

**PERSPECTIVE OF MALES ON WOMAN'S RISK OF  
PREGNANCY IN INDIA : AN ANALYSIS BASED ON  
NFHS – 3 ( 2005-06 )**

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**Declaration**

I declare that the dissertation entitled " Perspective Of Males On Woman's Risk Of Pregnancy In India : An Analysis Based On NFHS - 3 (2005-06) " submitted by me for the award of the degree of Master of Philosophy ( M.Phil ) of Jawaharlal Nehru University is my own work. The dissertation has not been submitted for any other degree of this university or any other university.

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**Certificate**

We recommend that this dissertation be placed before the examiners for evaluation.

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## Abbreviations

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<b>CPR</b>	Contraceptive Prevalence Rate
<b>DHS</b>	Demographic and Health Survey
<b>FP</b>	Family Planning
<b>IEC</b>	Information, education, and communication
<b>ICPD</b>	International Conference on Population and Development
<b>IUD</b>	Intrauterine Device
<b>IIPS</b>	International Institute for Population Sciences
<b>LAM</b>	Lactation Amenorrhea Method
<b>MRHS</b>	Male Reproductive Health Survey
<b>MOHFW</b>	Ministry of Health and Family Welfare
<b>NSM</b>	National Survey of Men
<b>NFHS</b>	National Family Health Survey
<b>RCH</b>	Reproductive and Child Health Programme
<b>TFR</b>	Total Fertility Rate
<b>WFS</b>	World Fertility Survey
<b>WHO</b>	World Health Organisation

## *Chapter I*

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*Introduction*

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*Introduction*

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Developing countries in general are characterized by rapid population growth as a result of high fertility and declining mortality. One such country is India. India is the second most populous country in the world next to China and is likely to be the most populous country by the year 2035. India's population became 1 billion on May 11, 2000 and the population count as of March 1st 2001 is 1.029 billion (Census, 2001). In order to reduce the population, Government Of India initiated a National Family Planning Policy in 1951 [Planning Commission (Government Of India, 1951), First Five Year Plan, New Delhi]. Since then the National Family Planning Programme underwent changes and fertility declined.

The National Family Health Survey [NFHS-1(1992-93)] was launched by the Ministry of Health and Family Welfare (MOHFW) and International Institute for Population Sciences (IIPS), Mumbai which became the nodal agency for the survey in 1991. In addition, two other surveys were conducted in year 1998-99 (NFHS-2) and 2005-06 (NFHS-3) which give detailed information on fertility and family planning among other things. Between NFHS-1 and NFHS-2, the Total Fertility Rate (TFR) which represents that average number of children a woman gives birth to, fell by 0.50 children, from 3.40 to 2.90. Between NFHS-2 and NFHS-3, TFR however, declined by only 0.20 children, from 2.90 to 2.70. One of the reasons for having a high TFR in India is unwanted births (that is, unwanted at the time the woman became pregnant). In NFHS-3, 21.10 percent of all pregnancies that resulted in live births were unplanned. Ten percent were wanted later and 11.10 percent were not wanted at all. Overall, the total wanted fertility rate is 1.90 which is lower by 0.80 child than the total fertility rate of 2.70. This means that if unwanted births could be eliminated, the TFR would drop to below the replacement level of fertility of 1.90 children per woman. A principal proximate determinant of fertility is usage of contraception that can reduce fertility without the danger of and threats of induced abortion on the reproductive health and lives of women.

For example in Mexico, between 1975 and 1980 average fertility dropped from 6.0 percent to 4.51 percent and prevalence of birth control use increased from 14.0 percent in 1976 to 27.0 percent in 1981 and 33.0 percent in 1987 (Chen et al.,1990). A similar situation is found in Nepal where contraceptive prevalence rate [(CPR)which is defined as the percentage of women of reproductive age who are using (or whose partner is using) a contraceptive method at a given point in time by all women in reproductive age group] rose from 3.0 percent in 1976 to 39.0 percent in 2001 and total fertility rate decreased from 6.30 births per woman to 4.10 births over the same period (Dahal et al.,2008). Similarly fertility in Malappuram, which is projected to be the most backward district in Kerala (India) has been declining from 4.21 births per woman in 1991 to 2.40 in 2001. This district recorded the lowest couple protection rate of 49.61 percent. Among the currently married women, only 57.0 percent of the women are current users of family planning methods (Santhosh. et al.,2008).

An important reason for low contraceptive prevalence rate (CPR) is information, attitude and practice towards contraception. These are important for both women and men to make informed choices about reproductive health decisions and control unwanted pregnancies. The 1994 International Conference on Population and Development (ICPD) and the 1995 Fourth World Conference on Women held in Beijing, emphasized this issue. The Fourth World Conference on Women highlighted on shared responsibility between men and women in matters related to reproductive and sexual behaviour to improve women's health (United Nations, 1995). With a view to improve contraceptive usage ICPD programme of action states specifically that “ [s]pecial efforts should be made to emphasize men's shared responsibility and promote their active involvement in responsible parenthood, sexual and reproductive behaviour, including family planning; prenatal, maternal and child health; prevention of sexually transmitted diseases, including HIV prevention; prevention of unwanted and high risk pregnancies” (United Nations, 1995). Males in general do not use contraception or usage is low among them. For example in Bangladesh during 1990s, overall contraceptive prevalence rate was 49.20 percent and the current use of methods by males is only 7.40 percent which indicates a norm of method non-use among males (NIPORT,1998).

In Beijing (China), the role of men in unwanted and unintended pregnancies was largely neglected (Yang et al.,1995). In Ilorin (Nigeria), actual use of contraceptives is not widespread among men. Ever use of any method ranges from six percent among men with no education to 53.30 percent among those who achieved a postsecondary education and from eight percent among those living in the poorest areas to 50.10 percent among those residing in the most affluent areas ( Oni and McCarthy,1991). Robey and Drennan (1998) examined data collected from men in 15 countries (11 in sub-Saharan Africa, plus Bangladesh, Egypt, Morocco, and Pakistan) and showed that men's contraceptive use is lower than might be expected, given their overall levels of approval and knowledge. Between one-quarter and two-thirds of men surveyed want no more children, yet neither those men nor their partners were using contraception.

In India, according to NFHS-3 report, 49.90 percent of men aged 15-49 and 49.40 percent of men aged 15-54 who are sexually active reported not currently using any contraceptive method the last time they had sex. A factor that influences non-use of contraception is lack of knowledge. In Table 1.1. we describe knowledge of women and men in year 2005-06. An examination of contraceptive knowledge in India showed that modern methods are more widely known than traditional methods. About 98.0 percent of women know of a modern method, but only 48.80 percent know a traditional method. Female sterilization is the most widely known method among women (96.60 percent) and men (94.80 percent). Knowledge of male sterilization is high ( 79.0 percent of women and 87.30 percent of men report knowledge of male sterilization) but it is not widely known as female sterilization. Among the three spacing methods (pill, IUD, and condom) offered by the government family planning programme, pill is most widely known among women (85.0 percent) and the condom is most widely known among men (93.0 percent). However, a high proportion of women and men do not know about many of the methods. Nearly one-third (33.0 percent) of the women and 50.0 percent of men reported of not having any knowledge of all three modern spacing methods in the programme. Among other methods of family planning, knowledge is not high.

Table 1.1

Percentage distribution of knowledge of contraceptive methods in India, 2005-06

	All Women	All Men
Any method	98.0	98.6
<b>Any modern method</b>	<b>98.0</b>	<b>98.5</b>
Female sterilization	96.6	94.8
Male sterilization	79.0	87.3
Pill	85.0	82.6
IUD	68.8	50.5
Injectables	48.9	44.5
Condom/Nirodh	73.8	93.0
Female condom	8.3	16.8
Emergency contraception	10.8	20.3
Other modern method	0.1	0.1
Pill, IUD, and condom	60.5	49.2
<b>Any traditional method</b>	<b>48.8</b>	<b>55.9</b>
Rhythm	40.8	48.0
Withdrawal	29.5	37.6
Folk method	4.7	1.6
<b>A woman who is breastfeeding can become pregnant Total age (15-54)</b>		
Yes		49.4
No		23.5
Don't know		27.0

Source : Computed from raw data, IIPS, 2007.

Injectables are known to 48.90 percent of women and 44.50 percent of men, female condoms are known to only 8.30 percent of women and 16.80 percent of men, and emergency contraception is known to only 10.80 percent of women and 20.30 percent of men. Among traditional methods, the rhythm method is better known than withdrawal. But another traditional method of contraception that is available for couple to restrict the number of children they have is breastfeeding. Correct knowledge of pregnancy during breastfeeding is known to 49.40 percent of men aged 15-54. An important reason for lack of knowledge of traditional methods is inaccurate or incomplete knowledge about female reproductive physiology. Accurate knowledge of female reproductive physiology contributes to better and improved contraceptive usage. For example in Markita (Peru), it was found that men had more accurate knowledge of the reproductive physiology than the women and a majority of the couples practiced

the rhythm method which was supervised by the husbands (Tucker,1989). A similar situation was observed in Andhra Pradesh (India) where awareness of periodic abstinence was significantly higher among men than women and a great majority of couples used this method as their first method (Karra et al.,1997).

For examining the perspective of males on woman's risk of pregnancy, we consider two natural contraceptive methods which entail no expenses, cost and free of side effects. Before we present our results, in order to better understand the nature and extent of knowledge of human fertility period among males or couples, we next present the human physiology.

#### **A. Knowledge Of The Fertile Period**

Menstruation is also called menstrual bleeding, menses, catamenia or a period. The flow of menses normally serves as a sign that a woman has not become pregnant. The most fertile period, the time with the highest likelihood of pregnancy resulting from sexual intercourse is the time when ovulation occurs which is generally halfway between two menstrual periods. The menstrual cycle, under the control of the endocrine system, is necessary for reproduction. It may be divided into three distinct phases: menstruation, the follicular phase and the luteal phase. Ovulation defines the transition from the follicular phase to the luteal phase. The length of each phase varies from woman to woman and cycle to cycle, though the average menstrual cycle is 28 days. Stimulated by gradually increasing amounts of estrogen in the follicular phase, menses flow then stop, and the lining of the uterus thickens. Follicles in the ovary begin developing under the influence of a complex interplay of hormones, and after several days one or occasionally two become dominant (non-dominant follicles atrophy and die). Approximately mid-cycle, 24–36 hours after the Luteinizing Hormone (LH) surges, the dominant follicle releases an ovum, or egg in an event called ovulation. After ovulation, the egg only lives for 24 hours or less without fertilization while the remains of the dominant follicle in the ovary become a corpus luteum; this body has a primary function of producing large amounts of progesterone.

Under the influence of progesterone, the endometrium (uterine lining) changes to prepare for potential implantation of an embryo to establish a pregnancy. If implantation does not occur within approximately two weeks, the corpus luteum will involute, causing sharp drops in levels of both progesterone and estrogen. These hormone drops causing the uterus to shed its lining in a process termed menstruation ( WHO Family Planning, 2007 ). The success of periodic abstinence as a family planning method depends on women's and men's understanding of the monthly cycle and the days when a woman is most likely to conceive.

### **B. Woman Who Is Breastfeeding Her Baby Can Become Pregnant**

Prolonged lactation protects against pregnancy mainly because it delays the return of ovulation. It also delays the return of menstruation. But during the period following childbirth, ovulation is possible and therefore it is possible to become pregnant even though breastfeeding starts and before the return of menstruation. The hormones involved in breastfeeding do have a natural contraceptive effect. This natural contraception is recognized as a form of birth control and is known as the Lactation Amenorrhea Method (LAM) : [ L = Lactational means breastfeeding, A = Amenorrhea means having no monthly period, M = Method ]. This method is 98.0 percent effective during the first six months after deliver when guidelines are followed:

1. Breastfeeding provides 98.0 percent protection from pregnancy only when the mother is exclusively breastfeeding. This means that no other liquid or solid is given to the baby. Any supplementation or disruption of the feeding schedule can increase the chance of a new mother becoming pregnant.
2. Women must not have had their first postpartum period and the baby must not be over six months of age.
3. The contraceptive effect gained from breastfeeding is improved by using a backup method of contraception.
4. Baby should be breastfed at least every 4 hours and not have more than one 6 hour stretch between breastfeeding in 24 hours.

5. Mothers who provide breast milk to their infants by hand expression or a breast pump should not rely on the LAM method for contraception (WHO Family Planning, 2007).

Studies that have been conducted to examine rhythm method and breastfeeding as a contraceptive methods generally show that a sizeable proportion of women who use traditional or natural methods have some understanding of breastfeeding but a large proportion do not know about effective abstinence (Gribble, 2003 ; Schuler et al.,1994; Reichelt and Werley,1975). Helmer (1996) stated that women's knowledge of the fertile period is low worldwide and failure rates are high and comparatively little is known about men's knowledge. In India, only 14.0 percent of women have correctly identified the fertile period whereas 51.50 percent have incorrectly reported. About 35.0 percent do not have any knowledge regarding periodic abstinence (IIPS, 2007). These studies that have been referred to have examined the knowledge of women regarding these two methods. However, recently some studies have been conducted to understand the knowledge of men with respect to the two traditional methods. In a survey conducted in Uttar Pradesh (India) in 1998, it was observed that overall only 22.20 percent of married men in this northern state responded correctly that women are most likely to become pregnant two weeks after their menstrual period begins. Most husbands (49.30 percent) thought that women are most likely to become pregnant one week after the start of their menstrual period (Singh et al.,1998; Mahler, 2000 ). For the whole country, NFHS-3 (2005-06 ), data reveals that 13.80 percent of men in India reported correctly. Similar situations were observed in a country like Nigeria (Oyo State) where it was found that among young adults, a majority did not know when ovulation occurs in a menstrual cycle (Oladepo and Brieger,2000). Duze and Mohammed (2006) found that most men do not object to breastfeeding, as the survival of infant depends on it but they may not be aware that it has contraceptive effects. In Jamaica, it was observed that natural family planning methods are the least well known methods among both sexes ( Donovan,1995). Finally in most countries, a large majority of young men cannot correctly identify the fertile period, and fewer young men can identify a woman's fertile period than young women.

In 17 out of 19 countries, less than 20.0 percent of young males have such knowledge (Khan and Mishra,2008). Regarding wrong perception about the contraceptive effect of breastfeeding, it is found that 23.50 percent of men in India, believe that a woman who is breastfeeding cannot become pregnant. Differentials in the responses by background characteristics are fairly small, although younger men are most likely to have misconceptions about the efficacy of breastfeeding ( IIPS, 2007 ). By contrast, some studies that have been conducted in different countries revealed that a proportion of women also believe that conception is difficult while breastfeeding (Rao, 1992 ; Tilley et al.,2009). Further research indicates that a substantial number of women who breastfeed, become pregnant either while breastfeeding or soon after birth without prior menstruation (Ginneken,1974; Harrell.B.Barbara,1981; Smith,1985; Santow,1987). Shaaban and Glasier (2008) observed that pregnancy during breastfeeding is common in Egypt and is often unintended. They suggested that there is great potential for using LAM. Thus women must be taught properly. Research also indicated that because of the low attendance of men in the sphere of responsibility, it was difficult to assess the effects, which seemed to be limited to post-partum contraception. (Turan et al.,2001). Thus erroneous perceptions about the contraceptive effect of breastfeeding and ovulatory cycle can lead to increase in risk of pregnancy. But if one has correct knowledge regarding the woman's physiology then it can also help to improve the usage of modern methods of contraception. For example more than 85 percent of acceptors of the Standard Days Method in Delhi (India) and 65 percent of those at the Honduran opt for condom use during the fertile period (Gribble, 2003). A similar situation was observed in Ecuador where IUD and oral contraceptives were used for spacing methods by the women who were using LAM for the first time (Wade et al.,1994).

In October 1997, the Government Of India launched the Reproductive and Child Health (RCH) Programme which stressed health promotion and expansion of services to both women and men. Male has been highlighted as an important component of RCH. National Population Policy of India, 2000, for the first time recognized the need of active involvement of men in family planning so that if men are educated about reproductive health issues or female reproductive physiology then they are more likely

to support their partners in decision-making process on contraceptive use and family planning which may be essential for women to avoid unprotected sex or unwanted pregnancy.

### *Study Area*

For the present study, all India has been considered for analyzing the perception of male towards woman's risk of pregnancy.

### *Objectives*

The major objectives of the study are :

1. To examine the knowledge of men with regard to woman's risk of pregnancy.
2. To assess the influence of selected socio-economic and demographic variables on males perspective on woman's risk of pregnancy.

### *Organization Of The Dissertation*

This dissertation is divided into five chapters. In addition to the introductory chapter, Chapter - II presents the literature and related findings in relation with perception or knowledge about ovulatory cycle and breastfeeding. Chapter – III discusses the conceptual framework, hypotheses, nature and source of data and measurement of variables. Chapter - IV provides the detailed statistical analysis of the data to understand the various variables that influence male's perspective on woman's risk of pregnancy. The concluding Chapter – V, summarizes the findings of the study and suggests some policies and programmes which could be beneficial for future.

## *Chapter II*

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*Review Of Literature*

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## *Review Of Literature*

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The present chapter reviews earlier research done by various scholars on the different factors that influence males perspective towards woman's risk of pregnancy. The literature review also contains research studies on "contraceptive usage" as the use of any family planning method depends on the person's knowledge.

The review of literature is broadly arranged in the following manner :

1) demographic variables 2) socio - economic variables 3) cultural variable 4) exposure to media and 5) man's attitudinal variables. Demographic variables include age and number of living children. It is followed by socio - economic variables like place of residence, region, education, wealth index, occupation and marital status. Cultural variable include religion. The next is exposure to family planning message through media and men's attitudinal variables which include contraception users and non - users group during the last time had sex, males perception regarding male condom and contraception is a women's business or not. The national and state level studies are followed by international studies under each of the variables.

### *Demographic Variables*

#### *Age*

Age is an important factor which influence knowledge and usage of contraception. Adinma et al.,(2008) stated that misconceptions on menstruation amongst adolescents, cut across cultures and countries. Studies conducted in both developed and developing countries indicated the varying degree, to which adolescents exhibit a faulty perception of menstruation and menstrual cycle. Hossain (2003) mentioned that in Bangladesh, knowledge about the traditional male methods of contraception i.e., periodic abstinence was high among men than women and the likelihood regarding approval of family planning was highest in the age groups 10-24 and 25-29 year among the woman and her husband. Donovan (1995) observed that awareness and contraceptive usage was high among men in Jamaica but the usage declined with age, especially after age 50.

Singh et al., (1998) examined knowledge among men regarding menstrual cycle. Their intention was to know when a woman is most likely to conceive a child. They found that married men younger than 20 tended to know less than older men, but little variation was found between the remaining age groups. A similar situation was explained by Mahler (2000). He observed that woman's fertility knowledge was common among married men aged 25 or older than younger married men in the northern Indian state of Uttar Pradesh.

### **Number Of Living Children**

Bloom et al.,(2000) analyzed that in India ( Uttar Pradesh ) the experience of had at least one birth had a positive effect on the likelihood of knowing about fertile period compared with men with no births but this factor did not demonstrate a highly significant effect. A similar situation was observed by Mahler (2000) in India. He found that fertility knowledge was more common among men whose wife had given birth.

### ***Socio - Economic Variables***

#### **Place Of Residence**

Place of residence is found to be a strong correlate of method failure and method discontinuation. ( Essenghairi et al., 1991). Varga (2001) wrote that understanding of basic reproductive facts was often poor among adolescents male , particularly those in rural settings, though a more accurate description was that many teens were more ill-informed than uninformed. Agyei and Migadde (1995) observed that in Uganda, higher levels of traditional contraceptive knowledge, approval and usage were observed for urban as compared to rural respondents. In Zimbabwe, the proportion of men who had ever used a method (periodic abstinence) for spacing was significantly high among urban respondents ( Mbizvo and Adamchak,1991 ). The findings from the Uttar Pradesh Male Reproductive Health Survey concluded that when husbands were asked about the menstrual cycle ( when women are most likely to conceive a child ) the urban-rural differential was small, with only a slightly larger proportion of urban versus rural men replied the correct answers ( Singh et al.,1998 ).

## **Region**

Studies in some countries revealed that regional variations are found regarding knowledge, attitude and practice towards contraception. Goldberg and Toros (1994) examined that in Turkey, traditional methods were widely used in all regions but were significantly high in the North. About 60 percent used any traditional method in the North compared to all the other regions where 47-51 percent used any traditional method. In India, it was found that men's knowledge about the fertile period was stronger and statistically more significant in Nainital, Gonda and Aligar than in the other districts of Uttar Pradesh ( India ) like Banda and Kanpur. These districts were representing the Hill, Western, Central, Eastern and Bundelkhand regions, respectively (Bloom et al., 2000).

## **Education**

Agyei and Migadde (1995) found that in Uganda high levels of contraceptive knowledge and attitudes were associated with having post-primary education of respondents. A similar observation was reported by Agyei and Epema (1990). They found that contraceptive knowledge among adolescents in Uganda increased with educational level. Khalifa (1988) observed that all men in Sudan knew or heard of family planning. The most commonly known methods were rhythm method, prolonged lactation, pill, condom etc. The least reported method was male sterilization. The knowledge and approval of these family planning methods were strongly correlated with education achieved by men. In another study, Mostafavi et al.,(2006) found that in Iran, men who had post secondary school education were more likely to participate in family planning activities and in general increased education appeared to have a positive effect on the odds of using natural or modern contraceptive methods. Robinson ( n.d. ) had used the data which were taken from the Demographic and Health Survey ( DHS I) for nine developing countries. The results showed that education significantly contributed to the use of traditional contraception in Indonesia and Tunisia. The use of any family planning method depends on the person's knowledge of the different family planning methods available. In Ghana, the natural family planning method of abstinence and the withdrawal or rhythm method seemed to be common .

The majority of the participants who had had at least secondary school and post-secondary education, indicated that they had previously and currently used a means of contraception and intention of using contraceptives in the future was also high among them as compared with men with just primary education and those with no formal education. (Akafuah et al., 2008). In Egypt, Qayed (1998) found that greater education was associated with greater knowledge of all specific methods among males. Bloom et al.,(2000) observed that in Uttar Pradesh, larger proportions of men with higher educational levels demonstrated more knowledge about menstrual cycle than less educated men.

### **Wealth Index**

According to Moore (1999), overall level of reproduction health knowledge among men in Uttar Pradesh (India) was low. But men with high socioeconomic status were twice as likely to give the correct response regarding the fertile period in a woman's menstrual cycle when she is more likely to become pregnant, as were men with low status. A similar condition was again found by Mahler (2000) in Uttar Pradesh. He reported that fertility knowledge was more common among men who had greater number of household assets. Rao (1992) mentioned that economic status in Malaysia has a negative effect on the duration of breastfeeding and on the breastfeeding as a contraceptive method. He explained that for each one – unit increase in the wealth index, breastfeeding durations are reduced by six percent. This may be because wealthier families can afford to feed their infants on commercially available foods and need not rely on mother's milk. On the other hand wealthy women can afford commercially available contraceptives and may therefore need not rely on breastfeeding as a method. If a woman's wealth increases the odds of her reporting contraceptive use of breastfeeding are reduced by a factor of 0.86. Marsiglio (1993) found that young men in United States who lived in poorer conditions were less likely to use a contraceptive method at last intercourse.

## **Occupation**

There are some findings from an analysis done by some authors of World Fertility Survey (WFS). They discovered that husband's occupation has an effect, although a less pronounced one, on the average duration of breastfeeding. It was found that in all the study countries, women whose husbands had professional or clerical occupations breastfed their babies for a shorter time than those whose husbands were farmers or agricultural workers (Anonymous, 1981). Jain and Bongaarts (1981) considered World Fertility Survey which was conducted around 1976 in eight countries : Bangladesh, Indonesia, Sri Lanka, Jordan, Peru, Guyana, Colombia and Panama. They categorized husband's occupation into five groups which were (1) professional and clerical (2) sales and services (3) skilled and manual and (4) farmers and agricultural. According to their observation, it was found that average duration of breastfeeding for women whose husband's occupation fell in the first and fourth category was about 4 -7 months. This revealed the women whose husbands had professional or clerical occupations breastfed their babies for a shorter time than those whose husbands were farmers or agricultural workers. Tuloro et al .,(2006) found that in Southern Ethiopia, the practice of traditional family planning methods was more common among employed men compared to farmers or self-employed men.

In India, Bloom et al., (2000) observed that larger proportions of men in professional or white collar occupations demonstrated knowledge about conception during menstrual cycle than those were involved in business or worked as agricultural labourer, farmer or blue collar. Mahler (2000) explained that in Uttar Pradesh (India), compared with agricultural workers, men in blue – collar, business and professional positions were more likely to know when a women is most fertile.

## **Marital Status**

Kolawole et al.,(2002) found that in Nigeria, contraceptive knowledge was high among ever-married men aged 18–55. About 90 percent knew at least one method of family planning. Furthermore, knowledge support the level of contraceptive use among married men but level of use was such that men could participate in family planning activities if there were adequate programmes to involve them. Similar situation was examined by

Tuloro et al., (2006), in Southern Ethiopia where about 93.0 percent of married men reported that they had heard of family planning methods and 91.2 percent were familiar with at least one of the contraceptive methods. In another study, it was revealed that married men's use of any method is relatively high compared to that reported by their female counterparts but overall findings suggested that it was lack of knowledge amongst men concerning the means to prevent conception than the lack of male motivation that explained the low use of contraception within marriage (Hulton and Falkingham, 2003).

### *Cultural Variable*

#### **Religion**

Religious norms influence fertility which includes users and non – users of contraception. For example Schoenmaeckers et al., (1981) explained that a number of religions have elaborated rules which affect the timing and frequency of sexual relations between spouses. Many African religious traditions have promoted long periods of postpartum abstinence. McQuillan (2004), mentioned the first efforts at fertility control during 1920s and 1930s was relied largely on abstinence and the rhythm method. These were the only techniques which was approved by the Catholic Church. In Kassena-Nankana society, religion represented a determinant of reproductive beliefs and practices. Practitioners of traditional religion are engaged in practices that extend the durations of postpartum abstinence and breastfeeding. However, contraceptive-use differentials by religion are inconsequential (Adongo et al., 1998). Addai (1999) in year 1993, examined that current use of modern contraception is slightly higher among Protestant and other Christian women and lower among traditional, and Muslim women. For the Catholics as religious norms, doctrines, beliefs and ideals may be important for them in their reproductive regulation decision making process. In a study of fertility, contraceptive use and family planning program activity Aghajanian and Merhyar (1999) found that issues related to family planning have consistently received the approval of the majority in the Islamic Assembly (Majles) in Iran. Representatives from the religious community also have expressed their support for family planning at the annual population and family planning conference and have clarified the relationship between religion and birth

control. They are strongly opposed to abortion. Regarding contraceptive usage, traditional contraceptive methods have been used for a long time in Iran which accounted for about one-third of urban contraceptive use and approximately one-fifth of rural contraceptive use. Further authors have mentioned that government technocrats and religious leaders have played a strong role in the successes of Iran's family planning program.

### *Exposure To Family Planning Message Through Media*

Exposure to mass media has considerable influence on contraceptive knowledge and usage. In Netherlands, it was found that during 1960s subjects like sexuality, family planning and abortion, among others, were brought to the attention for free discussion and public opinion. This process of change had been accelerated by the communications revolution, especially television, which, in a relatively brief period, reached into virtually all Dutch households (Ketting,1983). A similar situation was found in Ghana during 1998 where respondents who had been exposed to family planning messages by means of television or newspapers or magazines were considerably more likely to be using a traditional method of contraception than those who had not been exposed (Parr,2001). Olaleye and Bankole (1992) had mentioned in their studies that in Ghana, mass media had an impact on contraceptive behaviour even when other socio – economic and attitudinal variables were controlled. Those who agree with the idea of family planning messages through the media were more likely to be users or intended users of contraception. The findings from Demographic and Health Surveys conducted during 1990s in Burkina Faso, Ghana, Kenya, Madagascar, Namibia and Zambia concluded that radio had the strongest influence on reproductive behaviour followed by print media and television (Westoff and Bankole,1997). Hossain in year 2003, mentioned that according to Bangladesh Demographic and Health Surveys (1996-97) nearly 70.0 percent of men reported that they had heard or seen a family planning message in one or four of the mass media (i.e., radio, television, bill board and newspaper / magazine). Men were much more likely than women to receive family planning messages through any of the mass media. Data also showed that 58.0 percent of men had heard a family planning message

on the radio, while 46.0 percent had seen a message on television. Even bill boards and news papers or magazines were important means of exposure to men, with one-third had received family planning messages from the former and one-fifth from the latter which could be the reason that men in Bangladesh have practiced birth control for years. Mohammadi et al., (2006) revealed that access to satellite television was positively associated with awareness regarding reproductive health knowledge among Iranian males .

### *Man's Attitudinal Variables*

#### **Users and Non – Users Group**

Two methods ( periodic abstinence and breastfeeding) have been considered in our study but we likely to know whether users and non-users of any contraceptive methods have correct perception regarding efficacy of breastfeeding and menstrual cycle. Thus we have considered users and non – users group, the last time they had sex with their partner. Boohene et al., (1991) examined that in Harare (Zimbabwe) 71 percent of never married men who had intercourse in the month before the survey did not use contraceptives. The leading reason for not using a method was ignorance of contraceptive methods. In Cochabamba ( Bolivia ) when questioned about current contraceptive use was asked, it was found that two-thirds of respondents said that they had used a method during the 30 days prior to the study. Forty-one percent of couples said they were using a modern contraceptive method, while 27 percent of men said they were using a traditional method. But 59 percent of the non contraception couples were at risk of pregnancy. Postpartum or breastfeeding, lack of information were important reason for non-use (Zambrana et al., 1998).

#### **Contraception Is Women's Business And A Men Should Not Have To Worry About It**

Blanc, (2001) mentioned that although men were often the primary decision makers in family planning decisions, they may leave the implementation of their decisions to their partners. This attitude was reinforced by services that were geared exclusively toward women leading men to consider family planning was “ women's

business". Grady et al.,(1996) examined the data from 1991 National Survey of Men (NSM) which was a nationally representative household survey of men aged 20-39 who were living in the coterminous United States. They found that black men were more likely than men of other races to view the decision to practice contraception as a woman's responsibility and less likely to view it as a man's responsibility. In Iran, it was found that men who believed that women were responsible for family planning and birth control were less likely to use family planning methods. In contrast, those who believed that it was the men's responsibility for family planning were more likely to use contraception ( Mostafavi, 2006 ). In another study held in Zimbabwe revealed that overall male respondents indicated that women should be responsible for obtaining family planning information and should obtain contraception supplies ( Mbizvo and Adamchak, 1991).

### **Perception : If A Male Condom Is Used Correctly, It Protects Against Pregnancy**

Marindo et al., (2003) examined that in Zimbabwe, adolescents males aged 14 - 20 what reported were misgivings information about condoms' effectiveness and about possible breakages that pose the risk of an unwanted pregnancy or sexually transmitted infections. In Iran, Mohammadi et al.,(2006) found that nearly three in four adolescents male were aware of condoms but few had in-depth knowledge. About half of the men knew that condoms are effective for preventing pregnancy. Similarly, in Uganda the great majority of men knew about condoms but only ten percent of respondents had correct perspective regarding condom and it's usage (Ringheim, 1999). Rob et al.,(2002) mentioned that there were widespread misconceptions about condom use was existed among men in Bangladesh as some men considered condom use as a sin.

We think that various other variables can influence male perspective on woman's risk of pregnancy but due to shortage of literatures we have to rely on the above mentioned variables which may be applicable to this study. In next chapter, a conceptual framework has been developed on the basis of these literature review.

## *Chapter III*

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### *Conceptual Framework*

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## *Conceptual Framework*

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A conceptual framework is a useful tool for understanding the relationship between the concepts which are to be examined from the empirical data. According to Botha (1989), a conceptual framework is a set of concepts which are linked in a planned manner to established behavior, function and relationship. i.e. a relational model. In this chapter, a conceptual framework ( Figure 3.1 ) has been developed on the basis of the literature review of the second chapter to analyze males perspective on woman's risk of pregnancy. The predictor variables which influence response variables are classified as demographic, socio – economic, cultural , media exposure and man's attitudinal characteristic. Some of the predictors variables are related with each other but the study is only restricted to the unidirectional relationship of the independent variable on the dependent variables. The following paragraphs elucidate how the different variables influence dependent variables.

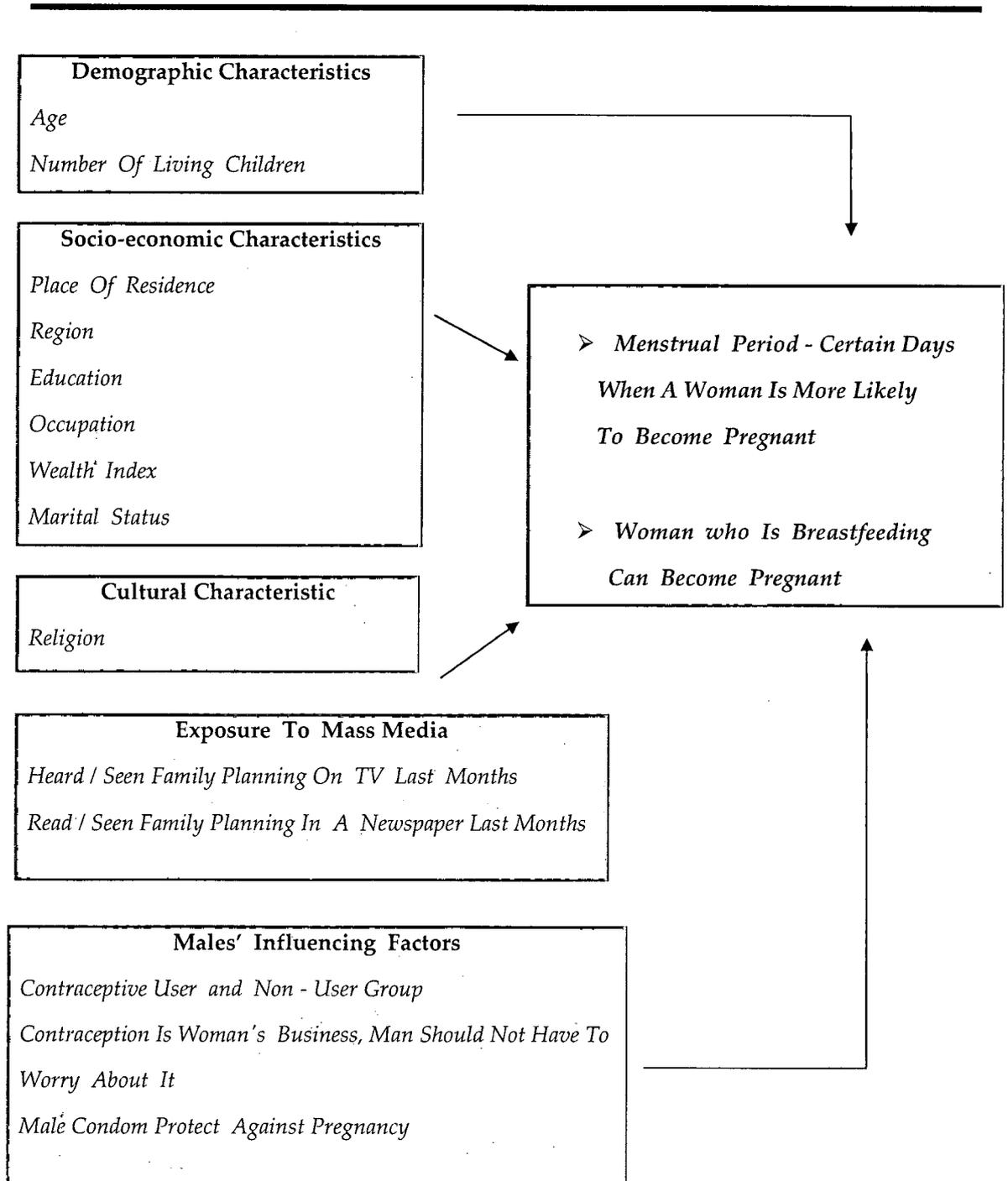
### **Demographic Characteristics**

Demographic variables include age and number of living children which have significant effect on men's perception as found in the literature. Unfavorable attitude and knowledge regarding family planning and reproductive physiology of women are seen among young adults. Older men (30 years and above), on the other hand, normally have correct perception about woman's risk of pregnancy ( Moore,1999 ). In addition, the experience of having at least one birth has a positive effect on the likelihood of knowing about fertile period compared with men with no births (Bloom et al., 2000).

### **Socio – Economic Characteristics**

The socio-economic dimensions are important to understand the variation of knowledge among men regarding woman's reproductive physiology. It was identified that socio-economic development played a key role in reducing fertility even without a very aggressive family planning program (Zuehlke,2009) and the motivation to use

**Figure 3.1. Framework For Analysis Of Male Perspective On Woman's Risk Of Pregnancy**



contraception was found to be more dependent on socioeconomic development than the government's family planning policy (Chen et al.,1990). The socio-economic characteristics which are considered in this study are education, place of residence, region , wealth index and occupation. Some studies have been conducted all over the world on knowledge and attitude regarding efficacy of contraceptive effects of breastfeeding and periodic abstinence. Bloom et al., (2000) found that these are higher among men who have post-primary or higher level of education. In addition, urban men who are married and possess of assets are much more aware of woman's fertile period ( Mahler, 2000 ). On the other hand, some literature reveals that place of residence, economic and marital status, occupation, years spent in school, all made a difference as expected with regard to those having correct knowledge about the fecund period, but none of these factors made a significant difference among those who have misconception about fecund period (Phimmasone et al.,1994). Therefore the effects of improved socio-economic status are not clear but they play an important role.

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### **Cultural Characteristic**

Cultural characteristic includes religion. The religious norms has an influence on contraception usage. Different authors have explained in their studies that there are many religions communities which still exist, have elaborated rules over couples which are affecting the timing and frequency of sexual relations ( Schoenmaeckers et al.,1981; McQuillan,2004;Adongoet al.,1998).Regarding contraceptive usage, traditional contraceptive methods have been used for a long time and popular among some religious communities compared with induced abortion and modern contraceptive methods ( Aghajanian and Merhyar, 1999).

### **Exposure to Media**

Some authors revealed that the attitudinal change among men regarding perception about natural contraception was due to exposure to family planning message through media which could be a source and it would increase the use of family planning methods (Parr, 2001).



## **Man's Attitudinal Characteristics**

In several studies, it is found that man's attitudes and beliefs have an effect on their knowledge and use of family planning methods. Those who believe that women are responsible for family planning and birth control are less likely to use family planning methods. In contrast, those who approve man's acceptance of responsibility for family planning are more likely to use any methods (Grady et al.,1996). Similarly, adolescents are aware of condoms but a few have in-depth knowledge that they are effective for preventing pregnancy (Mohammadi et al.,2006). Finally, the number of contraceptive methods known by men are associated with an increased likelihood of contraceptive user group (Kulczyck,2008).

## *Hypotheses*

Based on literature review and relationship explained through conceptual framework, the following hypotheses have been formulated :

- According to literature, fertility knowledge was more common among men aged 25 or older than younger men and their wives had given birth at least once or have achieved desired family size. Thus a hypothesis of the study is that young adults will have incorrect perception about woman's risk of pregnancy.
- Educational attainment was a significant predictor of knowledge examined during literature review. A difference of 10 years in educational attainment between men was associated with a near doubling of the odds ratios for knowledge on fertile period. Therefore it is hypothesized that higher the education level of a man, lower will be the misconception about ovulation period and pregnancy during breastfeeding.
- Some scholars had observed that fertility decline had coincided with an increase in the percentage of respondents ( who are in the reproductive ages ) were exposed to family planning messages through media because it had increased the use of contraception. So men who get an exposure to family planning message through television or newspaper will more likely to have correct knowledge.

- In the literature we have found that men's positive attitude was jointly determined by the motivation to practice male contraception especially condom. Therefore those men who have correct perception and positive attitude towards male condom and who believe that contraception is not just woman's business will show correct knowledge regarding selected two natural contraception.

### *Data Source*

Data for this study has been obtained from the third National Family Health Survey (NFHS-3), conducted in 2005-06. This survey was coordinated by the International Institute for Population Sciences (IIPS) under the aegis of the Government of India which collected information from a nationally representative sample of 109,041 households, 124,385 women age 15-49, and 74,369 men age 15-54. NFHS-3 covered all 29 states in India, which comprise more than 99 percent of India's population and provides information on fertility, mortality, family planning, HIV-related knowledge, and important aspects of nutrition, health, and health care. The sample size in the NFHS is large and this gives lots of scope to the researchers to do the analysis which is statistically significant as well. Three types of questionnaires was used in NFHS-3 : the Household Questionnaire, the Woman's Questionnaire, and the Man's Questionnaire.

In this study, we have used information from four sections of the Man's Questionnaire : respondent's background, reproduction, contraception and male involvement, marriage and sexual life. Further, man's file has been used and men aged 15-54 have been considered. The measurement of other variables are described below.

### *Measurement Of Variables*

In this study, most of the variables are not continuous variables and each variables are available in certain categories which are represented by a unique code but code do not bear any numerical variables. The coding schemes of the response and predictor variables are as follows :

## Response Variables

The response or dependent variables are those variables which are influenced by independent variables. There are two dependent variables which are developed from the three questions related to woman's risk of pregnancy. They are :

**Q.No. 311.** From one menstrual period to the next, are there certain days when a woman is more likely to become pregnant if she has sexual relations?

**Q.No. 312.** Is this time just before her period begins, during her period, right after her period has ended, or halfway between two periods?

**Q.No. 313.** Do you think that a woman who is breastfeeding her baby can become pregnant?

**1. Knowledge Of Ovulatory Cycle (  $Y_1$  ) :** Based on knowledge of menstrual period, men have been grouped into three categories. Those men who have replied that a woman has the greatest chance of becoming pregnant in the middle of her ovulatory cycle are considered as correctly reported whereas those who have mentioned other options except this are grouped under incorrectly reported . Lastly who are unsure or do not know the answer or gave an answer that did not fit the standard coded categories which is unpredicted, are in the 'do not know' category.

Correctly Reported : 1

Incorrectly Reported : 2

Don't Know : 3

**2. Can A Woman Who Is Breastfeeding Her Baby Get Pregnant (  $Y_2$  ) :**

Man's knowledge about the contraceptive effects of breastfeeding are grouped into three categories. Those who agree on the statement that woman who is breastfeeding her baby can become pregnant, termed- as " yes " and " no " for vice-versa.

Men who are unsure or do not know or said " depends " are appeared to 'do not know' category.

Yes : 1

No : 2

Don't know : 3

## **Predictor Variables**

The predictor or independent variables are those variables which have an influence on the response variables. A change in these will cause a change in the dependent variables. The coding structure of the independent variables are mentioned below.

1. *Age of man (X<sub>1</sub>)* : Based on age in years, men have been grouped into eight categories.

15-19 : 8

20-24 : 7

25-29 : 6

30-34 : 5

35-39 : 4

40-44 : 3

45-49 : 2

50-54 : 1

2. *Place of residence (X<sub>2</sub>)* : Residence has been coded as :

Urban : 1

Rural : 2

3. *Education (X<sub>3</sub>)* : Education is one of the major socio- economic factors that influence a person's behavior and attitudes. Educational categories are :

No education : 1

Primary : 2

Higher : 3

Secondary : 4

4. *Wealth Index (X<sub>4</sub>)* : An index of the economic status of households is called the wealth index which is based on the 33 assets and housing characteristics. ( In the NFHS-3 wealth index is based on the following 33 assets and housing characteristics: household electrification; type of windows; drinking water source; type of toilet facility; type of flooring; material of exterior walls; type of roofing; cooking fuel; house ownership; number of household members per sleeping room; ownership of a bank or post-office account; and ownership of a mattress, a pressure cooker, a chair, a cot/bed, a table, an electric fan, a radio/transistor, a black and white television, a colour television, a sewing

machine, a mobile telephone, any other telephone, a computer, a refrigerator, a watch or clock, a bicycle, a motorcycle or scooter, an animal-drawn cart, a car, a water pump, a thresher, and a tractor ). In NFHS-3, a wealth index has been developed for the whole sample and for the country as a whole. The sample is then divided into quintiles i.e., five groups with an equal number of individuals in each which are classified as :

Poorest : 1

Poorer : 2

Middle : 3

Richer : 4

Richest : 5

**5. Occupation (  $X_5$  ) :** Men who are currently employed or have worked in the 12 months preceding the survey are asked about their occupations. The coding scheme for this variable is :

Not Working : 1

Other Worker : 2

Professional (Includes Technical, Administrative, and Managerial Occupations) : 3

Sales Worker : 4

Agricultural Worker : 5

Production Worker ( Include Skilled and Unskilled Manual Occupations ) : 6

**6. Religion (  $X_6$  ) :** Hindus form a major religious group, the other religious groups such as Muslim, Christen, Sikh, Buddhist, Jain and others are clubbed together as non - Hindus.

Hindus : 1

Non-Hindus : 2

**Exposure To Family Planning Message Through Media (  $X_7$  ) and (  $X_8$  ) :** A man is considered to be exposed to family planning message through media if he had heard or seen any message about family planning in the last few months. Thus two media have been selected.

**7. On The Television (T.V.) - (X<sub>7</sub>)**

No : 1

Yes : 2

**8. In A Newspaper Or Magazine - (X<sub>8</sub>)**

No : 1

Yes : 2

Certain questions have been asked to analysis the males attitude towards contraception. Two questions have been considered for this study on the basis of available literature.

**9. Contraception Is Women's Business And A Men Should Not Have To Worry About It (X<sub>9</sub>)** : Those men who agree on the statement that contraception is women's business and a men should not have to worry about it, termed as "agree" and "disagree" for vice-versa. Men who are unsure or do not know are in 'do not know' category.

Don't Know : 1

Agree : 2

Disagree : 3

**10. If A Male Condom Is Used Correctly, Do You Think That It Protects Against Pregnancy (X<sub>10</sub>)** : Men who have different perception about male condom are grouped into three categories whereas those who replied that they are unsure or do not have any knowledge regarding this are clubbed together as don't know category. The coding scheme is as follows :

Don't Know / Unsure : 1

Not at all : 2

Sometimes : 3

Most of the time : 4

**11. Contraception Users and Non – Users (X<sub>11</sub>) :**

In NFHS-3, all men who reported ever having sex are asked whether they or their partner used any contraceptive method the last time they had sex. Contraceptive use in

man's file cannot be compared with current contraceptive use among women in woman's file because men are not asked about their current use of contraception. But on the basis of usage ( the last time they had sex ) a new variable is created after clubbed together all contraceptive methods. The men are classified and coded like this :

Contraceptive Users Group ( Include all methods ) : 1

Contraceptive Non - Users Group ( Include - not at all ) : 2

**12. Region (  $X_{12}$  ) :** All states of India are clubbed under following regions.

Northeast - ( Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim, Tripura ) : 1

North - ( Delhi ,Haryana ,Himachal Pradesh ,Jammu & Kashmir, Punjab, Rajasthan , Uttaranchal ) : 2

West - ( Goa, Gujarat, Maharashtra ) : 3

East - ( Bihar , Jharkhand , Orissa , West Bengal ) : 4

South - ( Andhra Pradesh, Karnataka, Kerala, Tamil Nadu ) : 5

Central - ( Chhattisgarh , Madhya Pradesh , Uttar Pradesh ) : 6

Two variables are considered while doing bivariate analysis but in multivariate analysis, these variables have been removed. The coding scheme for the variables are as follow :

**13. Number Of Living Children (  $X_{13}$  ) :** This variable include number of living children which are categorized as -

No birth : 1

One or more than one : 2

**14. Marital Status (  $X_{14}$  ) :** Marriage is the accepted social sanction required for a man and woman to live together and to enter into a legitimate sexual relationship for the biological continuation of the population. Regarding marital status, a man is considered unmarried when he was not enter in a social sanction . On the other hand, the duration spent by men outside the state of marriage union because of wife's death, separation, divorce are termed as formally married. These categories are clubbed and coded like this :

Never married : 1

Ever married : 2

## *Methodology*

The hypotheses that have been developed followed by two objectives will be empirically tested using statistical techniques. For all statistical analysis, SPSS version 16.0 package has been used. The study uses the following quantitative research methods :

A. To make population inferences, we first weighted the data.

**B. *Univariate Analysis*:** An analysis has been carried out in order to study the frequency distribution of response and predictor variables.

**C.1. *Bivariate Analysis* :** Bivariate analysis has been observed between men's perspective on woman's risk of pregnancy and background characteristics. Association between two categorical and nominal variables is examined with the help of cross – tabulation table. A cross tabulation is that where each row or column is a frequency table of one variable for observations falling within a specific category of the other variables. Cross - tabulation permit comparisons between groups. In our case, percentage of men of various background characteristics and perspective of male on woman's risk of pregnancy have been compared. After that  $X^2$  ( chi-square ) test has been used to draw conclusion about strong association between variables ( Beri, 2005 ).

**C.2.** Once the data reveal some association between two variables, the next step is to observe the pattern of existing relationship using regression. But sometime a high degree of correlation between the independent variables, reduces the reliability of the regression co-efficient. Thus correlation matrix has been used to avoid the problem of multicollinearity and Karl Pearson bivariate correlation analysis has been carried out among the predictor variables to understand the nature of relationship between them. The Karl Pearson co-efficient of correlation ' r ' between two variables x and y is calculated as :

$$r = \frac{\sum x}{N \sigma_x \cdot \sigma_y}$$

where  $x = (X - \bar{X})$ ,  $y = (Y - \bar{Y})$ ,  $\sum x y =$  sum of the product of deviations in X and Y series from their arithmetic means,  $\sigma_x =$  standard deviation of the series X,  $\sigma_y =$  standard deviation of the series Y and  $N =$  total number of pair of observations. The value of 'r' ranges between -1 and +1. If r is -1, it shows that there is a perfect negative correlation. If r is +1, then it is a case of perfect positive correlation between the two series. From correlation matrix, strong correlation is identified and closely related variables are removed from the regression equation (Beri, 2005).

**D. Multivariate Analysis :** A multivariate logistic regression analysis has been used to examine the net effect of predictor variables on the response variables. Since the response variables is in three categories and not normally distributed, we have used multinomial logistic regression. In this analysis, the relationship between the response variable and predictor variable is better understood as the influence of other variables are controlled. In multinomial logistic regression, the categories of the response variable are mutually exclusive and exhaustive so as a sample member should fall in only of the categories. In this analysis, the reference category is taken as " Yes or Correct " and the predictor variables have been mentioned in next chapter.

P1 : estimated probability of correct perception about efficacy of contraceptive effects of breastfeeding ( Yes ) and periodic abstinence ( Reported Correctly ) .

P2 : estimated probability of incorrect perception about efficacy of contraceptive effects of breastfeeding ( No ) and periodic abstinence ( Reported Incorrectly ) .

P3 : estimated probability of absence of knowledge ( Don't know ) about breastfeeding and periodic abstinence.

Thus, the multinomial logit model consists of two equations and a constraint :

$$\text{Log } P2 / P1 = a_1 + b_1 M + C_1 H + d_1 I \dots\dots \quad (1)$$

$$\text{Log } P3 / P1 = a_2 + b_2 M + C_2 H + d_2 I \dots\dots \quad (2)$$

$$P_1 + P_2 + P_3 = 1 \dots\dots \quad (3)$$

In these equations, logarithms are natural logarithms ( base e ). In general, the number of model equations ( including the constraint ) equals the number of categories of the response variable. Therefore, the quantities  $P_2 / P_1$  and  $P_3 / P_1$  in equation (1) and (2) are not odds but for convenience may be referred simply as odds. Each of these odds has for its denominator the probability of the reference category of the response variable. The model of (1) can be fitted by the method of maximum likelihood. In multinomial logit regression the interpretation of the coefficients is not as straight forward. Therefore, in presenting results of multinomial logit regression analysis, we deemphasize the odds and log odds and focus instead on the effects of the predictor variables directly on  $P_1$ ,  $P_2$  and  $P_3$  ( see details in Retherford and Choe, 1993 ). All above methodologies have been followed and statistical analysis have been conducted in next chapter.

*Chapter IV*

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*Analysis Of Perspective Of Males On  
Woman's Risk Of Pregnancy In India*

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## *An Analysis Of Perspective Of Males On Woman's Risk Of Pregnancy In India*

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This chapter first presents the percentage distribution of men by the response variables. To identify the influences of predictor variables on response variables, we conducted bivariate analysis which is followed by a correlation analysis among predictor variables. Finally, to evaluate the relative importance of predictor variables, we conducted multinomial logistic regression analysis as the response variables contains three categories.

### Response Variables

#### *A) Menstrual period - certain days when a woman is more likely to become pregnant :*

Table 4.1, describes the percentages of men aged 15-54. The table shows that an accurate knowledge of the fertile period is very limited in India and indeed the whole concept of conception during the monthly cycle is largely unfamiliar. Only 13.8 percent of men responded correctly that the most fertile period is in the middle of the monthly cycle. A large majority either reported incorrectly (50.8 percent) or replied don't know (35.3 percent). Further, the Table 4.1 shows that there are large state variations regarding correct knowledge of ovulatory cycle. The percentage of men who know that the most fertile period is in the middle of the monthly cycle ranges from 3.3 percent in Jharkhand to 48.6 percent in Delhi. The states with the highest proportions of men who don't have any knowledge about menstruation period are Karnataka (54.1percent), Tamil Nadu (51.0 percent), Andhra Pradesh (49.7 percent) and Meghalaya (49.6percent). Table 4.2 and Fig 4.1 show the percent distribution of never married and ever married men by the knowledge of the fertile period during the ovulatory cycle. The findings show that accurate knowledge of the reproductive cycle is limited among never married men. Only 7.1 percent of never married men have given correct response while 56.0 percent don't have any knowledge.

On the other hand, 17.3 percent of ever married men have replied that a woman has the greatest chance of becoming pregnant in the middle of her ovulatory cycle whereas 58.1 percent of ever married men incorrectly reported about ovulation.

**Table 4.1**

**Percentage of men aged 15 - 54 who are correct, incorrect or don't know about menstrual period, by state, India, 2005-06**

Reported \ State					
Correct		Incorrect		Don't Know	
Arunachal Pradesh	10.3	Arunachal Pradesh	60.6	Arunachal Pradesh	29.1
Assam	16.7	Assam	35.3	Assam	47.9
Andhra Pradesh	27.6	Andhra Pradesh	22.5	Andhra Pradesh	49.7
Bihar	9.9	Bihar	51.4	Bihar	38.7
Chhatisgarh	5.1	Chhatisgarh	77.2	Chhatisgarh	17.7
Delhi	48.6	Delhi	27.5	Delhi	23.8
Goa	14.4	Goa	61.5	Goa	24.0
Gujarat	15.7	Gujarat	67.0	Gujarat	17.2
Haryana	17.9	Haryana	46.6	Haryana	35.5
Himachal Pradesh	4.4	Himachal Pradesh	59.4	Himachal Pradesh	36.1
Jharkhand	3.3	Jharkhand	72.5	Jharkhand	24.2
Jammu and Kashmir	7.8	Jammu and Kashmir	56.4	Jammu and Kashmir	35.8
Karnataka	8.4	Kerala	32.9	Kerala	47.0
Kerala	20.1	Karnataka	37.4	Karnataka	54.1
Mizoram	5.2	Meghalaya	39.4	Madhya Pradesh	23.9
Madhya Pradesh	9.8	Manipur	40.3	Manipur	26.9
Meghalaya	10.7	Maharashtra	53.0	Mizoram	29.0
Maharashtra	11.1	Mizoram	65.6	Maharashtra	35.8
Manipur	32.7	Madhya Pradesh	66.3	Meghalaya	49.6
Nagaland	24.1	Nagaland	45.5	Nagaland	30.4
Orissa	12.6	Orissa	40.5	Orissa	46.7
Punjab	21.8	Punjab	42.0	Punjab	36.2
Rajasthan	13.2	Rajasthan	66.3	Rajasthan	20.5
Sikkim	12.8	Sikkim	63.7	Sikkim	23.5
Tripura	8.6	Tamil Nadu	37.5	Tripura	10.8
Tamil Nadu	11.4	Tripura	80.6	Tamil Nadu	51.0
Uttaranchal	11.2	Uttaranchal	43.7	Uttar Pradesh	33.5
Uttar Pradesh	11.9	Uttar Pradesh	54.5	Uttaranchal	44.8
West Bengal	12.9	West Bengal	61.7	West Bengal	25.4
<b>INDIA</b>	<b>13.8</b>		<b>50.8</b>		<b>35.3</b>

Source : Computed from raw data, IIPS, 2007.

As expected, men who use periodic abstinence are considerably more knowledgeable about the ovulatory cycle than men who are non-rhythm method users but the proportion of correct response is small while incorrect response is large. Only 34.2 percent of men who are using periodic abstinence have correct knowledge of the fertile period compared with 18.9 percent of men who are not using this method. Even among those men who claimed to have practiced periodic abstinence, a large majority (62.7 percent) reported incorrect response compared with 56.6 percent who are non – rhythm users ( Table 4.2 and Fig 4.2 ).

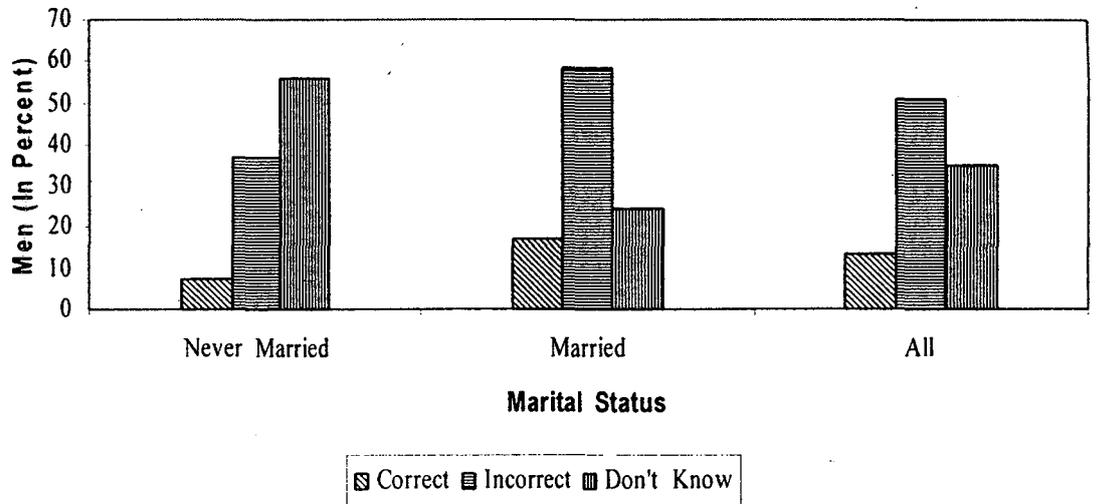
**Table 4.2**

**Percentage distribution of never married and ever married men, users and nonusers of rhythm method by men aged 15-54 by the knowledge of the fertile period, India, 2005-06**

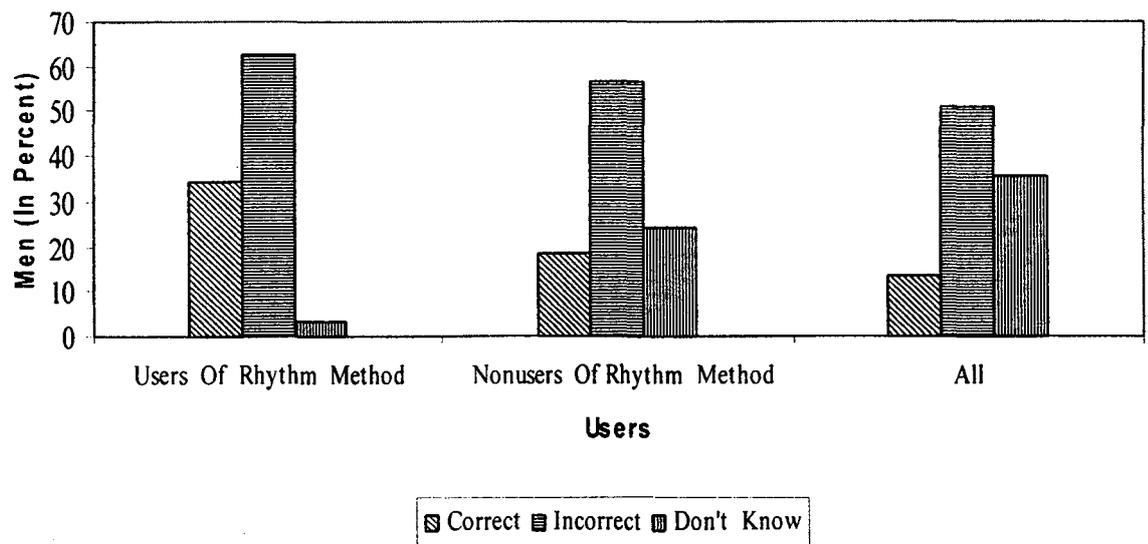
<b>Fertile Period</b>	<b>Never Married</b>	<b>Ever Married</b>	<b>All</b>	<b>Users Of Rhythm Method</b>	<b>Nonusers Of Rhythm Method</b>
During her period	5	8.5	7.3	10.1	8.8
After period ended	9.2	32.5	24.6	43.8	33
Middle of the cycle	7.1	17.3	13.8	34.2	18.9
Before period begins	2.6	4.7	4.0	6	4.5
At any time	19.9	12.2	14.9	2.5	10.2
Other	0.1	0.1	0.1	0.3	0.1
Don't know	56	24.6	35.3	3.2	24.4
Correctly Reported	7.1	17.3	13.8	34.2	18.9
Incorrectly Reported	36.8	58.1	50.8	62.7	56.6
Don't Know	56	24.6	35.3	3.2	24.4
<b>Total</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>

Source : Computed from raw data, IIPS, 2007.

**Fig 4.1. Percentage Distribution Of The Knowledge About Fertile Period, India, 2005-06**



**Fig 4.2. Percentage Distribution Of The Knowledge About Fertile Period, India, 2005-06**



***B.) Woman who is breastfeeding her baby can become pregnant :***

To determine whether men have sufficient knowledge of reproductive physiology for the successful practice of LAM by their partners, respondents are asked about contraceptive effects of breastfeeding. In Table 4.3 we present men's knowledge of the contraceptive effects of breastfeeding which is large in proportion as compare to the knowledge of the fertile period. Nearly half of the men agree on the statement that woman who is breastfeeding her baby can become pregnant whereas only 23.5 percent of men disagree and 27.0 percent don't have any knowledge. Table 4.3 shows that there are large variations regarding correct knowledge of contraceptive effects of breastfeeding among states of India. The percentage of men who responded "yes" regarding the statement that woman who is breastfeeding her baby can become pregnant, ranges from 19.3 percent in Meghalaya to 84.3 percent in Mizoram. The states with the highest proportions of men who don't have any knowledge about breastfeeding are Meghalaya (53.4 percent), Arunachal Pradesh (41.9 percent), Haryana (40.1 percent) and Kerala (37.6 percent). States such as Karnataka (38.4 percent), Delhi (35.6 percent), Goa (35.5 percent), Chhattisgarh (35.0 percent), Gujarat (35.0 percent) and Jharkhand (31.8 percent) reveal high proportion of men who say "no" to the statement on breastfeeding.

The percentage distribution of never married and ever married men by the knowledge of the contraceptive effects of breastfeeding are shown in Table 4.4 and Fig 4.3. The table shows that accurate knowledge of the reproductive physiology related to breastfeeding is limited among never married men. Only 33.6 percent of men who are never married, said "yes" regarding the statement that woman who is breastfeeding her baby can become pregnant as compared with ever married men (57.6 percent). The proportion of ever married men is slightly higher than the national percentage (49.4 percent). On the other hand, 44.8 percent of never married men do not have any knowledge regarding this.

**Table 4.3**

**Percentage of men aged 15 - 54 who agree, disagree or don't know about knowledge of pregnancy during breastfeeding, by state, India, 2005-06**

Reported \ State					
Yes		No		Don't Know	
Assam	44.9	Assam	22.4	Assam	32.7
Andhra Pradesh	50.3	Andhra Pradesh	15.0	Andhra Pradesh	34.4
Arunachal Pradesh	31.6	Arunachal Pradesh	26.5	Arunachal Pradesh	41.9
Bihar	55.2	Bihar	24.6	Bihar	20.3
Chhattisgarh	47.8	Chhattisgarh	35.0	Chhattisgarh	17.2
Delhi	44.1	Delhi	35.6	Delhi	20.2
Goa	35.6	Gujarat	34.1	Gujarat	23.4
Gujarat	42.3	Goa	35.5	Goa	28.9
Haryana	41.9	Haryana	18.0	Himachal Pradesh	27.3
Himachal Pradesh	49.3	Himachal Pradesh	23.3	Haryana	40.1
Jharkhand	44.9	Jammu & Kashmir	12.2	Jharkhand	23.3
Jammu & Kashmir	52.6	Jharkhand	31.8	Jammu & Kashmir	34.9
Karnataka	32.3	Kerala	16.5	Karnataka	29.3
Kerala	45.9	Karnataka	38.4	Kerala	37.6
Meghalaya	19.3	Mizoram	7.8	Mizoram	7.8
Madhya Pradesh	47.7	Manipur	16.8	Madhya Pradesh	23.2
Maharashtra	49.1	Maharashtra	26.0	Manipur	24.4
Manipur	58.5	Meghalaya	26.9	Maharashtra	24.8
Mizoram	84.3	Madhya Pradesh	29.2	Meghalaya	53.4
Nagaland	45.9	Nagaland	20.4	Nagaland	33.7
Orissa	52.9	Orissa	17.3	Orissa	29.6
Punjab	49.0	Punjab	19.0	Punjab	32.1
Rajasthan	58.4	Rajasthan	28.5	Rajasthan	13.1
Tripura	45.7	Tamil Nadu	18.6	Sikkim	19.5
Tamil Nadu	49.3	Tripura	25.7	Tripura	28.5
Sikkim	66.6	Sikkim	13.9	Tamil Nadu	32.1
Uttaranchal	51.1	Uttar Pradesh	15.6	Uttar Pradesh	31.0
Uttar Pradesh	53.3	Uttaranchal	16.3	Uttaranchal	32.5
West Bengal	56.8	West Bengal	21.6	West Bengal	21.6
<b>INDIA</b>	<b>49.4</b>		<b>23.5</b>		<b>27.0</b>

Source : Computed from raw data, IIPS, 2007.

Table 4.4 and Fig 4.4 show, among users of the rhythm method, 61.2 percent are able to show correct knowledge, although about 24.2 percent incorrectly reported that a woman who is breastfeeding her baby cannot become pregnant. A similar pattern is observed for men who are non-users of the rhythm method, 58.8 percent of them stated correctly whereas 24.1 percent reported are incorrect response. The proportion of men who have no knowledge about contraceptive effects of breastfeeding is low among users of the rhythm method (14.5 percent) as compared with non-users of the rhythm method (17.1 percent).

From all the tables, we can conclude that both ever married and never married men, have to be provided specific knowledge on female reproductive physiology.

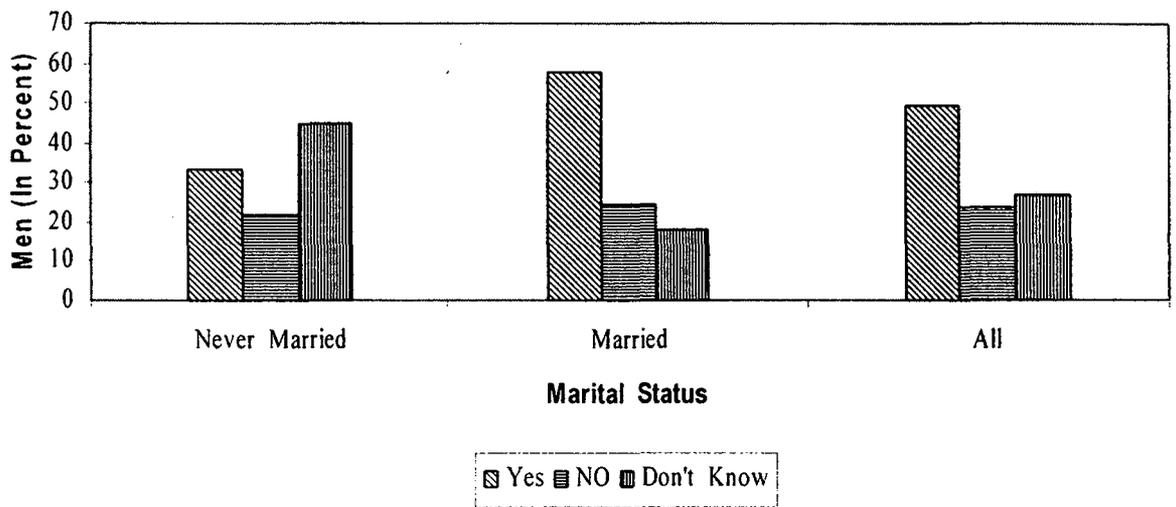
**Table 4.4.**

**Percentage distribution of unmarried and married men, users and nonusers of rhythm method by men aged 15-54 by the knowledge of the contraceptive effects of breastfeeding, India, 2005-06**

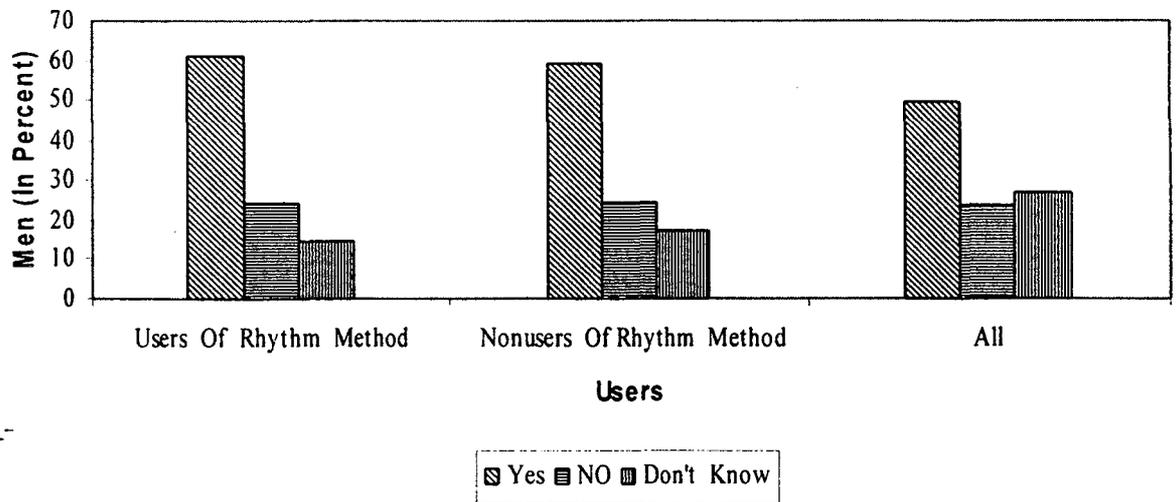
Woman who is breastfeeding her baby can become pregnant	Ever			Users Of	Nonusers Of
	Never Married	Married	All	Rhythm Method	Rhythm Method
Yes	33.6	57.6	49.4	61.2	58.8
No	21.6	24.4	23.5	24.2	24.1
Depend	4.6	4.5	4.5	4.5	4.9
Don't Know	40.2	13.4	22.5	10.0	12.2
Agree	33.6	57.6	49.4	61.2	58.8
Disagree	21.6	24.4	23.5	24.2	24.1
Don't Know	44.8	17.9	27.0	14.5	17.1
Total	100	100	100	100	100

Source : Computed from raw data, IIPS, 2007.

**Fig 4.3. Percentage Distribution Of The Knowledge About Pregnancy During Breastfeeding,India,2005-06**



**Fig 4.4. Percentage Distribution Of The Knowledge About Pregnancy During Breastfeeding,India, 2005-06**



## Predictor Variables

Table 4.5 describes the number and percentage distribution of male respondents by background characteristics. Male respondents are more or less evenly distributed in terms of ages 15 - 44 years; 17.5 percent in the age group 15-19 years, 16.1 percent in the age group 20-24 years to 10.9 percent in the age group 40-44 years. Only 6.2 percent of men are found in the age group 45-49 years. Notably, of all men interviewed, 6.2 percent are aged 50-54. The distribution of men by number of living children shows that 52.1 percent have no children whereas 47.9 percent have one or more than one living children. Regarding place of residence, there is much difference in the rural urban distribution. Less than two third of the men aged 15-54 is in rural areas which shows they are more likely to be rural than urban ( 36.5 percent ). According to region, highest proportion of men are found in the states of Central, South and Eastern regions whereas lowest proportion is in Northeast Region. The distribution of men by education reveals a low educational attainment among men in India. About 18.5 percent of men aged 15-54, have no education and an additional 17 percent of men have been to school for primary education. Only 12.4 percent of men have achieved higher education as compared with 52.0 percent of men with secondary education level.

As mentioned in NFHS-3, men in the reproductive ages ( 15-54 ) are eligible for interview and thus it is to be expected that the majority of respondents will be married. The percentage of ever married men are 65.9 percent and 34.1 percent are never married. The distribution of men by the wealth index shows that men are more likely to be in the top two upper wealth quintiles (45.8 percent) and less likely to be in the lowest wealth quintile (15.8 percent). An examination of occupational distribution of men employed in the 12 months preceding the survey shows there are no single occupation which accounts for the majority of employed men. Nearly one-third of men are skilled or unskilled production workers and agricultural workers. However a small proportions of employed men (9.5 percent) are professionals. In India, different religious communities are found but as it can be expected that majority of men are Hindus (82.0 percent) and a minority are non Hindus (17.9 percent).

Media have played an important role in promoting the family welfare programme in India. In NFHS-3, men were asked if they had seen or heard any message about family planning on the television, in a newspaper or magazine, few months prior to the survey. Table 4.5 shows men are more likely to be exposed to media messages on family planning through T.V. (63.6 percent) as compared with print media (49.9 percent). Awareness about family planning message, information on men's attitudes about contraception which may influence their partner's or wife's attitudes and eventual adoption of a contraceptive method are also necessary. In NFHS-3, all men were asked if they agreed or disagreed with certain statements about contraceptive use. Additionally, they are asked about the effectiveness of condom use.

As shown in Table 4.5, only 34.2 percent of men are contraceptive users whereas 65.8 percent are non – users, the last time they had sex. Regarding attitude, 21.8 percent are agree on the statement that contraception is women's business and that a man should not have to worry about it. On the subject of perception about the effectiveness of condom use, almost two-thirds of men know that if a male condom is used correctly it protects against pregnancy most of the time; 15.3 percent said it protects against pregnancy only sometimes and 2.4 percent said that it provides no protection at all. One-sixth do not know the answer or unsure about it. All the above examinations are based on univariate analysis. In next section bivariate analysis has been done.

**Table 4.5**  
**Percentage distribution of men aged 15-54 by predictor variables, India, 2005-06**

Predictor Variable	Weighted Percentage	Number Of Men
<b>Age</b>		
15-19	17.5	13078
20-24	16.1	12460
25-29	14.6	11057
30-34	13.1	9764
35-39	12.5	9140
40-44	10.9	7794
45-49	9.1	6541
50-54	6.2	4535
<b>Number Of Living Children</b>		
No Birth	52.1	41189
One Or More Than One	47.9	33180
<b>Place Of Residence</b>		
Urban	36.5	38199
Rural	63.5	36170
<b>Highest Education Level</b>		
No education	18.5	10696
Primary	17.0	11474
Secondary	52.0	40745
Higher	12.4	11423
<b>Marital Status</b>		
Never married	34.1	28486
Ever married	65.9	45883
<b>Wealth Index</b>		
Poorest	15.8	7085
Poorer	18.1	10278
Middle	20.4	14865
Richer	22.2	19346
Richest	23.6	22795
<b>Occupation</b>		
Production Worker	31.4	23220
Agricultural Worker	29.7	17300
Sales	11.9	9740
Professional	9.5	9095
Others	4.6	3951
Not Working	12.7	10939

Continued ....

Continued ....

**Table 4.5**  
**Percentage distribution of men aged 15-54 by predictor variables, India, 2005-06**

Predictor Variable	Weighted Percentage	Number Of Men
<b>Region</b>		
North	14.1	8445
Central	23.4	15567
East	20.6	6471
Northeast	4.0	12933
West	16.2	11480
South	21.6	19473
<b>Religion</b>		
Hindu	82.0	54723
Non-Hindu	17.9	19632
<b>Heard / Seen FP On TV Last Months</b>		
No	36.4	22958
Yes	63.6	51399
<b>Read / Seen FP Newspaper Last Months</b>		
No	50.1	34153
Yes	49.9	40202
<b>Contraceptive Group</b>		
Contraceptive Non-User Group	65.8	50923
Contraceptive User Group	34.2	23446
<b>Contraception Is Woman's Business, Man Should Not Worry</b>		
Disagree	69.2	52729
Agree	21.8	15015
DK	9	6600
<b>Male Condom Protect Against Pregnancy</b>		
Most of the time	65.4	49980
Sometimes	15.3	10789
Not at all	2.4	1879
Does not know male condoms	7.4	4597
DK/unsure	9.2	6841
<b>Total age 15 - 54</b>	<b>100</b>	<b>74369</b>

Source : Computed from raw data, IIPS, 2007.

## *Bivariate Analysis*

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This section presents a bivariate analysis between dependent variables and independent variables and the statistical association between them. The results of the bivariate analysis are shown in Table 4.6 and Table 4.7.

### **Age**

Table 4.6, indicates that the correct knowledge of the fertile period is very limited among men in all age groups and it ranges from 10.4 percent among men aged 20-24 to 17.0 percent among men aged 50-54. A high proportion (61.4 percent) of adolescents report no knowledge about ovulation cycle. Nearly one quarter of men aged 30-49 do not know the answer or unsure and thus more likely to say “don’t know” about menstrual periods. The analysis further indicates that a large majority of men in all age groups reported incorrect knowledge of menstrual period which shows that the whole concept of conception during the middle of the monthly cycle is largely unfamiliar to Indian men. Table 4.7 shows that there are small variations regarding correct knowledge of contraceptive effects of breastfeeding among men of different age groups. The percentage of men who responded “yes” regarding the statement that woman who is breastfeeding her baby can become pregnant, ranges from 43.1 percent among men aged 20-24 to 58.2 percent among men aged 50-54. Young adults are least likely (29.4 percent) to have knowledge about pregnancy during breastfeeding. On the other hand, nearly one fourth of men aged 20-54 have misconception. As expected, a higher proportion of adults aged 15-19 and young men aged 20-24 replied such statements about breastfeeding that is coded under “don’t know” category.

### **Number Of Living Children**

Men who either reported incorrectly (43.8 percent) or replied don’t know (45.3 percent) about menstrual period are more likely to have no children during the survey. But it is also surprising to know, men whose wives have given birth or have at least one or more than one living children tend to exhibit very low

knowledge. Only 17.1 percent of men have replied that a woman has the greatest chance of becoming pregnant in the middle of her ovulatory cycle. Concerning about breastfeeding, the accurate knowledge of the reproductive physiology related to breastfeeding is limited among men who have no children. Only 41.3 percent of men said “yes” regarding the statement that woman who is breastfeeding her baby can become pregnant as compared with men who have at least one or more than one living children (58.3 percent).

### **Place Of Residence**

Table 4.6 shows the percent distribution of men by knowledge of the fertile period during the ovulatory cycle and type of place of residence in India. The correct knowledge of the reproductive cycle is limited among men from both rural (12.2 percent) and urban (16.7 percent) areas. Half of the men identified incorrect fertile period and this does not show much variation by urban-rural residence. Regarding breastfeeding, Table 4.7 shows there is no association between these two variables as chi-square ( $X^2$ ) is insignificant.

### **Region**

Studies in some countries revealed that regional variations are found regarding knowledge and usage of contraception (Goldberg and Toros,1994). In Table 4.6 we find that knowledge about the fertile period which is being halfway between two menstrual periods is higher among men who are from Northern (18.6 percent) and Southern regions (17.3 percent) of India. A large majority (59.8 percent) who have misconception about ovulatory cycle are from Central region which consists of three states namely - Chhattisgarh, Madhya Pradesh and Uttar Pradesh. Southern region formed of Andhra Pradesh, Karnataka, Kerala, and Tamil Nadu, the urbanized states with high literacy level shows 51.0 percent (highest of all region) of men in ‘do not know’ category or gave an answer that did not fit the standard coded categories which is rather surprising. In Eastern and Western regions, there are no large variations regarding correct and incorrect responses.

On the other hand Northeast is the only region where proportion of responses about misconception (41.3 percent) and no knowledge (42.8 percent) about menstrual period are similar. Table 4.7 shows that correct perception about the efficacy of breastfeeding is highest among men from Eastern region (54.3 percent) and lowest in Southern region (44.5 percent). Responded who have no knowledge regarding pregnancy during breastfeeding, varies from 32.8 percent men in South and Northeast to 22.8 percent men in East. On the contrary, men who have misconception about pregnancy during breastfeeding is more than one fifth in all the regions of India.

### **Education**

Studies have consistently shown that educational attainment has a strong effect on knowledge, attitudes and practice towards contraception. Knowledge of periodic abstinence increases with the level of education. For example, 9.4 percent of men with no formal education reported correctly that a woman has the greatest chance of becoming pregnant in the middle of her ovulatory cycle as against 25.9 percent of men with 12 or more years of education. The Table 4.6 further depicts even a large proportion of educated men do not have correct perception about menstrual period. Among these men incorrect response varies from 50.4 percent with secondary education to 51.8 percent with higher education. Table 4.7 shows the percent distribution of men by knowledge of breastfeeding and education level. Almost 47.2 percent of men with no education agree that a women who is breastfeeding can become pregnant as against 57.2 percent of men with 12 or more years of education. The proportion of men who are illiterate and who have respond no knowledge about breastfeeding are more than one quarter compared with less than one fifth of men with higher education level. Differential regarding misconceptions about the efficacy of breastfeeding by different education level is fairly small. Among all levels, less than one quarter of men are disagree.

### **Wealth Index**

The percentage of men who have correctly identified the most fertile period ranges from 8.5 percent from the lowest wealth quintile to 21.1 percent from the highest wealth quintile (Table 4.6). Misconceptions about the fertile period is almost half among

men from different wealth index whereas men who have replied “ don’t know ” is slightly higher (above one third) among all except men who live in wealthier households (28.7 percent). Table 4.7 shows the percent distribution of men by knowledge of breastfeeding and wealth index. The table shows that 46.6 percent of men from the lowest wealth quintile as against 51.2 percent of men from the highest wealth quintile agree on the statement that woman who is breastfeeding her baby can become pregnant. More than one quarter of men from the lowest wealth index and more than one fifth of men from middle to highest wealth index replied “no” to the statement on breastfeeding.

### **Occupation**

Table 4.6 indicates that the correct knowledge of the fertile period is limited among men who are not involved in any kind of work. Only 8.3 percent of men identified correctly whereas 55.1 percent have no knowledge about ovulation cycle. In contrast with employed men, 25.2 percent of professional, 17.1 percent of sales workers, 12.4 percent agricultural workers are more knowledgeable about the ovulatory cycle. Regarding incorrect answer, a high proportion (more than 50 percent each ) of employed men have wrong perception about fertile period. Table 4.7 shows that more than half of the men who are engaged in some kind of paid work are aware of pregnancy during breastfeeding. Among them highest proportion of working men are professionals ( 57.8 percent ). On the other hand men who have neither involved in any kind of work nor have any remark about contraceptive effects of breastfeeding is 44.6 percent. Men who are working or not working are evenly distributed in terms of incorrect knowledge about breastfeeding : more than one fifth in all occupational categories.

### **Religion**

By religion, the proportion of respondents who has given correct response regarding ovulation is less than one-sixth while incorrect response is nearly half among Hindus and non-Hindus. Religious differential regarding absence of knowledge among Hindus (35.1 percent) and non-Hindus (36.4 percent) is just one percent which shows that irrespective of religious, men are less knowledgeable (Table 4.6 ). Table 4.7 shows the proportion of correct response is almost half among both Hindus and non-Hindus which

reveals that men are considerably more knowledgeable about pregnancy during breastfeeding. Nearly 24 percent Hindus and 23 percent non-Hindus cited that women cannot become pregnant during breastfeeding. Further, about 26.8 percent of Hindus and 28.4 percent of non-Hindus have no knowledge or unsure about pregnancy during breastfeeding.

### **Exposure To Family Planning Messages Through Media**

Media plays an important role in promoting the family welfare programme. By and large conception during the monthly cycle is not known to men in India who are exposed to media (Table 4.6). Only 16.4 percent who have seen a family planning message on television responded correctly that the most fertile period is in the middle of the monthly cycle. Print media seems popular as 18.4 percent who have read a family planning message in a newspaper or magazine, correctly identified the fertile period while the proportion of incorrect response is still large. It is 50.0 percent each in case of both the media. On the other hand, nearly one third of men who are exposed to family planning messages through media but have no knowledge about menstrual period. Table 4.7 shows that men in India are familiar that a woman can become pregnant during breastfeeding. More than half of the men who have heard or seen a message about family planning on television or in a newspaper or magazine said “yes” regarding the statement that woman who is breastfeeding can become pregnant. But those men who are not exposed to these media, replied “yes” which is still large in proportion. For example, men who have not heard or seen a family planning message on television, 45.7 percent have given correct response as compared with 44.5 percent in case of a newspaper or magazine. Media exposure differentials regarding misconceptions about the efficacy of breastfeeding among men is fairly small. Among all, less than one quarter of men disagree regarding the statement that a woman can become pregnant while breastfeeding.

### **Contraception Users And Non-Users**

Men who are users of contraception during the last time they had sex, one-fifth of them have correct knowledge of ovulation whereas 57.2 percent could not identify the fertile period which is in the middle of the monthly cycle. On the other hand only 10.5

percent who correctly reported the most fertile time as being halfway between two menstrual periods are not users of any birth control method. Absence of using any contraception further reveals that 47.5 percent of men responded incorrectly and 42.0 percent do not know about menstrual period (Table 4.6). Table 4.7 shows that among contraceptive users, 59.0 percent of men are agree, 24.1 percent are disagree and 16.9 percent of men have no remark regarding the statement that woman who is breastfeeding can become pregnant or not. On the other hand, men who are non - users of any family planning method, among them 44.5 percent have correct perception about breastfeeding, 23.1 percent have misconception and 32.4 percent of men are such who do not know the answer or unsure about conception during breastfeeding.

### **Contraception Is Women's Business And A Man Should Not Have To Worry About It**

Men are asked to give their opinion on a statement pertaining to contraception and its use. The results are shown in Table 4.6. About 14.2 percent of men who respond correctly that the most fertile period is in the middle of the monthly cycle, agree that contraception is a woman's business and a man should not worry about it. The proportion of correct respond is slightly higher for men who disagree regarding the statement (15.1 percent). As expected, a higher proportion ( 68.9 percent) of men who display no knowledge about ovulation cycle are also those who replied such statement that it coded under "don't know " category. However, the wrong perception about fertile period is still large even among men who show a negative attitude towards this statement (52.2 percent). Table 4.7 shows that there are small variations regarding correct knowledge of contraceptive effects of breastfeeding among men who disagree (52.8 percent ) or agree (52.3 percent ) regarding the statement. Men who believe that contraception is woman's business, among them 27.8 percent have misconception about breastfeeding and 19.9 percent have no knowledge. On the other hand men who neither have any knowledge about pregnancy during breastfeeding nor have any comment regarding the statement constitute a large percentage (70.7 percent).

### **If A Male Condom Is Used Correctly, It Protects Against Pregnancy**

In NFHS-3, a question has been asked to judge the perception of men about the effectiveness of condom use. As shown in Table 4.6, men who know that if a male condom is used correctly it protects against pregnancy most of the time, among them 16.4 percent know about fertile period during ovulation cycle whereas 53.3 percent have mentioned timing other than halfway between two menstrual periods. A higher proportion of men who have misconception about ovulation cycle (61.2 percent) are also those who said that male condom provides no protection at all. As expected, who do not know the answer or unsure about condom were more likely (59.8 percent) to say “don’t know” about menstrual periods. Table 4.7 shows that 55.5 percent of the men have correct perception on pregnancy during breastfeeding also believed that if a male condom is used correctly, it protects against pregnancy most of the time as against 46.6 percent who mentioned it protects against pregnancy only sometimes and by 46.1 percent said condom provides no protection at all. In contrast, percentage of men who have not mentioned any answer regarding protection against pregnancy through male condom nor about contraceptive effects of breastfeeding is nearly half.

### ***Summary***

On the basis of cross tab analysis, it is found that in India a majority of men are either unaware or have erroneous perception about woman’s risk of pregnancy during menstrual period. Regarding pregnancy during breastfeeding, men have some understanding but still a large proportion have given incorrect answer or said do not know about it. Young adults are largely unfamiliar about woman’s reproductive physiology. Correct knowledge is quite less among men even if they have achieved high education level or have one or more living children, a better wealth index irrespective of place of residence, religion and occupation. Men’s attitudinal characteristics and exposure to mass media do not improve knowledge about these two natural contraception as proportion of reported incorrect and don’t know remain high. Men from Central and Southern regions show low knowledge of woman’s risk of pregnancy. Overall cross – tab analysis shows the gross effect but to understand net effects, in next section we describe multivariate analysis.

**Table 4.6**

**Percentage distribution of knowledge of menstrual period among men by their background characteristic, India, 2005-06**

Background Characteristic	Certain Days When A Woman Is More Likely To Become Pregnant			Pearson Chi-sq. Value	Sig.
	Reported Correct	Incorrect	Don't Know		
<b>Age</b>				6433.18	0.000
15-19	4.3	34.3	61.4		
20-24	10.4	45.5	44.1		
25-29	15.6	54.1	30.3		
30-34	18.0	56.9	25.1		
35-39	17.7	57.2	25.1		
40-44	17.8	57.1	25.1		
45-49	17.4	57.7	24.8		
50-54	16.5	57.0	26.5		
<b>Number Of Living Children</b>				3567.7	0.000
No Birth	10.9	43.8	45.3		
One Or More Than One	17.1	58.5	24.5		
<b>Place Of Residence</b>				309.13	0.000
Urban	16.7	50.0	33.3		
Rural	12.2	51.3	36.5		
<b>Highest Educational Level</b>				1837.06	0.000
No education	9.4	50.5	40.1		
Primary	10.4	51.9	37.7		
Secondary	13.6	50.4	36.0		
Higher	25.9	51.8	22.3		
<b>Religion</b>				21.76	0.000
Hindu	13.7	51.2	35.1		
Non-Hindu	14.5	49.0	36.4		
<b>Wealth index</b>				1478.99	0.000
Poorest	8.5	54.1	37.5		
Poorer	10.1	51.1	38.8		
Middle	11.6	50.0	38.4		
Richer	15.0	49.8	35.2		
Richest	21.1	50.2	28.7		
<b>Occupation</b>				3078.53	0.000
Skilled And Unskilled Manual	12.5	52.3	35.2		
Agricultural Worker	12.4	52.5	35.1		
Sales Worker	17.1	54.3	28.6		
Professional	25.2	54.2	20.5		
Other Worker	15.6	53.8	30.5		
Not Working	8.3	36.6	55.1		

Continued....

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**Table 4.6**  
**Percentage distribution of knowledge of menstrual period among men by their background characteristic, India, 2005-06**

Background Characteristic	Certain Days When A Woman Is More Likely To Become Pregnant			Pearson Chi-sq. Value	Sig.
	Reported Correct	Incorrect	Don't Know		
<b>Marital Status</b>				7435.55	0.000
Never married	7.1	36.8	56.1		
Ever Married	17.3	58.1	24.6		
<b>Region</b>				3843.05	0.000
North	18.6	52.1	29.2		
Central	10.7	59.8	29.5		
East	10.9	56.3	32.8		
Northeast	15.8	41.3	42.8		
West	12.7	57.8	29.5		
South	17.3	31.6	51.0		
<b>Heard/Seen Family Planning On TV Last Months</b>				1014.09	0.000
No	9.3	49.7	41.0		
Yes	16.4	51.5	32.1		
<b>Read/Seen Family Planning Newspaper Last Months</b>				1951.05	0.000
No	9.3	49.3	41.5		
Yes	18.4	52.4	29.2		
<b>Contraceptive Group</b>				3242.2	0.000
Contraceptive Non-User Group	10.5	47.5	42.0		
Contraceptive User Group	20.2	57.2	22.6		
<b>Contraception Is Woman's Business, Man Should Not Worry</b>				3769.96	0.000
Disagree	15.1	52.2	32.7		
Agree	14.2	55.9	29.8		
Don't Know	3.1	28.0	68.9		
<b>Male Condom Protect Against Pregnancy</b>				4239.93	0.000
Most Of The Time	16.4	53.3	30.4		
Sometimes	13.9	55.0	31.1		
Not At All	11.2	61.2	27.6		
Don't Know/ Unsure	4.3	36.0	59.8		

Source : Computed from raw data, IIPS, 2007.

**Table 4.7**

**Percentage distribution of knowledge of pregnancy during breastfeeding among men by their background characteristic, India, 2005-06**

Background Characteristic	A Woman Who Is Breastfeeding Can Become Pregnant			Pearson Chi-sq. Value	Sig.
	Reported				
	Yes	No	Don't Know		
<b>Age</b>				5658.96	0.000
15-19	29.4	20.5	50.1		
20-24	43.1	23.5	33.5		
25-29	51.2	24.8	24.0		
30-34	57.3	24.4	18.4		
35-39	57.7	24.2	18.2		
40-44	57.8	24.5	17.7		
45-49	58.1	23.7	18.2		
50-54	58.2	23.3	18.4		
<b>Number Of Living Children</b>				3591.7	0.000
No Birth	41.3	22.5	36.2		
One Or More Than One	58.3	24.5	17.2		
<b>Place Of Residence</b>				1.186	0.553
Urban	49.2	23.6	27.2		
Rural	49.6	23.4	27.0		
<b>Highest Educational Level</b>				417.81	0.000
No education	47.2	24.3	28.5		
Primary	49.1	24.2	26.7		
Secondary	48.6	22.8	28.6		
Higher	57.2	23.9	18.9		
<b>Religion</b>				17.506	0.000
Hindu	49.6	23.7	26.8		
Non-Hindu	49.0	22.6	28.4		
<b>Wealth index</b>				148.84	0.000
Poorest	46.6	26.8	26.6		
Poorer	48.8	23.0	28.2		
Middle	49.2	22.2	28.6		
Richer	50.5	22.6	26.9		
Richest	51.2	23.5	25.3		
<b>Occupation</b>				2033.78	0.000
Skilled And Unskilled Manual	50.1	23.5	26.4		
Agricultural Worker	50.5	24.2	25.3		
Sales Worker	53.5	22.9	23.6		
Professional	57.8	25.2	17.0		
Other Worker	53.0	23.3	23.7		
Not Working	34.3	21.1	44.6		

Continued....

Continued...

**Table 4.7**  
**Percentage distribution of knowledge of pregnancy during breastfeeding among men by their background characteristic, India, 2005-06**

Background Characteristic	A Woman Who Is Breastfeeding Can Become Pregnant			Pearson Chi-sq. Value	Sig.
	Reported Yes	No	Don't Know		
<b>Marital Status</b>				6480.45	0.000
Never married	33.6	21.6	44.8		
Ever Married	57.7	24.4	17.9		
<b>Region</b>				789.73	0.000
North	51.4	23.8	24.8		
Central	51.3	21.0	27.7		
East	54.3	22.9	22.8		
Northeast	44.9	22.3	32.8		
West	46.7	28.8	24.4		
South	44.5	22.7	32.8		
<b>Heard / Seen Family Planning On TV Last Months</b>				320.88	0.000
No	45.7	23.6	30.6		
Yes	51.6	23.4	25.0		
<b>Read/Seen Family Planning Newspaper Last Months</b>				963.52	0.000
No	44.5	23.8	31.7		
Yes	54.4	23.1	22.4		
<b>Contraceptive Group</b>				2203.5	0.000
Contraceptive Non-User Group	44.5	23.1	32.4		
Contraceptive User Group	59.0	24.1	16.9		
<b>Contraception Is Woman's Business, Man Should Not Worry</b>				7297.53	0.000
Disagree	52.8	23.5	23.7		
Agree	52.3	27.8	19.9		
Don't Know	16.4	12.9	70.7		
<b>Male Condom Protect Against Pregnancy</b>				4342.42	0.000
Most Of The Time	55.5	22.3	22.2		
Sometimes	46.6	29.0	24.4		
Not At All	46.1	30.0	23.9		
Don't Know/ Unsure	29.0	21.9	49.1		

Source : Computed from raw data, IIPS, 2007.

## *Correlation Analysis*

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### **A) Correlation Among Response Variables**

Table 4.8. shows that the correlation is significant but the relationship is not strong (0.119). Thus there is weak relationship between men's knowledge about woman's risk of pregnancy during menstrual period and breastfeeding.

### **B) Correlation Among The Predictor Variables**

This section examines the correlation analysis among predictor variables. A reason to conduct this analysis is to avoid the problem of the effect of multicollinearity. If a strong correlation exist, then we may have to consider removing some of the variables for further analysis which is followed in next section (multivariate analysis). We discuss only those correlation that are statistically significant.

Table 4.8 shows the correlation matrix of independent variables which reveals that there is strong correlation between age and number of living children (0.69) and age and marital status (0.68) which is positive and statistically significant. Again marital status and number of living children are correlated (0.62). Thus "age" has been selected and marital status, number of living children are removed because two variables contain somewhat similar information. Further the table reveals that most of the variables show relationship which are statistically significant. For example age of man and current contraceptive method are positively correlated (0.43). On the basis of this it could be interpreted that older men have positive attitude towards usage of contraception, the last time they had sex. Type of place of residence is negatively correlated with wealth index (-0.54) and highest educational level is positively related with wealth index (0.52) which shows, men from remote areas are not enjoying the highest wealth quintile whereas men who have achieved highest educational level are enjoying better wealth quintile but it is difficult to say whether they are richer or richest. Though these variables have high correlation, they are retained in the analysis as with these variables there may not be no multicollinearity. In the next section, multivariate analyse has been conducted to show the net effect after controlling for other variables.

Table 4.8 . Correlation coefficients , India , 2005 – 06

Response Variables																
		Knowledge of ovulatory cycle					Can a woman who is breastfeeding get pregnant									
Knowledge of ovulatory cycle							1					.119**				
Can a woman who is breastfeeding get pregnant							.119**					1				
Predictor Variables																
	Age 5-year groups	Type of place of residence	Highest educational level	Wealth index	Region	Current contraceptive method	Heard/Seen FP on TV last months	Read/Seen FP newspaper last months	Contraception is woman's business, man should not worry	Male condom protect against pregnancy	Religion	Occupation	Marital status	Number of living children		
Age 5-year groups	1															
Type of place of residence	.014**	1														
Highest educational level	-.177**	-.254**	1													
Wealth index	-.009*	-.538**	.521**	1												
Region	.062**	-.084**	.052**	.048**	1											
Current contraceptive method	.428**	.011**	-.065**	.023**	.039**	1										
Heard/Seen FP on TV last months	-.081**	-.277**	.378**	.434**	.085**	.021**	1									
Read/Seen FP newspaper last months	-.052**	-.234**	.564**	.429**	.051**	.010**	.476**	1								
Contraception is woman's business, man should not worry	-.118**	.052**	-.154**	-.134**	.038**	-.106**	-.163**	-.183**	1							
Male condom protect against pregnancy	-.038**	.099**	-.216**	-.183**	.032**	-.081**	-.203**	-.234**	.308**	1						
Religion	0.001	.023**	-.032**	-.036**	-0.001	-.021**	-.045**	-.035**	.023**	.021**	1					
Occupation	.190**	.074**	-.343**	-.239**	.039**	.109**	-.138**	-.211**	-0.001	.015**	.013**	1				
Marital Status	.678**	.095**	-.230**	-.129**	-0.002	.401**	-.117**	-.099**	-.144**	-.079**	0.004	.277**	1			
Number of living children	.688**	.118**	-.295**	-.188**	-.097**	.412**	-.172**	-.149**	-.082**	-.020**	0.006	.211**	.623**	1		

Source : Computed from raw data, IIPS, 2007.

[ \*\*. Correlation is significant at the 0.01 level (2-tailed).

\*. Correlation is significant at the 0.05 level.(2-tailed) ]

## *Multivariate Analysis*

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To evaluate the independent contribution of the variables, we conducted multivariate analysis using a categorical dependent variable with more than two categories. Table 4.9 and 4.10 present the odds ratio [  $\text{Exp} ( B )$  ] from the results of multinomial logistic regression. An odds ratio of greater than one for a factor or category indicates the positive effect and a value less than one indicates negative effect. In this section we discuss the results of the different predictor variables which are statistically significant after controlling for other variables. Results of non-significant predictors are trimmed off. Table 4.9 and 4.10 show the result for all India which are as follows :

### *A) Menstrual period - certain days when a woman is more likely to become pregnant*

#### **Incorrect Compared With Correct Knowledge**

The effects of age on the odds of a male's knowledge about the reproductive physiology of a woman plays a significant role. Odds of incorrect response about fertile period by men in comparison with correct response is significantly lower among all men aged 20-54 than that of adolescent ( aged 15-19 ) in India. Regarding education, probability of a man who has attained primary education is more likely to have erroneous perceptions about menstrual period ( 1.14 times ) as compared with those who have secondary education. Higher education level has a significant impact as men who have higher education are least likely ( 0.73 times ) to mention incorrect fertile period compared with the reference category. Wealth index is closely associated with knowledge about ovulatory cycle. Men who belong from poorer to richer wealth quintile are more likely to give incorrect response as compared with men who are referred as richest. The most striking feature in Table 4.9 is the effect of occupation. For workers and non-workers, the odds ratio of misunderstanding is significantly less as compared with production worker. The effects of region of residence is to reduce the odds of incorrect response for men who live in different regions of India.

Among all regions, men from four regions : Northeast ( 0.43 times ), North ( 0.54 times ), East ( 0.86 times ) and South ( 0.35 times ) are significantly less likely to mention incorrect fertile period than the Central region. On the basis of religion , non-Hindus in India are 0.89 times less likely to report incorrect fertile period than are those who followed Hindu religion. Exposure to family planning messages by media create awareness about reproductive and sexual health. Table 4.9 shows that odds of incorrect response in comparison with correct response about menstrual period is 1.09 times higher among men who are not exposed to T.V. and 1.30 times higher among men who have not read or seen newspaper in the last few months as compared with men who have seen or read message on T.V. or in a newspaper. Regarding contraceptive users and non – users, men who have used family planning method, the last time they had sex are 0.71 times less likely to have incorrect knowledge about the whole concept of conception during the monthly cycle as compared with non- users. Positive attitude towards contraception usage and realization of own responsibility seems to exert an important influence on knowledge about woman's reproductive physiology. Those men who did not give any remark on the statement that contraception is a woman's business and a man should not worry about it, are 1.44 times more likely to be unfamiliar regarding the whole concept of conception during the monthly cycle as they have reported incorrect timing. The odds of incorrect response in comparison with correct response by men is 1.94 times higher among those who said that they do not know that if a male condom is used correctly protects against pregnancy or not. Similarly, men who support that male condom does not protect against pregnancy (1.51 times ) or protects against pregnancy sometimes if it's used correctly, are more likely to have misconception about fertile period as compared with those who feel that if a male condom is used correctly it protects against pregnancy most of the time.

#### **No knowledge Compared With Correct Knowledge**

Men who do not know the answer or unsure about menstrual periods or gave an answer that did not fit the standard coded categories which is unpredicted, appeared in 'do not know' category. Table 4.9 shows the odds of no knowledge about fertile period in comparison with correct respondents is significantly lower among all men aged 20-

54 than that of young adults aged 15-19. Men who have not attained any formal education (1.24 times) or attained primary education (1.28 times) are more likely to report "do not know" about when ovulation occurs in a menstrual cycle as compared with those who have secondary education. Men who have achieved higher education are less likely (0.73 times) to mention do not know about menstrual period as compared with the reference category. The wealth index which is constructed by allocating appropriate scores to a household's reported assets or amenities shows a significant relationship with response variable. Men who belong from poorer to richer wealth quintile are more likely to show no knowledge about unsafe period when a woman is more likely to become pregnant if she has sex as compared with men who are at the top wealth quintile. Table 4.9 shows that lack of knowledge about woman's physiology specially about menstrual period is lower among men who are either professional or agricultural workers in comparison with production worker. Among all regions of India, men from North are 0.62 times less likely to be unfamiliar about ovulatory cycle whereas men from West (1.15 times) and Southern (1.42 times) regions are significantly more likely to be in that group which are coded as 'do not know' category as compared with the Central region. Non-Hindus are 0.898 times less likely to show no knowledge regarding fertile period than are those who belong to Hindu religion. Table 4.9 shows that odds of no response in comparison with correct response about menstrual period is 1.29 times higher among men who are not exposed to T.V. and 1.67 times higher among men who have not read or seen T.V. or newspaper in the last few months as compared to the reference category. Men who have used contraception the last time they had sex are 0.54 times less likely to be in do not know category compared with non-users. Regarding attitude towards contraception, men who neither agree nor disagree on the statement that contraception is a woman's business or not, are more likely to show no knowledge about whole concept of conception during monthly cycle. On the other hand, men who agree on the statement are 0.77 times less likely to show absence of any knowledge. The odds of absence of knowledge about periodic abstinence in comparison with correct perception by men is 3.64 times higher among those who said that they do not know that if a male condom is used correctly it protects against pregnancy or not.

**Table 4.9**  
**Odds ratios from logistic regression analysis of the likelihood of knowledge of menstrual period among men aged 15 - 54, India, 2005-06**

Predictor Variables	Certain Days When A Woman is More Likely To Become Pregnant			
	Incorrect Vs Correct		Don't Know Vs Correct	
	Exp(B)	Sig.	Exp(B)	Sig.
<b>Age</b>				
50-54	0.557	0.000	0.145	0.000
45-49	0.529	0.000	0.133	0.000
40-44	0.522	0.000	0.141	0.000
35-39	0.525	0.000	0.150	0.000
30-34	0.511	0.000	0.154	0.000
25-29	0.522	0.000	0.197	0.000
20-24	0.626	0.000	0.408	0.000
15-19 ®				
<b>Place Of Residence</b>				
Urban	0.999	0.972	1.026	0.433
Rural ®				
<b>Highest Educational Level</b>				
No education	0.988	0.785	1.247	0.000
Primary	1.145	0.000	1.285	0.000
Higher	0.729	0.000	0.614	0.000
Secondary ®				
<b>Religion</b>				
Non-Hindu	0.899	0.000	0.885	0.000
Hindu ®				
<b>Wealth Index</b>				
Poorest	1.337	0.000	1.112	0.069
Poorer	1.322	0.000	1.26	0.000
Middle	1.382	0.000	1.308	0.000
Richer	1.193	0.000	1.21	0.000
Richest ®				
<b>Occupation</b>				
Not Working	0.798	0.000	1.043	0.451
Other Worker	0.930	0.192	0.862	0.017
Professional	0.861	0.000	0.750	0.000
Sales Worker	0.929	0.053	0.941	0.158
Agricultural Worker	0.848	0.000	0.869	0.000
Production Worker ®				

Continued....

Continued....

<b>Table 4.9</b> <b>Odds ratios from logistic regression analysis of the likelihood of knowledge of menstrual period among men aged 15 - 54, India, 2005-06</b>				
<b>Predictor Variables</b>	<b>Certain Days When A Woman Is More Likely To Become Pregnant</b>			
	<b>Incorrect Vs Correct</b>		<b>Don't Know Vs Correct</b>	
	<b>Exp(B)</b>	<b>Sig.</b>	<b>Exp(B)</b>	<b>Sig.</b>
<b>Heard Family Planning On TV Last Months</b>				
No	1.092	0.004	1.291	0.000
Yes ®				
<b>Heard Family Planning Newspaper Last Months</b>				
No	1.305	0.000	1.677	0.000
Yes ®				
<b>Contraceptive Group</b>				
Contraceptive User Group	0.715	0.000	0.546	0.000
Contraceptive Non-User Group ®				
<b>Contraception Is Woman's Business, Man Should Not Worry</b>				
Don't Know	1.440	0.000	2.893	0.000
Agree	0.975	0.359	0.766	0.000
Disagree ®				
<b>Male Condom Protect Against Pregnancy</b>				
Don't Know/ Unsure	1.943	0.000	3.645	0.000
Not At All	1.518	0.000	0.923	0.376
Sometimes	1.170	0.000	1.024	0.501
Most Of The Time ®				
<b>Region</b>				
Northeast	0.429	0.000	0.881	0.060
North	0.543	0.000	0.624	0.000
West	0.946	0.161	1.152	0.002
East	0.859	0.000	1.039	0.370
South	0.347	0.000	1.426	0.000
Central ®				
<p>a. The reference category is : Correctly Reported.            ® = Reference Category</p>				

Source : Computed from raw data, IIPS, 2007.

## *B) Woman who is breastfeeding her baby can become pregnant*

### **Disagree ( No ) Compared With Agree ( Yes )**

The effects of age on the odds of a male's perception about the contraceptive effect of breastfeeding has a significant impact (Table 4.10). Odds of disagreeing that woman can become pregnant by men in comparison with those who agree, is significantly lower among all men aged 20-54 than that of young adults aged 15-19 in India. Place of residence has a significant effect regarding man's perception about woman's physiology during post partum amenorrhea which is not found in periodic abstinence. Urban men are 1.10 times more likely to have erroneous perception about the contraceptive effect of breastfeeding compared with men who are staying in rural areas. The most striking feature which is found in Table 4.10 is, education is insignificant regarding misconceptions about the efficacy of breastfeeding. Wealth index is closely associated with knowledge about contraceptive effect of breastfeeding. Men who belong from poorest wealth quintile are more likely (1.19 times) to have misconceptions about pregnancy during breastfeeding as compared with men who are in the richest category. Table 4.10 shows the effect of occupation which is not highly significant. However, odds of incorrect perception about breastfeeding in comparison with correct perception that a woman can become pregnant during breastfeeding is higher among men who are either non-worker (1.09 times) or working as a professional (1.10 times) in comparison with production worker. The effects of region of residence is not seems to reduce the odds of erroneous perception about contraceptive effect of breastfeeding for men as shown in case of periodic abstinence. Among all regions, men from three regions : North (1.14 times), West (1.60 times) and South ( 1.27 times ) are significantly much more likely to mention incorrect knowledge than the Central region. In case of religion , odds of incorrect perception in comparison with correct perception about breastfeeding is 0.92 times least likely among non-Hindus in India than that of Hindus. Exposure to family planning message by media creates awareness about reproductive physiology among men and women. Table 4.10 shows that odds of incorrect response in comparison with correct response regarding conception during post-partum amenorrhea is 1.22 times higher among men who have not read or seen any family planning message in a newspaper during last few months as

compared with men who have seen or read message in a newspaper. The association between contraception users and knowledge about woman's physiology during breastfeeding is given in Table 4.10. Men who have used family planning method, the last time they had sex are 0.94 times less likely to have misconception about breastfeeding as compared with non- users. Men who did not give any opinion (1.29 times) or have positive attitude towards (1.12 times) the statement that contraception is a woman's business and a man should not worry, are much more likely to give incorrect information. In contrast, odds of incorrect knowledge in comparison with correct knowledge regarding efficacy of breastfeeding by men is much higher (1.72 times) among those who said that they do not know that if a male condom is used correctly it protects against pregnancy or not. Similarly, men who support that male condom does not protect against pregnancy (1.56 times) or protects against pregnancy sometimes (1.52 times) if it's used correctly, are more likely to have misconception as compared to those who feel that if a male condom is used correctly it protects against pregnancy most of the time.

#### **No knowledge Compared With Correct Knowledge**

Men who do not know the answer or are unfamiliar about conception during post-partum amenorrhea, are included in the 'do not know' category. Table 4.10 shows the odds of no knowledge about contraceptive effect of breastfeeding among men in comparison with correct respondents is significantly lower among all men aged 20-54 than that of adolescents aged 15-19. Place of residence has a significant effect as urban men are 1.10 times more likely to have no knowledge about conception during breastfeeding compared with men who are staying in rural areas of India. Regarding education, of men who have achieved higher education are least likely (0.85 times) to mention do not know about pregnancy during breastfeeding as compared to those who have secondary education. The effect of economic status as measured by an index of material available is also examined. Men who belong from poorest to richer wealth quintile are less likely to show no knowledge compared with men who are at the top wealth quintile (richest). Knowledge about conception during post-partum amenorrhea is influenced by occupation. Table 4.10 shows the probability of lacking of an information about woman's physiology during breastfeeding

is highly significant among men who are non – workers ( 1.18 times ) in comparison with production worker. Differentials regarding knowledge about conception during post- partum amenorrhea is found by region. Among all regions of India ,men from North (0.84 times) and East (0.67 times) are less likely to show absence of knowledge whereas men from Southern (1.38 times) regions are significantly more likely to be in that group which are coded as ‘ do not know ’ category as compare to the Central region. The results for Hindus and non-Hindus indicate that non-Hindus are 0.95 times less likely to have no knowledge than are those who are devoted to Hindu religion but the result is not highly significant. Table 4.10 shows that odds of no response in comparison with correct response about conception during post-partum amenorrhea is 1.09 times higher among men who are not exposed to T.V. and 1.55 times higher among men who have not read or seen newspaper in the last few months as compared with the reference category.

The usage of contraception and knowledge about pregnancy during breastfeeding is mentioned in Chapter 2. Men who have used some method to avoid or prevent pregnancy, the last time they had sex with their partner are 0.78 times less likely to be in do not know category compared with non- users. The examination of knowledge by man’s attitude showed that those men who did not give any remark regarding contraception is a woman’s business or not, are more likely (4.98 times) to show no knowledge about conception during breastfeeding whereas men who are agree on the statement are 0.81 times less likely to show absence of any knowledge. The odds of no response in comparison with correct response by men is 2.70 times higher among those who said that they do not know that if a male condom is used correctly it protects against pregnancy or not and 1.26 times higher for men who believe that it protect sometimes as compared with men who said if a male condom is used correctly it protects against pregnancy most of the time.

**Table 4.10**

**Odds ratios from logistic regression analysis of likelihood of knowledge of pregnancy during breastfeeding among men aged 15 - 54, India, 2005-06**

Predictor Variables	A Woman Who Is Breastfeeding Can Become Pregnant			
	No Vs Yes		Don't Know Vs Yes	
	Exp(B)	Sig.	Exp(B)	Sig.
<b>Age</b>				
50-54	0.571	0.000	0.230	0.000
45-49	0.597	0.000	0.243	0.000
40-44	0.631	0.000	0.250	0.000
35-39	0.633	0.000	0.276	0.000
30-34	0.661	0.000	0.288	0.000
25-29	0.755	0.000	0.412	0.000
20-24	0.832	0.000	0.622	0.000
15-19 ®				
<b>Place Of Residence</b>				
Urban	1.109	0.000	1.103	0.000
Rural ®				
<b>Highest Educational Level</b>				
No education	0.960	0.203	0.945	0.085
Primary	0.998	0.939	0.939	0.039
Higher	0.981	0.562	0.853	0.000
Secondary ®				
<b>Religion</b>				
Non-Hindu	0.928	0.003	0.952	0.055
Hindu ®				
<b>Wealth Index</b>				
Poorest	1.194	0.000	0.652	0.000
Poorer	0.993	0.856	0.748	0.000
Middle	0.944	0.093	0.828	0.000
Richer	0.951	0.091	0.882	0.000
Richest ®				
<b>Occupation</b>				
Not Working	1.096	0.021	1.187	0.000
Other Worker	0.949	0.265	0.897	0.029
Professional	1.1	0.012	0.897	0.011
Sales Worker	1.019	0.572	1.062	0.077
Agricultural Worker	1.012	0.65	0.964	0.175
Production Worker ®				

Continued ....

Continued ....

**Table 4.10**  
**Odds ratios from logistic regression analysis of the likelihood of knowledge of pregnancy during among men aged 15 - 54, India, 2005-06**

Predictor Variables	A Woman Who Is Breastfeeding Can Become Pregnant			
	No Vs Yes		Don't Know Vs Yes	
	Exp(B)	Sig.	Exp(B)	Sig.
<b>Heard Family Planning On TV Last Months</b>				
No	1.014	0.554	1.09	0.000
Yes ®				
<b>Heard Family Planning Newspaper Last Months</b>				
No	1.221	0.000	1.558	0.000
Yes ®				
<b>Contraceptive Group</b>				
Contraceptive User Group	0.949	0.018	0.785	0.000
Contraceptive Non-User Group ®				
<b>Contraception Is Woman's Business, Man Should Not Worry</b>				
Don't Know	1.292	0.000	4.989	0.000
Agree	1.129	0.000	0.81	0.000
Disagree ®				
<b>Male Condom Protect Against Pregnancy</b>				
Don't Know/ Unsure	1.728	0.000	2.7	0.000
Not At All	1.560	0.000	1.153	0.029
Sometimes	1.524	0.000	1.265	0.000
Most Of The Time ®				
<b>Region</b>				
Northeast	1.182	0.002	1.163	0.004
North	1.147	0.000	0.840	0.000
West	1.601	0.000	1.015	0.643
East	0.942	0.039	0.679	0.000
South	1.274	0.000	1.387	0.000
Central ®				

a. The reference category is : Yes.

® = Reference Category

Source : Computed from raw data, IIPS, 2007.

### *Summary*

Multinomial logistic regression analysis shows that odds of incorrect response and odds of no knowledge about fertile period during menstrual period and pregnancy during breastfeeding by men in comparison with correct response is significantly lower among all men aged 20-54 than that of adolescent (aged 15-19) in India. Place of residence has a significant effect on perception about woman's physiology during post partum amenorrhea which is not found in periodic abstinence. Regarding education, men who have attained primary education are more likely and those who have higher education are least likely to have erroneous perceptions about menstrual period compared with those who have secondary education. About the efficacy of breastfeeding, education is insignificant regarding misconceptions. Wealth index is closely associated with knowledge about contraceptive effect of breastfeeding and periodic abstinence. Men who belong to poorest wealth quintile are more likely to have misconceptions compared with men who are from the richest quintile. Compared with the production worker, odds of incorrect perception about ovulatory cycle in comparison with correct perception are lower among men who are either non-worker or working as a professional or engaged in agricultural sector or working as a sales worker. Regarding odds of incorrect perception about breastfeeding in comparison with correct perception that a woman can become pregnant during breastfeeding is higher among men who are either non-worker or working as a professional in comparison with production worker. Men from Southern region are significantly more likely to be in that group which are coded as 'do not know' category as compared with the Central region regarding menstrual period and breastfeeding. On the basis of religion non-Hindus in India are less likely to show incorrect and no knowledge about both the natural contraception than Hindus. Men who have not read or seen any family planning message in a newspaper or television during last few months are more likely to have incorrect perception or no knowledge as compared with men who are exposed to media. Men who have used contraception the last time they had sex are less likely to have incorrect perception or no knowledge compared with non-users. Positive attitude towards contraception usage and realization of own responsibility seems to exert an important influence on knowledge about woman's reproductive physiology. Based on this chapter, we present conclusions in the next chapter.

## *Chapter V*

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*Conclusions*

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## *Conclusions*

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Males perspective on woman's risk of pregnancy is an important dimension of fertility and reproductive health which needs to be examined to identify the factors that influence it. As mentioned by some authors ( e.g. Bloom, Tsui, Mahler, Singh, Maharaj, Rao etc ) that men's lack of reproductive health knowledge leaves women particularly vulnerable in this area, as a woman is dependent on their husband and other family members for most types of health-related decision-making. Further it is mentioned that if more information is available to capture individual socioeconomic status precisely, such as nature of men's education and health education then it will increase the knowledge regarding health.

The present study has two broad objectives. First is to examine the knowledge of men with regard to woman's risk of pregnancy. After analyzing the data, we find that a majority of men in India are unfamiliar or unaware about woman's reproductive physiology during menstrual cycle. Regarding pregnancy during breastfeeding, men have some understanding but still a large proportion have no knowledge or have incorrect knowledge about this. Our second objective is to assess the influence of selected socio-economic and demographic variables on male's perspective on woman's risk of pregnancy. We observed that age of a man, which is a demographic variable and education, wealth index, occupation, religion, region which are socio-economic variables, significantly influence the perspective on woman's risk of pregnancy during ovulation cycle and breastfeeding.

From the above we find that age of man emerges as an important factor that influences the knowledge about woman's reproductive physiology during ovulation cycle and breastfeeding. Young adults aged 15-19 years are more likely to have incorrect or no knowledge. Socio-economic characteristics prove to be important for this study. Universal primary education is not enough as post secondary or higher level of education imparts the necessary knowledge. Education based on sexual and

reproductive health is necessary so that young adults should be aware of reproductive physiology. In support, we have examined the data and find that among men who have received higher education, 84.3 percent support that boys should be taught about changes in girl's body, 86.4 percent favour that boys should be taught about contraception as compared with men who have no education. Among these persons, 48.1 percent support boys should be taught about changes in girl's body, 43.0 percent agree that boys should be taught about contraception. Next important factor is wealth index. Men from highest wealth index are more likely to have correct perception about the two selected natural contraceptives than men from lowest and middle wealth index. Therefore efforts should be made to reach out men in lowest wealth index through knowledge programme for which medical camps or mobile vans can be used. Exposure to family planning message through television and newspaper play a key role. It is found that men who are exposed to the message have correct knowledge about two natural contraception methods.

The NFHS-3 includes questions in the male survey to draw out information on men's attitudes toward contraception in general and towards specific methods (condom) used in India. Such information is useful in formulating family planning programmes as men play a key role in women's reproductive health. On the basis of literature review, we have selected two variables and found that men's perception about male condom and contraception is women's business or not proved to be an essential variables. To judge these variables we have use certain background characteristics. Table 5.1 shows higher proportion of urban men in India who have achieved higher level of education and considered as richest get an exposure to family planning message through television have correct perspectives regarding male condom and positive attitude towards contraception. In addition, among men who have replied, if male condom used correctly it can prevent pregnancy most of the time, 69.8 percent feel that boys should be taught about changes in girl's body and 71.0 percent support that boys should be taught about contraception.

**Table 5.1**

Percentage distribution of men aged 15-54 with respect to perception regarding contraception and condom, India, 2005-06

Variable(s)	Contraception is woman's business, man should not worry			Male condom protect against pregnancy			
	Disagree	Agree	Don't Know	Most of the time	Sometimes	Not at all	Don't know/ unsure
<b>Place of residence</b>							
Urban	73.7	18.9	7.4	72.6	15.0	2.2	10.1
Rural	66.6	23.5	9.9	61.6	15.5	2.4	20.5
<b>Highest Education Level</b>							
No education	58.9	25.4	15.7	46.1	16.4	2.4	35.1
Primary	64.2	24.8	11	58.0	17.1	2.6	22.2
Secondary	71.6	20.8	7.7	71.0	14.9	2.5	11.6
Higher	81.3	16.9	1.8	82.7	13.0	1.3	3.0
<b>Wealth index</b>							
Poorest	59.5	25.9	14.6	49.1	15.6	2.6	32.7
Poorer	63.6	24.8	11.6	58.9	16.3	2.3	22.5
Middle	66.9	23.9	9.3	64.0	15.8	2.8	17.4
Richer	72.8	20.1	7.1	71.9	14.9	2.3	10.9
Richest	78.6	16.7	4.7	77.4	14.3	2.0	6.4
<b>Heard FP on TV last months</b>							
No	59.7	25.7	14.6	51.9	15.5	2.6	29.9
Yes	74.6	19.6	5.8	73.5	15.2	2.2	9.1

Source : Computed from raw data, IIPS, 2007.

Among men who disagree regarding the statement that contraception is a woman's business a man should not worry about that, about 67.0 percent replied that boys should be taught about changes in girl's body and 67.2 percent favour that boys should be taught about contraception which shows that men in India are eager to know about woman's physiology ( Table is not given ). A question can now be raised that whether knowledge improves usage of contraception and help to reduce woman's risk of pregnancy. A state level analysis shows (Fig. 5.1 and 5.2) among all the states, West Bengal, Rajasthan, Madhya Pradesh, Gujarat, Delhi, Chhattisgarh are the states where a fewer percentage of men who have replied "do not know" about fertile period during menstrual period and pregnancy during breastfeeding are also those states where contraception usage among men the last time they had sex is high (Table in appendix).

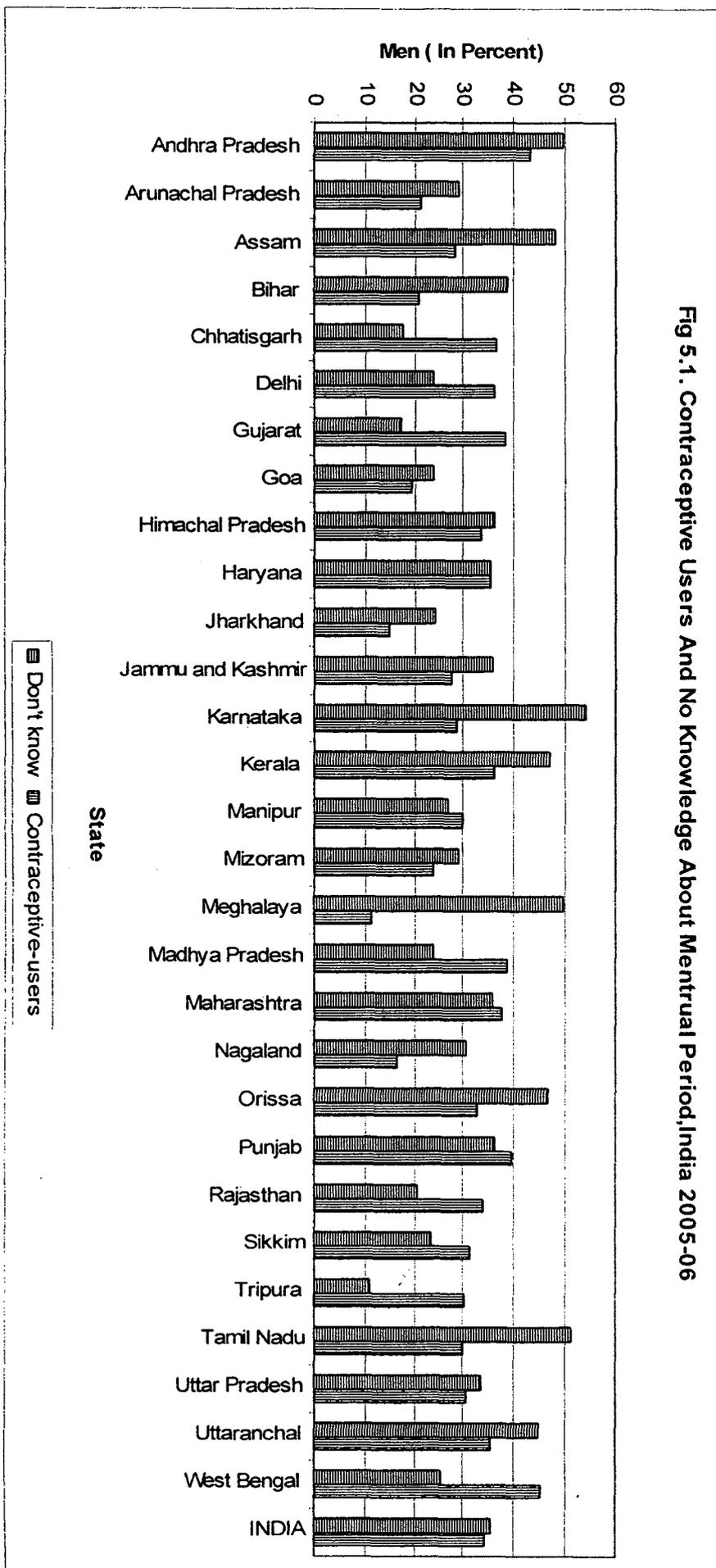
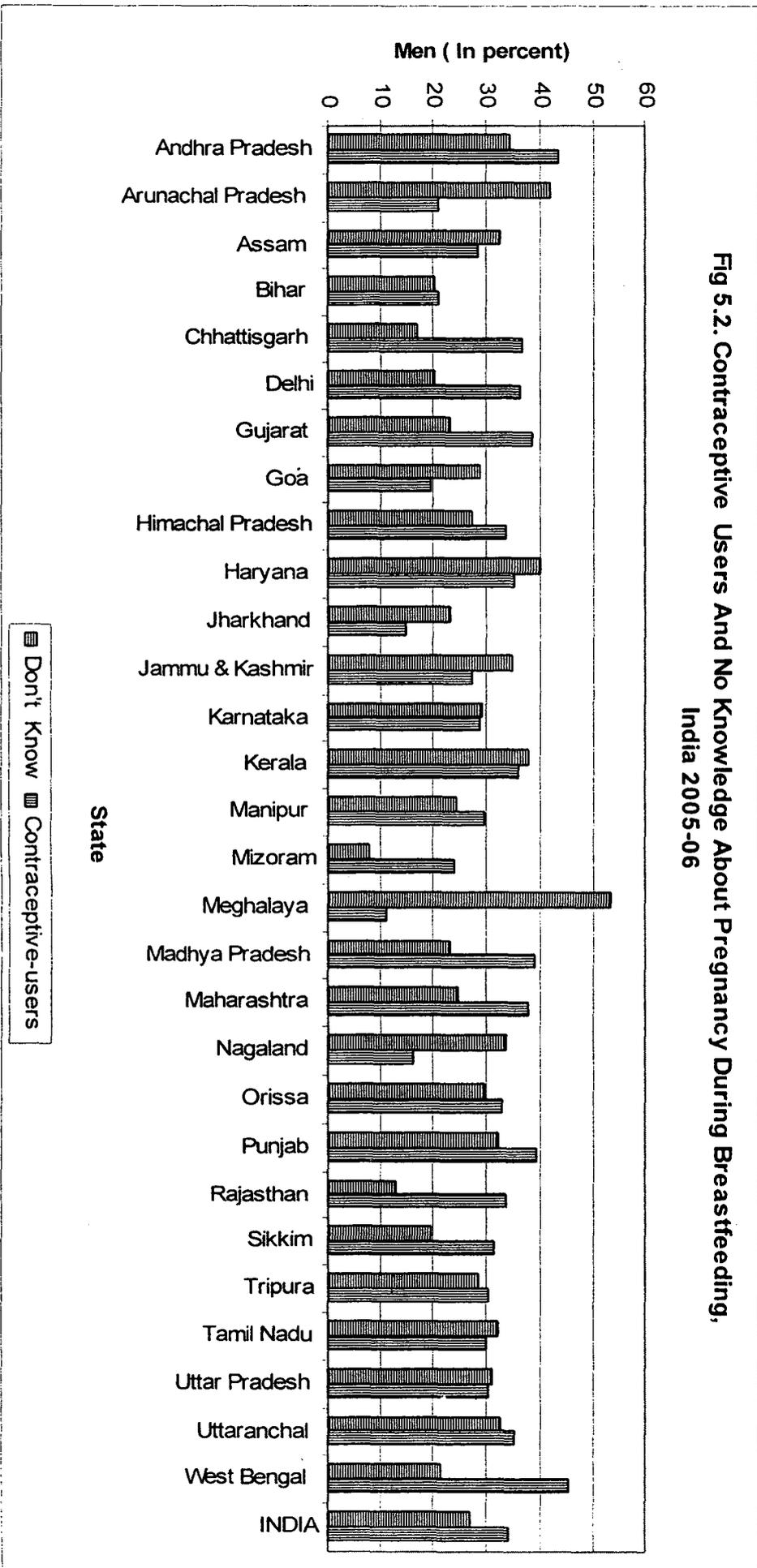


Fig 5.1. Contraceptive Users And No Knowledge About Menstrual Period,India 2005-06



**Fig 5.2. Contraceptive Users And No Knowledge About Pregnancy During Breastfeeding, India 2005-06**

It is difficult to say whether increase in knowledge about women's reproductive physiology also increases the usage of contraception as in this study we have examined data of men only. Thus trend cannot be interpreted and this is a major limitation. However it is possible for us to observe the influencing factors in earlier studies.

Mahler (2000) ; Singh. K.K et al., (1998) and Bloom et al., (2000) examined men's knowledge about three physiological change in women. Menstrual cycle was one among other two indicators (signs or symptoms of complications during pregnancy and sexually transmitted diseases). They have used Uttar Pradesh Male Reproductive Health Survey (MRHS) which was conducted in year 1995-96, that include currently married men between the ages of 15 and 59. The state level analysis showed that the urban-rural differential was small regarding the knowledge about menstrual period. Further they had mentioned that knowledge tended to increase with years of education, but fewer than a third of men in the highest category responded correctly. Men younger than 20 tended to know less than older men, but little variation was found between the remaining age groups. The proportion of men from households with four or more assets had given the correct response which is double than that of men from homes with the fewest assets. Their results are somewhat similar to our study. Overall it is cleared that knowledge about periodic abstinence was unfamiliar to Indian men. Regarding knowledge of pregnancy during breastfeeding, there are limited studies conducted in India.

So far our study focused only on men. We have not used the data available on women but it is instructive to know whether women also have similar knowledge as men. To determine this we now examine woman's perception about their own reproductive physiology . For this analysis, woman's file from NFHS-3 has been used. The results regarding perception about ovulation cycle is similar to men. In India (Table 5.2) only 14.0 percent of women have correctly identified the fertile period whereas 51.50 percent have incorrectly reported it. About 25.30 percent of women replied that it occurs at any time and 19.70 percent have reported that it can occur after period ended and 34.50 percent do not have any knowledge about periodic abstinent.

<b>Table 5.2</b>	
<b>Percentage distribution of knowledge of the fertile period among women in India, 2005-06</b>	
<b>Fertile Period</b>	<b>Women</b>
<b>Incorrectly Identify</b>	<b>51.5</b>
During her period	4.3
After period ended	19.7
Before period begins	2.0
At any time	25.3
Other	0.2
<b>Correctly Identify ( Middle of the cycle )</b>	<b>14.0</b>
<b>Don't know</b>	<b>34.5</b>

Source : Computed from raw data, IIPS, 2007.

We also analyzed lactational amenorrhea method which is a temporary family planning method based on the natural effect of breastfeeding on fertility. Breastfeeding provides 98.0 percent protection from pregnancy only when the mother is exclusively breastfeeding. So we first filter those women who are currently breastfeeding. Among them we find, about 60.20 percent of women are not using any current contraceptive method. Again 74.70 percent of women have replied that they gave child plain water to their young ones and 15.60 percent said no. Considering supplementary food items, 34.80 percent of women have answered that they gave child tinned/powder or fresh milk and 55.40 replied no. From this analysis one can identify, in India women are not familiar with efficacy of breastfeeding as any supplementation or disruption of the feeding schedule can increase the chance of a new mother becoming pregnant if she is not using any other form of contraceptive methods ( Table is not given ).

Finally, in this study we have presented a conceptual framework to observe males perspective on woman's risk of pregnancy. The principal conclusions are that Indian men and women are not aware of woman's reproductive physiology during menstrual period. Regarding pregnancy during breastfeeding, men and women have some understanding. Our study indicates that lack of knowledge about reproductive health, incorrect or incomplete knowledge about efficacy of breastfeeding and periodic abstinence may be a major obstacle to the adoption of these natural contraception.

Therefore both men and women in India need to be informed about the advantages of natural contraception as well as modern contraception as a mean of preventing unwanted pregnancies and spacing births. Information, education, and communication (IEC) campaigns will be proved effective at changing people's behavior, including better reproductive health behavior and increase their participation. Additionally, an illiterate, non - working man who belong to poorest or poorer or from medium wealth quintile can be covered through this campaigns. The challenge for policy programme managers and service providers is to come up with innovative programmes to improve, promote, encourage and direct the correct perspective of men and women towards natural as well as other form of contraception. This may require intensive use of mass media, supplemented by personal contacts through community outreach programmes and counseling as short term strategies.

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## Appendix - I

Number of men aged 15 - 54 who are correct, incorrect or don't know about menstrual period by state, India, 2005-06

Reported					
Correct		Incorrect		Don't-Know	
Tripura	40	Meghalaya	271	Mizoram	71
Jharkhand	41	Kerala	369	Sikkim	194
Himachal Pradesh	48	Delhi	405	Arunachal Pradesh	206
Mizoram	57	Uttaranchal	429	Tripura	209
Arunachal Pradesh	73	Arunachal Pradesh	432	Jharkhand	232
Chhattisgarh	80	Tripura	461	Chhattisgarh	239
Jammu & Kashmir	84	Assam	485	Gujarat	248
Meghalaya	91	Sikkim	502	Goa	293
Uttaranchal	110	Haryana	508	Rajasthan	307
Sikkim	114	Mizoram	537	Meghalaya	357
Bihar	134	Punjab	558	Himachal Pradesh	379
Goa	168	Jammu & Kashmir	611	Jammu & Kashmir	381
Haryana	191	Himachal Pradesh	639	Delhi	383
Rajasthan	195	Bihar	648	Haryana	384
Orissa	199	Orissa	679	Bihar	432
Gujarat	222	Jharkhand	723	Uttaranchal	440
Kerala	225	Goa	723	Punjab	481
Assam	238	Gujarat	957	Kerala	527
Punjab	290	Rajasthan	969	Madhya Pradesh	581
Madhya Pradesh	296	Chhattisgarh	1065	Assam	670
West Bengal	413	West Bengal	1566	West Bengal	690
Karnataka	456	Manipur	1587	Orissa	712
Delhi	647	Andhra Pradesh	1703	Manipur	1055
Tamil Nadu	729	Madhya Pradesh	1848	Nagaland	1144
Nagaland	943	Nagaland	1884	Maharashtra	2933
Manipur	1307	Tamil Nadu	2008	Tamil Nadu	2959
Maharashtra	1315	Karnataka	2077	Karnataka	2990
Uttar Pradesh	1375	Maharashtra	4610	Andhra Pradesh	3231
Andhra Pradesh	2184	Uttar Pradesh	6423	Uttar Pradesh	3652
<b>INDIA</b>	<b>12265</b>		<b>35677</b>		<b>26380</b>

Source : Computed from raw data, IIPS, 2007.

## Appendix - II

Number of men aged 15 - 54 who are agree, disagree or don't know about pregnancy during breastfeeding, by state, India, 2005-06

Yes		No		Don't Know	
Meghalaya	138	Mizoram	52	Mizoram	52
Arunachal Pradesh	226	Sikkim	108	Sikkim	164
Tripura	327	Jammu & Kashmir	131	Rajasthan	200
Goa	415	Uttaranchal	160	Tripura	200
Jharkhand	443	Tripura	184	Chhattisgarh	242
Haryana	459	Kerala	185	Bihar	252
Uttaranchal	502	Arunachal Pradesh	188	Jharkhand	254
Kerala	515	Haryana	191	Himachal Pradesh	276
Sikkim	538	Meghalaya	206	Delhi	293
Himachal Pradesh	560	Himachal Pradesh	229	Arunachal Pradesh	297
Mizoram	560	Punjab	252	Uttaranchal	319
Jammu & Kashmir	568	Orissa	260	Gujarat	336
Gujarat	601	Bihar	299	Goa	346
Assam	630	Jharkhand	299	Jammu & Kashmir	374
Punjab	651	Assam	301	Meghalaya	374
Chhattisgarh	662	Rajasthan	413	Kerala	421
Bihar	663	Goa	424	Punjab	426
Delhi	665	Delhi	476	Haryana	433
Rajasthan	858	Chhattisgarh	480	Orissa	452
Orissa	877	Gujarat	489	Assam	463
Madhya Pradesh	1382	West Bengal	539	Madhya Pradesh	584
West Bengal	1510	Manipur	669	West Bengal	620
Karnataka	1782	Madhya Pradesh	759	Manipur	961
Nagaland	1789	Nagaland	898	Nagaland	1284
Manipur	2310	Tamil Nadu	1172	Karnataka	1626
Tamil Nadu	2673	Andhra Pradesh	1403	Tamil Nadu	1851
Andhra Pradesh	3323	Uttar Pradesh	1615	Maharashtra	2152
Maharashtra	4502	Karnataka	2118	Andhra Pradesh	2387
Uttar Pradesh	6138	Maharashtra	2201	Uttar Pradesh	3694
<b>INDIA</b>	<b>36267</b>		<b>16701</b>		<b>21333</b>

Source : Computed from raw data, IIPS, 2007.

### Appendix – III

Results of the multinomial logistic regression : knowledge of menstrual period among men aged 15-54

		Parameter Estimates							
Incorrectly Reported		B	Std. Error	Wald	df	Sig.	Exp(B)	95% Confidence Interval for Exp(B)	
Background Characteristic								Lower Bound	Upper Bound
<i>Intercept</i>		2.147	0.071	926.547	1	.000			
<b>Age</b>									
	50-54	-0.586	0.07	70.137	1	.000	0.557	0.485	0.639
	45-49	-0.636	0.066	93.355	1	.000	0.529	0.465	0.602
	40-44	-0.65	0.064	101.841	1	.000	0.522	0.46	0.592
	35-39	-0.644	0.063	103.438	1	.000	0.525	0.464	0.595
	30-34	-0.672	0.062	116.908	1	.000	0.511	0.452	0.577
	25-29	-0.649	0.06	115.484	1	.000	0.522	0.464	0.588
	20-24	-0.468	0.059	62.612	1	.000	0.626	0.558	0.703
	15-19 @	0b			0				
<b>Place Of Residence</b>									
	Urban	-0.001	0.029	0.001	1	.972	0.999	0.943	1.058
	Rural @	0b			0				
<b>Highest Educational Level</b>									
	No education	-0.012	0.043	0.074	1	.785	0.988	0.908	1.075
	Primary	0.135	0.038	12.859	1	.000	1.145	1.063	1.233
	Higher	-0.316	0.035	81.51	1	.000	0.729	0.68	0.781
	Secondary @	0b			0				
<b>Wealth Index</b>									
	Poorest	0.29	0.054	29.285	1	.000	1.337	1.204	1.485
	Poorer	0.279	0.046	36.03	1	.000	1.322	1.207	1.448
	Middle	0.324	0.04	63.995	1	.000	1.382	1.277	1.496
	Richer	0.176	0.034	27.364	1	.000	1.193	1.116	1.274
	Richest @	0b			0				
<b>Occupation</b>									
	Not working	-0.226	0.054	17.512	1	.000	0.798	0.717	0.887
	Other worker	-0.072	0.055	1.703	1	.192	0.930	0.835	1.037
	Professional	-0.15	0.042	13.001	1	.000	0.861	0.793	0.934
	Sales	-0.074	0.038	3.729	1	.053	0.929	0.861	1.001
	Agricultural worker	-0.164	0.033	25.138	1	.000	0.848	0.796	0.905
	Production worker @	0b			0				
<b>Religion</b>									
	Non-Hindu	-0.107	0.03	12.601	1	.000	0.899	0.847	0.953
	Hindu @	0b			0				
<b>Heard/Seen FP On TV Last Months</b>									
	No	0.088	0.031	8.192	1	.004	1.092	1.028	1.16
	Yes @	0b			0				

Continued....

Continued....

		Parameter Estimates						95% Confidence Interval for Exp(B)	
Incorrectly Reported		B	Std. Error	Wald	df	Sig.	Exp(B)	Lower Bound	Upper Bound
Background Characteristic								Lower Bound	Upper Bound
<i>Intercept</i>		2.147	0.071	926.547	1	0.000			
<b>Read/Seen FP Newspaper Last Months</b>									
No		0.266	0.031	72.11	1	.000	1.305	1.227	1.387
Yes @		0b			0				
<b>Contraceptive Group</b>									
User group		-0.335	0.026	168.4	1	.000	0.715	0.68	0.753
Non-user group @		0b			0				
<b>Contraception Business, Man Should Not Worry On Is Woman's</b>									
Don't know		0.365	0.077	22.651	1	.000	1.440	1.239	1.673
Agree		-0.026	0.028	0.843	1	.359	0.975	0.923	1.029
Disagree @		0b			0				
<b>Male Condom Protect Against Pregnancy</b>									
Don't know / Unsure		0.664	0.051	167.467	1	.000	1.943	1.757	2.148
Not at all		0.417	0.081	26.839	1	.000	1.518	1.296	1.777
Sometimes		0.157	0.032	23.641	1	.000	1.170	1.098	1.246
Most of the time @		0b			0				
<b>Region</b>									
Northeast		-0.847	0.062	184.799	1	.000	0.429	0.38	0.485
North		-0.611	0.038	253.545	1	.000	0.543	0.504	0.585
West		-0.055	0.039	1.966	1	.161	0.946	0.876	1.022
East		-0.152	0.038	16.292	1	.000	0.859	0.797	0.925
South		-1.058	0.036	857.999	1	.000	0.347	0.323	0.373
Central @		0b			0				
<b>Reported - Don't Know</b>									
<i>Intercept</i>		1.925	0.074	677.203	1	.000			
<b>Age</b>									
50-54		-1.931	0.075	671.701	1	.000	0.145	0.125	0.168
45-49		-2.014	0.07	836.315	1	.000	0.133	0.116	0.153
40-44		-1.957	0.068	838.498	1	.000	0.141	0.124	0.161
35-39		-1.895	0.066	822.55	1	.000	0.150	0.132	0.171
30-34		-1.871	0.065	841.112	1	.000	0.154	0.136	0.175
25-29		-1.625	0.062	689.878	1	.000	0.197	0.174	0.222
20-24		-0.896	0.059	228.787	1	.000	0.408	0.363	0.458
15-19 @		0b			0				
<b>Place Of Residence</b>									
Urban		0.025	0.032	0.615	1	.433	1.026	0.963	1.093
Rural @		0b			0				
<b>Highest Educational Level</b>									
No education		0.22	0.046	23.045	1	.000	1.247	1.139	1.364
Primary		0.25	0.041	37.847	1	.000	1.285	1.186	1.391
Higher		-0.487	0.042	136.886	1	.000	0.614	0.566	0.667
Secondary @		0b			0				

Continued....

Parameter Estimates								
Reported - Don't Know	B	Std. Error	Wald	df	Sig.	Exp(B)	95% Confidence Interval for Exp(B)	
Background Characteristic							Lower Bound	Upper Bound
<i>Intercept</i>	1.925	0.074	677.203	1	.000			
<b>Wealth Index</b>								
Poorest	0.106	0.058	3.301	1	.069	1.112	0.992	1.247
Poorer	0.231	0.051	20.563	1	.000	1.260	1.14	1.392
Middle	0.268	0.045	36.268	1	.000	1.308	1.198	1.427
Richer	0.191	0.038	25.509	1	.000	1.210	1.124	1.303
Richest @	0b	.	.	0	.	.	.	.
<b>Occupation</b>								
Not working	0.042	0.056	0.569	1	.451	1.043	0.935	1.163
Other worker	-0.148	0.062	5.68	1	.017	0.862	0.763	0.974
Professional	-0.288	0.049	33.924	1	.000	0.750	0.681	0.826
Sales	-0.061	0.043	1.998	1	.158	0.941	0.865	1.024
Agricultural worker	-0.14	0.036	15.605	1	.000	0.869	0.81	0.932
Production worker @	0b	.	.	0	.	.	.	.
<b>Religion</b>								
Non-Hindu	-0.122	0.033	13.678	1	.000	0.885	0.83	0.944
Hindu @	0b	.	.	0	.	.	.	.
<b>Heard/Seen FP On TV Last Months</b>								
No	0.255	0.033	59.904	1	.000	1.291	1.21	1.377
Yes @	0b	.	.	0	.	.	.	.
<b>Read/Seen FP Newspaper Last Months</b>								
No	0.517	0.034	233.212	1	.000	1.677	1.569	1.792
Yes @	0b	.	.	0	.	.	.	.
<b>Contraceptive Group</b>								
User group	-0.606	0.029	423.388	1	.000	0.546	0.515	0.578
Non-user group @	0b	.	.	0	.	.	.	.
<b>Contraception Business, Man Should Not Worry On Is Woman's</b>								
Don't know	1.062	0.076	197.217	1	.000	2.893	2.494	3.355
Agree	-0.267	0.031	73.521	1	.000	0.766	0.721	0.814
Disagree @	0b	.	.	0	.	.	.	.
<b>Male Condom Protect Against Pregnancy</b>								
Don't know / Unsure	1.293	0.052	627.072	1	.000	3.645	3.294	4.033
Not at all	-0.08	0.09	0.785	1	.376	0.923	0.774	1.102
Sometimes	0.024	0.036	0.454	1	.501	1.024	0.955	1.099
Most of the time @	0b	.	.	0	.	.	.	.

Continued....

Parameter Estimates								
Reported - Don't Know	B	Std. Error	Wald	df	Sig.	Exp(B)	95% Confidence Interval for Exp(B)	
Background Characteristic							Lower Bound	Upper Bound
<i>Intercept</i>	1.925	0.074	677.203	1	.000			
<b>Region</b>								
Northeast	-0.126	0.067	3.54	1	.060	0.881	0.773	1.005
North	-0.471	0.044	114.386	1	.000	0.624	0.573	0.681
West	0.142	0.045	10.032	1	.002	1.152	1.055	1.258
East	0.038	0.042	0.804	1	.370	1.039	0.956	1.128
South	0.355	0.039	83.469	1	.000	1.426	1.321	1.538
Central ®	0b			0				

a. The reference category is : Correctly Reported.  
b. This parameter is set to zero because it is redundant.  
® : Reference Category

## Appendix – IV

Results of the multinomial logistic regression : knowledge of pregnancy during breastfeeding among men aged 15-54

Parameter Estimates								
Reported - No	B	Std. Error	Wald	df	Sig.	Exp(B)	95% Confidence Interval for Exp(B)	
Background Characteristic							Lower Bound	Upper Bound
<i>Intercept</i>	-0.868	0.05	297.1	1	.000			
<b>Age</b>								
50-54	-0.561	0.05	126.8	1	.000	.571	0.52	0.629
45-49	-0.516	0.046	127.7	1	.000	.597	0.55	0.653
40-44	-0.461	0.044	110.6	1	.000	.631	0.58	0.687
35-39	-0.457	0.043	114.4	1	.000	.633	0.58	0.689
30-34	-0.414	0.042	98.99	1	.000	.661	0.61	0.717
25-29	-0.281	0.04	50.08	1	.000	.755	0.7	0.816
20-24	-0.184	0.038	23.72	1	.000	.832	0.77	0.896
15-19 @	0b			0				
<b>Place Of Residence</b>								
Urban	0.104	0.025	17.4	1	.000	1.109	1.06	1.164
Rural @	0b			0				
<b>Highest Educational Level</b>								
No education	-0.041	0.032	1.621	1	.203	0.960	0.9	1.022
Primary	-0.002	0.029	0.006	1	.939	.998	0.94	1.056
Higher	-0.019	0.033	0.337	1	.562	0.981	0.92	1.047
Secondary @	0b			0				
<b>Wealth Index</b>								
Poorest	0.177	0.042	17.89	1	.000	1.194	1.1	1.296
Poorer	-0.007	0.038	0.033	1	.856	0.993	0.92	1.07
Middle	-0.057	0.034	2.822	1	.093	0.944	0.88	1.01
Richer	-0.05	0.03	2.855	1	.091	0.951	0.9	1.008
Richest @	0b			0				
<b>Occupation</b>								
Not working	0.091	0.04	5.308	1	.021	1.096	1.01	1.184
Other worker	-0.052	0.047	1.244	1	.265	0.949	0.87	1.04
Professional	0.096	0.038	6.378	1	.012	1.100	1.02	1.185
Sales	0.019	0.033	0.319	1	.572	1.019	0.96	1.086
Agricultural worker	0.012	0.026	0.206	1	.650	1.012	0.96	1.064
Production worker @	0b			0				
<b>Religion</b>								
Non-Hindu	-0.075	0.025	8.867	1	.003	0.928	0.88	0.975
Hindu @	0b			0				
<b>Heard/Seen FP On TV Last Months</b>								
No	0.014	0.024	0.351	1	.554	1.014	0.97	1.062
Yes @	0b			0				

Continued....

Continued....

		Parameter Estimates							
Reported - No		B	Std. Error	Wald	df	Sig.	Exp(B)	95% Confidence Interval for Exp(B)	
Background Characteristic								Lower Bound	Upper Bound
<i>Intercept</i>		-0.868	0.05	297.1	1	.000			
<b>Read/Seen FP Newspaper Last Months</b>									
No		0.2	0.025	64.84	1	.000	1.221	1.16	1.282
Yes @		0b			0				
<b>Contraceptive Group</b>									
User group		-0.052	0.022	5.593	1	.018	0.949	0.91	0.991
Non-user group @		0b			0				
<b>Contraception Business, Man Should Not Worry On Is Woman's</b>									
Don't know		0.256	0.049	27.42	1	.000	1.292	1.17	1.423
Agree		0.121	0.022	30.11	1	.000	1.129	1.08	1.179
Disagree @		0b			0				
<b>Male Condom Protect Against Pregnancy</b>									
Don't know / Unsure		0.547	0.031	312.1	1	.000	1.728	1.63	1.837
Not at all		0.444	0.058	59.03	1	.000	1.560	1.39	1.747
Sometimes		0.421	0.026	272.3	1	.000	1.524	1.45	1.602
Most of the time @		0b			0				
<b>Region</b>									
Northeast		0.167	0.053	9.864	1	.002	1.182	1.07	1.311
North		0.137	0.033	17.82	1	.000	1.147	1.08	1.223
West		0.471	0.031	236.4	1	.000	1.601	1.51	1.7
East		-0.06	0.029	4.261	1	.039	0.942	0.89	0.997
South		0.243	0.03	67	1	.000	1.274	1.2	1.351
Central @		0b			0				
<b>Reported - Don't Know</b>									
<i>Intercept</i>		-0.055	0.049	1.289	1	.256			
<b>Age</b>									
50-54		-1.47	0.052	788	1	.000	0.230	0.21	0.255
45-49		-1.417	0.047	908.8	1	.000	0.243	0.22	0.266
40-44		-1.385	0.045	950.4	1	.000	0.250	0.23	0.273
35-39		-1.288	0.043	896.7	1	.000	0.276	0.25	0.3
30-34		-1.243	0.041	898.4	1	.000	0.288	0.27	0.313
25-29		-0.886	0.038	551	1	.000	0.412	0.38	0.444
20-24		-0.475	0.034	193.1	1	.000	0.622	0.58	0.665
15-19 @		0b			0				
<b>Place Of Residence</b>									
Urban		0.098	0.025	14.82	1	.000	1.103	1.05	1.159
Rural @		0b			0				
<b>Highest Educational Level</b>									
No education		-0.057	0.033	2.966	1	.085	0.945	0.89	1.008
Primary		-0.062	0.03	4.269	1	.039	0.939	0.89	0.997
Higher		-0.159	0.036	19.51	1	.000	0.853	0.79	0.915
Secondary @		0b			0				

Continued....

Parameter Estimates								
Don't Know	B	Std. Error	Wald	df	Sig.	Exp(B)	95% Confidence Interval for Exp(B)	
Background Characteristic							Lower Bound	Upper Bound
<i>Intercept</i>	-0.868	0.05	297.1	1	.256			
<b>Wealth Index</b>								
Poorest	-0.428	0.044	94.69	1	.000	0.652	0.6	0.711
Poorer	-0.29	0.039	54.73	1	.000	0.748	0.69	0.808
Middle	-0.189	0.035	29.49	1	.000	0.828	0.77	0.886
Richer	-0.126	0.031	16.81	1	.000	0.882	0.83	0.936
Richest @	0b	.	.	0	.	.	.	.
<b>Occupation</b>								
Not working	0.171	0.037	21.44	1	.000	1.187	1.1	1.276
Other worker	-0.109	0.05	4.775	1	.029	0.897	0.81	0.989
Professional	-0.109	0.043	6.485	1	.011	0.897	0.82	0.975
Sales	0.06	0.034	3.119	1	.077	1.062	0.99	1.136
Agricultural worker	-0.036	0.027	1.841	1	.175	0.964	0.92	1.016
Production worker @	0b	.	.	0	.	.	.	.
<b>Religion</b>								
Non-Hindu	-0.049	0.026	3.672	1	.055	0.952	0.91	1.001
Hindu @	0b	.	.	0	.	.	.	.
<b>Heard/Seen FP On TV Last Months</b>								
No	0.086	0.024	12.47	1	.000	1.090	1.04	1.143
Yes @	0b	.	.	0	.	.	.	.
<b>Read/Seen FP Newspaper Last Months</b>								
No	0.443	0.025	305.9	1	.000	1.558	1.48	1.637
Yes @	0b	.	.	0	.	.	.	.
<b>Contraceptive Group</b>								
User group	-0.242	0.025	97.57	1	.000	0.785	0.75	0.823
Non-user group @	0b	.	.	0	.	.	.	.
<b>Contraception Business, Man Should Not Worry On Is Woman's</b>								
Don't know	1.607	0.039	1718	1	.000	4.989	4.62	5.383
Agree	-0.211	0.025	71.88	1	.000	0.810	0.77	0.85
Disagree @	0b	.	.	0	.	.	.	.
<b>Male Condom Protect Against Pregnancy</b>								
Don't know / Unsure	0.993	0.029	1142	1	.000	2.700	2.55	2.86
Not at all	0.143	0.065	4.75	1	.029	1.153	1.01	1.311
Sometimes	0.235	0.028	69.94	1	.000	1.265	1.2	1.337
Most of the time @	0b	.	.	0	.	.	.	.

Continued....

Parameter Estimates								
Reported - Don't Know	B	Std. Error	Wald	df	Sig.	Exp(B)	95% Confidence Interval for Exp(B)	
Background Characteristic							Lower Bound	Upper Bound
<i>Intercept</i>	-0.868	0.05	297.1	1	.256			
<b>Region</b>								
Northeast	0.151	0.052	8.497	1	.004	1.163	1.05	1.287
North	-0.175	0.034	26.93	1	.000	0.840	0.79	0.897
West	0.015	0.033	0.215	1	.643	1.015	0.95	1.082
East	-0.387	0.03	164	1	.000	0.679	0.64	0.72
South	0.327	0.029	126.3	1	.000	1.387	1.31	1.469
Central ©	0b			0				

a. The reference category is : Yes.  
b. This parameter is set to zero because it is redundant.  
© : Reference Category

## Appendix – V

**Percentage of men aged 15 - 54 who have used contraception the last time they had sex and no knowledge about menstrual period, by state, India, 2005-06**

State	Don't know	Contraceptive-users
Andhra Pradesh	49.7	43.2
Arunachal Pradesh	29.1	21.1
Assam	47.9	28.5
Bihar	38.7	21.0
Chhatisgarh	17.7	36.6
Delhi	23.8	36.2
Gujarat	17.2	38.5
Goa	24.0	19.5
Himachal Pradesh	36.1	33.7
Haryana	35.5	35.3
Jharkhand	24.2	15.0
Jammu and Kashmir	35.8	27.5
Karnataka	54.1	28.8
Kerala	47.0	36.0
Manipur	26.9	29.8
Mizoram	29.0	23.9
Meghalaya	49.6	11.2
Madhya Pradesh	23.9	38.8
Maharashtra	35.8	37.8
Nagaland	30.4	16.3
Orissa	46.7	32.8
Punjab	36.2	39.4
Rajasthan	20.5	33.8
Sikkim	23.5	31.4
Tripura	10.8	30.3
Tamil Nadu	51.0	30.0
Uttar Pradesh	33.5	30.5
Uttaranchal	44.8	35.3
West Bengal	25.4	45.2
<b>INDIA</b>	<b>35.3</b>	<b>34.2</b>

Source : Computed from raw data, IIPS, 2007.

## Appendix – VI

**Percentage of men aged 15 - 54 who have used contraception the last time they had sex and no knowledge about pregnancy during breastfeeding, by state, India, 2005-06**

State	Don't Know	Contraceptive-users
Andhra Pradesh	34.4	43.2
Arunachal Pradesh	41.9	21.1
Assam	32.7	28.5
Bihar	20.3	21.0
Chhattisgarh	17.2	36.6
Delhi	20.2	36.2
Gujarat	23.4	38.5
Goa	28.9	19.5
Himachal Pradesh	27.3	33.7
Haryana	40.1	35.3
Jharkhand	23.3	15.0
Jammu & Kashmir	34.9	27.5
Karnataka	29.3	28.8
Kerala	37.6	36.0
Manipur	24.4	29.8
Mizoram	7.8	23.9
Meghalaya	53.4	11.2
Madhya Pradesh	23.2	38.8
Maharashtra	24.8	37.8
Nagaland	33.7	16.3
Orissa	29.6	32.8
Punjab	32.1	39.4
Rajasthan	13.1	33.8
Sikkim	19.5	31.4
Tripura	28.5	30.3
Tamil Nadu	32.1	30.0
Uttar Pradesh	31.0	30.5
Uttaranchal	32.5	35.3
West Bengal	21.6	45.2
<b>INDIA</b>	<b>27.0</b>	<b>34.2</b>

Source : Computed from raw data, IIPS, 2007.