291	
Total Daughters = Total sons	5.5%	94.5%	9351		4.5%	95.5%	3936	
Total	1078	17572	18650		406	7905	8311	
ULTRASOUND AT ANY TIME								
No	5.3%	94.7%	13044	.000	4.8%	95.2%	4800	.418
Yes	6.9%	93.1%	5606		5.0%	95%	3511	
Total	1078	17572	18650		406	7905	8311	

CHAPTER 7

DISCUSSION AND CONCLUSION

7.1. IMPORTANCE OF ABORTION STUDY

The study found out that in India, among ever married women of age group 15-49 years in non – EAG states, the prevalence of spontaneous abortion is 9.8% and that of induced abortion is 3.5%, using DLHS-4 2012-13 as data source. This study has identified the principal social and individual determinants which are associated with rural urban differentials in abortion practices. The prevalence of spontaneous abortion in ever married women in rural area is % and in urban area , it is %.The induced abortion cases reported in rural area is % and in urban area, it is %.By looking at this these figures, we could think what will be the situation of EAG states. This study is important as not many studies have taken place on rural urban differences in abortion practices and abortion seeking behaviour .The purpose is to add to the existing literature the impact of socioeconomic determinants on the induced and spontaneous abortion in rural and urban areas separately. The earlier studies focused more on underdeveloped or less developed states. Hence, with the use of DLHS-4 data, the motive is to study the abortion differences in non EAG states of India. Therefore, the main theme of the present study is rural urban differentials in abortion practices in non-EAG states of India, its correlates and safe abortion practices.

This chapter discusses important findings of the study, provides the conclusion and recommendations of the study. The specific objectives of the study were to assess the prevalence of different forms of abortions, its correlates in non EAG states separately for urban and rural women, choice of providers and facilities for abortion in rural and urban area separately and to identify the determinants of unsafe abortion in rural and urban area separately. To achieve this study, DLHS-4 data set has been used.

7.2. DISCUSSION

In our regression analysis, multiple factors which are found to be in significant association with induced abortion. These factors are place of residence, that is urban and rural, women age in completed years, Hindu and Muslim women, education of women and her partners', wealth

index, age of the women at the time of marriage, equal number of sons and daughters. Various determinants associated with spontaneous abortion found to be significant are place of residence, which is urban and rural, women age in completed years, education of women except graduation and her partners', wealth index, age of the women at the time of marriage, more sons than daughters. Analysis shows that contrary to the expected result, there is progressive increase in prevalence of spontaneous abortion in women with the increase in the education level of women and their partners. Similarly, the highest number of induced abortion has been reported in women who have completed graduation and above level of qualification. The possible reason which can be deduced from the observation is that the education is the source of employment and financial security for women; therefore, women who are highly qualified have more consciousness for career. Moreover, educated men and women are well aware of the advantages of small family size and have more information about the abortion seeking services and legal issues associated with abortion. This study has also pointed out that women who belong to rich and richest quintile were more likely to have undergone induced abortion compare to poorest quintile women. Possible explanation could be that rich women are able to afford the maternal health services whereas; poor women find it difficult to utilize the services due to financial constraint. Women who have equal sons and daughters have reported the highest prevalence of induced abortion as well spontaneous abortion. The most likely underlying reason of equal number of son and daughter a woman have could be attributed to high prevalence of sex selective induced abortion in these women with the final outcome of equal number of sons and daughters. The study by Ahmed and Ray on DLHS-3 survey also points out that reported cases of abortion might be related to the sex of the aborted child and may suggests that such abortion may not always be spontaneous. The low proportion of induced abortion cases are reported in scheduled tribe women which could be due to stigma, myths and misconception attached to abortion. The results from the study have shown women with increase in age are more prone to spontaneous abortion. The existing literature supports the findings that beyond these age group 35-44 years, women are less likely to become pregnant, hence, less chances to terminate their pregnancies or suffer miscarriage (Bose & Trent ,2006).Women in age group 45-49 years are more likely to report induced abortion as they suffer from more complications due to pregnancy.. (Bose & Trent ,2006). In urban areas also, women are more likely to experience spontaneous as well as induced abortion in comparison to women from rural area. The availability of abortion services,

particularly in rural areas remains limited. Moreover, due to abundant healthcare resources and human resources in urban areas, women have more chance to undergo induced abortion.

The closer look at logistic regression analysis of safe abortion with a host of determinants put forth that wealth index except women from poor and middle households, first and second trimester of pregnancy in which abortion is performed; women from all the region except north eastern, women who are illiterate and have graduation and above level of qualification are significantly associated with safe abortion.

The major finding of the analysis is that place of residence, that is rural and urban areas are not significantly associated with unsafe abortion. As revealed in the results of bi-variate analysis (Appendix I), that majority of the women seek abortion services from private clinics, dispensaries or hospitals irrespective of the place of residence.. The large presence of informal providers indicates low access to formal MTP providers and facilities both in urban and rural areas (Situation Analysis of Abortion Services in Rajasthan; Iyenga, Iyengar, Suhalka; 2005). In a community-based study in Madhya Pradesh, majority of the abortions among urban women took place in a private facility compared to one fourth of abortions in a public sector facility and the remaining resorting to folk methods or self-induction.(Santhya, Verma; Induced Abortion: The Current Scenario in India, November 2004) Women who were illiterate were more likely to seek unsafe abortion compare to women with some level of education . The reason could be attributed to less awareness about the abortion laws. Women from the northern region are significantly more likely associated with unsafe abortion compare to other regions which can be due to sex selective abortion. Women from the poorest households are more likely to choose unsafe abortion compare to women from rest of the households. The existing literature cites that financial constraints is a major reason to seek services from unqualified providers. The earlier studies have also highlighted that there is hidden costs in the form of cost of medicine and illegal fees for staff in public facilities. (Santhya, Verma; Induced Abortion: The Current Scenario in India, November 2004)

7.3. CONCLUSION

In conclusion, the study reveals that induced abortion is found to be more prevalent among the rich and richest section of women, educated women and women from urban areas. However, in

India, still the awareness and knowledge of abortion laws in India is in its infant stage as can be predicted from the prevalence of unsafe abortion among women. The study has drawn out those women irrespective of their place of residence, regions; those who belong to poorest household are exposed to unsafe abortion. The need of the hour is that policies should aim to increase the level of awareness about abortion services, its complications and laws among women and their family. The finding of the study that there is low prevalence of abortion among scheduled tribe women and Muslim women could be due to the stigma or myths attached to abortion. Hence, there is a need to sensitize women and society towards sexual and reproductive rights of women. The major drawback in present scenario in India is lack of doctors, healthcare resources, and availability of safe abortion services as per MTP Act. Therefore, the policies should also aim to strengthen the infrastructure for abortion services both in urban as well as rural areas.

7.4. RECOMMENDATION

The huge burden of unsafe abortion and the complications has to be recognized. Hence, the focus should be on the improvement in the quality of abortion services. Amendments should be made in certain provisions of MTP Act. Ayush doctors should also be trained to perform abortion along with allopathic doctors. Women should be imparted with more reproductive and sexual rights if pregnancy exceeds 20 weeks, in case of rape, fetal abnormalities. As the final decision in these cases lies with judiciary, there is delay in the process to seek abortion. Hence, the easy way left behind to seek abortion is illegal and unsafe method of abortion. The public as well as private facilities which provide abortion services should be strictly regulated as per the provision of the act to ensure safe abortion. There is need to strengthen the strategies to increase the knowledge as well as awareness about abortion laws and services. To come up with effective policies in future, information on sex of the aborted child should be collected to reduce sex-selective abortion practices (Ahmed & Ray, 2013). Researches should be carried out on abortion to understand the attitude, perceptions and behaviour seeking of women and their families towards abortion.

7.5. LIMITATION OF STUDY

Limitation of study has been described into two categories one due to data set and second due to study design.

Limitation of data set: As abortion is self reporting, there may be chances of under reported cases of induced abortion and over reporting of spontaneous abortion cases by women .Therefore, the estimate of induced as well as spontaneous abortion cases reported may not be accurate. Health facilities approved for performing abortion were not recorded in the survey; therefore the accurate estimate of safe and unsafe abortion cannot be figured out.

Limitation of study: Unsafe abortion cannot be measured accurately as information on health facilities approved for abortion services and doctors with the requisite training for performing abortion was not collected in DLHS-4 survey.

7.6. POLICY IMPLICATIONS

- Government should provide training of abortion laws and services to community workers or ASHA workers so as to increase the awareness and knowledge about safe abortion among women in the community.
- The public as well as private facilities which provide abortion services should be strictly regulated as per the provision of the act to ensure safe abortion.
- Information on sex of the aborted child should be collected to reduce under reporting of induced abortion cases and prevent sex-selective abortion practice.

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APPENDIX I. Bi-variate analysis of socioeconomic factors associated with place of abortion- public, private and others

SOCIOECONOMIC, DEMOGRAPHICS, MATERNAL CHARACTERSTICS	RURAL				URBAN				Chi-square		
	Others	Public	Private	Total	Others	Public	Private	Total	Rural	Urban	
Wealth Index										.000	.000
Poorest	19.7%	30.0%	50.3%	290	25%	43.2%	31.8%	44			
Poor	15.8%	26.6%	57.5%	379	11.9%	35.8%	52.3%	151			
Middle	14.9%	24.3%	60.8%	403	8.9%	28.8%	62.3%	281			
Rich	12.1%	17.4%	70.5%	293	11.1%	18.9%	70.0%	433			
Richest	10.7%	16.2%	73.1%	197	8.1%	12.4%	79.5%	533			
Total	234	370	963	1567	145	302	995	1442			
Region										.000	.000
Northern	16%	24.1%	59.9%	332	14.3%	17.6%	68.1%	238			
North Eastern	16.3%	42.4%	41.3%	288	9.6%	48.9%	41.6%	178			
Eastern	28.2%	15.8%	55.9%	177	21.9%	17.7%	60.4%	96			
Western	9.7%	13.0%	77.3%	269	6.6%	12.5%	80.9%	408			
Southern	11.8%	21.0%	67.2%	524	9.0%	19.9%	71.1%	533			
Total				1590	147	20.9%	1003	1453			
Religion										.004	.777
Hindus	14.2%	24%	61.8%	1112	10.1%	21.1%	68.8%	1087			
Muslims	20.1%	14.9%	64.9%	154	8.1%	15.6%	76.3%	186			
Others	15.4%	26.2%	58.3%	324	12.7%	24.9%	62.4%	181			
Total	239	375	976	1590	148	303	1003	1454			
Education Of Women										.000	.000
Illiterate	15.3%	29.8%	54.9%	215	20.9%	32.6%	46.5%	86			
Primary	19%	27.6%	53.4%	290	12.9%	25.3%	61.8%	170			
Middle & Secondary	14.6%	22%	63.4%	953	10.1%	21.6%	68.3%	834			
Graduation & Above	8.3%	15.9%	75.8%	132	6.6%	14.5%	78.9%	365			
Total	238	375	977	1590	148	304	1003	1455			
Caste										.000	.000
SC	16.5%	24.3%	59.2%	387	14.2%	19.5%	66.3%	267			
ST	15.5%	35.0%	49.5%	200	17.8%	30.8%	51.4%	107			
OBC	12.2%	19.8%	68.0%	525	7.8%	21.8%	70.4%	554			
Others	16.6%	22.3%	61.1%	475	9.3%	18.4%	72.3%	527			
Total	238	374	976	1588	149	303	1003	1455			
Husband's Education										.004	.000
Illiterate	17.1%	29.1%	53.8%	158	20.3%	28.4%	51.4%	74			
Primary	18.5%	25.2%	56.3%	254	13.8%	27.7%	58.5%	130			
Middle & Secondary	14.6%	23.8%	61.6%	980	9.5%	22.1%	68.4%	833			

Graduation & above	11.2%	15.7%	73.1%	197	8.6%	14.9%	76.5%	417		
Total	239	374	976	1589	148	303	1003	1454		
Pregnancy Month during Abortion										
1-3 months	16.9%	23.0%	60.1%	1237	11.2%	20.4%	68.4%	1188	.000	.000
4-6months	6.7%	24.3%	69%	284	3.5%	24.8%	71.8%	202		
7-9months	15.7%	30.0%	54.3%	70	12.7%	17.5%	69.8%	63		
Total	239	375	977	1591	148	303	1002	1453		

Urkund Analysis Result

Analysed Document: abortion 1.docx (D35883039)
Submitted: 2/24/2018 6:41:00 AM
Submitted By: urkund.mumbai@tiss.edu
Significance: 5 %

Sources included in the report:

<https://en.wikipedia.org/wiki/Abortion>
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Instances where

selected sources appear:

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