MEN'S INVOLVEMENT IN ANTENATAL AND DELIVERY CARE: A CASE STUDY OF GOA AND TAMILNADU STATES OF INDIA

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MASTER OF PHILOSOPHY

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DECLARATION

I, Yogendra Singh, declare that the dissertation entitled "*Men's Involvement in Antenatal and Delivery Care: A Case Study of Goa and Tamilnadu States of India*" submitted by me for the award of the degree of Master of Philosophy of Jawaharlal Nehru University is my bonafide work. This dissertation has not been submitted for any other degree of this university or any other university.

Date...19/07/10.....

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It is hereby recommended that the dissertation may be placed before the examiners for evaluation.

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Yogendra Singh

DEDICATED TO-

My mother,

CONTENTS

LIST OF ABBREVIATIONS

ANC	Antenatal Care
ANM	Auxiliary Nurse Midwife
ICPD	International Conference on Population & Development
IIPS	Internation Institute for Population Sciences
IMR	Infant Mortality Rate
MCH	Maternal and Child Health
MDG	Millenium Development Goal
MMR	Maternal Mortality Ratio
MoHFW	Ministry of Health and Family Welfare
NFHS	National Family Health Survey
NPP	National Population Policy
NRHM	National Rural Health Mission
OBC	Other Backward Castes
ORGI	Office of Registrar General of India
RCH	Reproductive and Child Health
SC	Scheduled Castes
ST	Scheduled Tribes
STD	Sexually Transmitted Diseases
UNDP	United Nations Development Programme
US	United States
WHO	World Health Organization

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Chapter-1

INTRODUCTION

Poor maternal health has always remained a concern for India. The country as a whole has been recording a high maternal mortality ratio. The maternal mortality ratio in India was 398 (1997-98), 327 (1999-2001), 301 (2001-03) and 254 (2004-06) and there are large variations among states (ORGI 2006, ORGI 2009). High maternal mortality has different implication considering the size of India's population. The country shares 25.7 percent of total maternal deaths in the world, which is the highest for any single country (WHO 2003). However, initially India's reproductive health programme was essentially target oriented and quality of care was not a matter of major concern. It is only after ICPD in 1994, quality of care started gaining coin in reproductive health. The target 6 of Goal no. 5 of Millennium Development Goals of UNDP asserts on reducing the maternal mortality ratio by three-quarters, between 1990 and 2015. In the same tune the National Population Policy (2000) of India, has also specified several goals pertaining to safe motherhood. One of these goals is to reduce the maternal mortality ratio to below 100 per 100000 live births upto 2012 (MoHFW 2000).

Like family planning, antenatal and delivery care is a key component of reproductive health, which comprises different stages of pregnancy outcomes. Pregnancy health is physical, mental and social wellbeing of women immediately before, during pregnancy/delivery (natal) and after childbirth (post natal) (WHO 2000). Thus pregnancy care means the provision of essential care of pregnant women to ensure safe delivery including postnatal care and treatment of complications of mother and newborns. Complications during pregnancy and childbirth (coupled with inadequate access and underutilization of modern health care services) are the leading causes of

death and disability among women of reproductive age in developing countries (Simkhada 2008). These complications, which can occur at any time during pregnancy and childbirth without showing signs, require prompt access to proper obstetric services. Most of the deaths and disabilities due to childbirth are avoidable by providing the medical interventions that are well known and inexpensive. Immediate and effective care before, during and after delivery can make the difference between life and death for women. Therefore, pregnancy care can prevent adverse outcomes when it is sought in time. The well-being of mother and new born depends on the pregnancy care that a mother receives during her pregnancy. Women's and husband's education, parity, birth order or interval, age of women at marriage/ pregnancy, ethnicity/ caste/ religion, family size and structure, women's status/autonomy, media exposure, history of obstetric problems, availability of service, women's occupation, standard of living, distance or travel time to health facility and cost of the services, are some leading causes which influence the maternal deaths directly or indirectly.

The influence of background characteristics of women in their health care has been well documented. It has been seen that reproductive and child health are the very personal matter of Indian women for ages. Male are less involved in it (WHO, 1998). In fact, male involvement in maternal and child health (MCH) is one of the burning issues in the reproductive and child health program (RCH). Tradition, norms, values are some of the important pillars of the Indian society. In the boundary of in-house work women have restricted themselves in cooking, taking care of the family members, rearing child. Entry of men in that domain has neither been sought nor encouraged. Thus they remained silent even when need aroused. This was identified as one of the main reason for poor pregnancy health of Indian women.

The commitment to include men in reproductive and sexual health has never been so clearly reaffirmed since Cairo, Beijing and their follow-up plan of actions. The actions adopted by consensus at the 1994 International Conference on Population and development (ICPD), Cairo shifted from a purely demographic approach to a more holistic reproductive health framework that links health to gender equality and sustainable development. The ICPD also makes a clearer connection between reproduction, power relation and sexuality and is a strong advocate for gender equality and women's empowerment as means of achieving the goals of sustainable development. Several studies have shown that involvement of men in reproductive (specially antenatal and delivery) care can bring down the maternal mortality, infant mortality and improve both mother and new born's health (Bhalerao 1984, Grady 1996, Carter 2002, Dudgeon 2004, Singh 2004, Varkey 2004, Verma 2006, Mullany 2007, Chattopadhaya 2009, Kumar 2009, Singh 2009). Men's participation in pregnancy care should not be interpreted in terms of physical involvement during antenatal, delivery and postnatal check-up but they can also help their wives indirectly by extending their psychological support. For example, men can extend help in domestic work, advice for immunization and consumption of iron and folic acid tablets, advice and support for appropriate nutrition and rest during the time of pregnancy. In addition, they can support their wives to purchase required foods (especially food rich in iron and fortified with vitamin A). Oropesa et al. (2000) in their study among Puerto Ricans on US have shown that husband's psychological support is positively associated with good pregnancy output. Likewise, husbands not only support their wives by accompanying and providing financial resources during medical check-up when they seek care but also play important role in decision making in various stages of pregnancy health.

There have been several training and counseling programmes in different countries to provide family planning education and related awareness to men, but least efforts have been done for antenatal, delivery and postpartum care. The independent surveys, done by NGOs, research agencies, investigate and focus about men's knowledge of maternal health problems, reasons for their participation/ non-participation by analyzing cultural taboos, lack of awareness/ poor information etc. (Bhalerao 1984, Bender 1995, Singh 1998, Ormel 1999, Bloom 2000, Ransom 2000, Raju 2001). Although the absence of men during the counseling and awareness campaign is one more problem, yet these campaigns provide fruitful results (Bhalerao 1984, Bender 1995, Kaune 1998, Pal 2000). In spite of all these efforts, the involvement of men in obstetric care has been criticized by some scholars; they argue that it will enhance the control of men over reproductive health of their counterparts through several ways and it is not their domain (Ormel 1999, Ransom 2000).

There are several studies in India, which have focused on men's participation in maternal health (Singh 1998, Bloom 2000, Raju 2000 & 2001, Barua 2004, Varkey 2004, Padma 2005, Chattopadhyay 2009, Singh 2009). Although studies of men's reproductive attitude and behavior have grown in number, they are dominated by a problem oriented approach. In spite of the sizable increase in the interest in male involvement in RCH, Indian studies have mainly focused on the basic measurement of fertility, contraceptive use and reproductive preferences from women's side. The knowledge is still scanty with regard to predictors in MCH by husband's perceptions, attitudes, behaviors and communication. Whereas, the process of reproduction entails mutual responsibilities, men's participation in reproductive and maternal health is mostly negligible and neglected (Padma 2005). Ever since it has been established that the attitude and level of involvement of the husbands towards their wife's health and morbidity plays a very prominent role in their wife's treatment seeking behaviour,

there have been efforts to involve men actively in the maternal health care. Women are often unable to access pre-natal and natal health services for a variety of reasons including lack of control over household financial or transportation resources and due to lack of autonomy in movement. Reasons apart from financial often ranges from lack of time from spouse to obligation for children and other dependents as preventive to visit health centres by pregnant women (Chattopadhyay 2009). These reasons prove the urgency to involve men in the MCH and RCH care.

In spite of these studies some gap still remains related to the level of knowledge and awareness men have regarding maternal health care in India (these studies neither focus on all India level nor they compare states). Whether men do something to solve the problem (do they involve, support physically/ medical/ nutritional/ health and emotionally), are they welcome in health facility providing women's health services, do they follow the advice provided about antenatal and delivery care. These studies are also insufficient to address what are the various factors which control men's participation and variations therein with age, region, education, caste etc.

RESEARCH PROBLEM

Masculinity is significantly linked with various socio-economic, cultural, geographic and demographic factors. The cultural meaning of masculinity has a significant influence on men's understanding of their own and wives' reproductive health status and also affects their health care seeking behavior (Dudgeon 2004). The demographic factors (age, parity, marriage) are important predictors of men's knowledge, attitude and participation in women's reproductive health and child health (Singh 1998). Similarly, socio-economic factors (as education, media exposure) are associated with men's knowledge and their involvement in maternal and child health (Bankole 1998).

Patriarchal system is the dominant characteristic of Indian society. The system not only influences sexual, reproductive and child health care but also household decision making process. A little attention has been paid to men's participation in women's reproductive healthcare in India. After Cairo conference, India is committed to provide reproductive and child health services throughout the country and Reproductive and Child Health Programme (RCH) is aimed at reducing the higher infant mortality rate (IMR), maternal mortality rate (MMR) in states of India. The countrywide launched programme National Rural Health Mission (NRHM) does seek to control the non-institutional birth and maternal mortality. As explained previously, the influence of demographic, socio-economic, cultural and geographic factors on men's involvement in antenatal and delivery care is equally important in Indian context and in the states as in global level. It is therefore essential to understand the influence of these factors on men's role. But till date the relationship between these factors and men's role has not been well examined especially at the state level. Thus, this study analyses whether socio-economic, cultural, demographic and geographic factors influence men's knowledge, attitude and participation in antenatal and delivery care in India and selected states.

RESEARCH QUESTIONS

1. To what extent are men aware of importance of women's antenatal and delivery care in India and selected states and across different socio-economic groups?
2. What are the socio-cultural, economic, demographic and geographical determinants that influence men's involvement in antenatal and delivery care?
3. Do explaining the importance of safe delivery to husbands when their wives are pregnant increases the chances of institutional delivery?
4. Do staying away of husbands/ wives from home increases the risk of not being attended by husband during antenatal check-up and at the time of delivery?

5. Do husbands report their wives' antenatal and delivery care differentially than it is reported by their spouse?

OBJECTIVES

The main objective of this study is to analyze the men's involvement in women's antenatal and delivery care in India and selected states. The specific objectives are:

1. To study men's knowledge regarding antenatal and delivery care in India and selected states.
2. To study whether awareness or information to men regarding importance of antenatal care and safe delivery has influence on institutional delivery.
3. To study the difference between men's and women's reporting about antenatal and delivery care.
4. To analyze the determinants of men's involvement in antenatal and delivery care.

HYPOTHESES

1. Staying away of husbands from home reduces chances of men's involvement in wives' antenatal and delivery care.
2. The head of household is the biggest decision maker and being a women head of household increases the chances for receiving antenatal and delivery care.
3. If fertility is wanted, there should be higher chances for receiving antenatal check-ups and choosing for institutional delivery.
4. The wives, of the husbands who were explained the importance of safe delivery during the pregnancy, would have higher chances of delivering baby within the health facility.

DATA SOURCE

For the first time, NFHS III (2005-06) provides information from both ever-married and never married men (74,369), aged 15-54 year, collected by canvassing in-depth structured questionnaire throughout India. This large scale survey, collected data from men on varying aspects of theirselves and on aspects of women's health and welfare. Two states namely, Goa and Tamilnadu are chosen for this study based on certain characteristics (discussed in detail in study area section of the study). In Goa, NFHS-3 is based on a sample of 3,231 households that is representative at the state level and within the state at the urban and rural levels. The survey interviewed 3,464 women age 15-49 from all the sample households and 1,185 men age 15-54 from a subsample of households to obtain information on population, health, and nutrition in the state. The household response rate in the state as a whole was 97 percent, and the individual response rates were 91 percent for eligible women and 80 percent for eligible men (IIPS 2009). In Tamil Nadu, the survey is based on a sample of 6,344 households that is representative at the state level, within the state at the urban and rural levels. NFHS-3 interviewed 5,919 women age 15-49 and 5,696 men age 15-54 from all the selected households to obtain information on population, health, and nutrition in the state. The household response rate was 99 percent in the state as a whole and the individual response rates were 98 percent for eligible women and 96 percent for eligible men (IIPS 2008).

The information, collected in NFHS III pertaining to men, is as follows: Husband's socio-economic background, husband's knowledge about pregnancy complications, nutrition during pregnancy, institutional delivery, attitude of husband towards justification of wife beating, husband's presence in ANC, his report on non-utilization of ANC and non-institutional delivery. Women's ANC care and delivery in health

facility are looked through husband's background and intermediate variables. Women who have given birth in the last five years are considered in the analysis.

Questions asked to husband regarding ANC care are as follows:

When wife was pregnant did she had any antenatal checkup? Were you ever present during any check-up? What was the main reason why she did not have any antenatal check-up? At any time when wife was pregnant, did any health provider or health worker ever tell you about the signs of pregnancy complications like vaginal bleeding, convulsions, prolonged labour? At any time during pregnancy did any health provider or health worker speak to you about- importance of delivering the baby in a hospital or health facility and importance of proper nutrition of the mother during pregnancy? Besides considering the above variables in calculating 'husband's knowledge about pregnancy and delivery', the other variables taken into account are: whether any health provider or health worker speak to you about family planning or delaying the next child, whether anyone explained husband about the importance of breastfeeding the baby immediately after delivery, keeping baby warm immediately after birth, cleanliness at the time of delivery and use of new /unused blade to cut the umbilical cord.

NFHS III also asked married men about their opinion of justification of wife beating. The questions put forth are: Sometimes a husband is annoyed or angered by things that his wife does. In your opinion is a husband justified in hitting or beating his wife in the following situations- if she goes out without telling him, neglects the house or children, argues with him, refuses to have sex with him, does not cook food properly, disrespect in-laws or he suspects her of being unfaithful.

The data in this study have been taken from men's file, women's file and couple's file for all India and the states of Goa and Tamilnadu.

METHODOLOGY

Methods of analysis: The study involves different statistical and cartographic methods to fulfill the above said objectives. The study uses software packages like PASW® Statistics 18.0 (formerly SPSS®), Microsoft® Excel® 2010 Beta for data analysis and ArcGIS® 9.2 (ESRI®) for preparation of the maps.

When people's membership of two sets of mutually exclusive and exhaustive categories (such as sex or place of residence here) is recorded, it is possible to construct a contingency table or cross-tabulation, which is used as measure of association (Kinnear 2004). Chi square test has been used to test whether the explanatory variables exhibit a significant and predictable association with response variables. Chi square test is given by

$$Chi\ square = \sum \frac{(Oi - Ei)^2}{Ei}$$

Where Oi = Observed frequencies and

Ei = Expected frequencies

Cross-tabulation followed by chi square test only shows an association between explanatory and response variables but it does not state the cause and effect relationship among them. A highly significant chi square value does mean the strong association between predictors and dependent variables unless the effect of confounding variables is not studied. In this study, men's involvement is a social construction of many factors so that a large number of variables have direct and indirect influence. It is therefore, logistic regression model that is the best suited for this type of analysis. In addition, all the response variables selected for the analysis

are categorical so that logistical regression is an appropriate statistical technique to analyze (cause and effect) the data in the present study.

Binary logistic regression analysis is used to understand the determinants of the following outcome indicators: antenatal care visit of women and institutional delivery and as reported from men.

In binary logistic regression, the response variable contains two categories like yes and no etc. Mathematical form of binary logistic equation is given as:

$$P = \frac{1}{1 + Exp(-Z)}$$

Where, P = estimated probability

Z = predictor

But for the multivariate case, Z can be expressed in terms of linear combination of other predictor variables as $Z = b_0 + b_1X_1 + b_2X_2 + \ldots\ldots\ldots\ldots + b_nX_n$ then the logistics function reduces to the form

$$P = \frac{1}{1 + Exp[-(b_0 + b_1X_1 + b_2X_2 + \ldots\ldots\ldots\ldots + b_nX_n)]}$$

The ratio of probability of success and not success is also known as Odd Ratio:

$$Odds = \frac{P}{1-P}$$

Hence the binary logistic function reduces to the form

$$LogitP = b_0 + b_1X_1 + b_2X_2 + \ldots\ldots\ldots\ldots + b_nX_n$$

Logistic regression can also be expressed as in probability form

$$P(x) = \frac{Exp[-(b_0 + b_1X_1 + b_2X_2 + \ldots\ldots\ldots\ldots + b_nX_n)]}{1 + Exp[-(b_0 + b_1X_1 + b_2X_2 + \ldots\ldots\ldots\ldots + b_nX_n)]}$$

Odd ratio has been used to compare the relative change in response variable with respect to predictor variables. The odd ratio is given by

$$Exp(b) = \frac{\Omega^*}{\Omega}$$

Where, Ω has its usual meaning.

This odd ratio gives the change in response variable when there is unit change in one predictor variable keeping rest of the variable constant multiplying the odds by certain exponential factor.

Description of variables:

NFHS-3 covers responses from men of age 15-54. The men have been regrouped in three groups of 15-29, 30-34 and 35-54 years age-group in the study. The necessary grouping has been done as to make relatively even distribution of the study population. The types of places of residence are rural and urban. The highest educational levels achieved by men are primary, secondary and higher education and men who have no education are grouped as no education. The caste and social groups are SC, ST, OBC and others, in this SC and ST have been combined as a group. The religious affiliations have been shown as Hindus and others (others include Muslims, Christian, Buddhist/Neo-Buddhist, Jain, Sikh, Jewish, Parsi/Zoroastrian, Donyi polo, No religion, other than these). The income and expenditure of respondents is taken as proxy in the form of wealth index. This 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 (IIPS 2007). The poorest have been clubbed with the poor in this analysis. The two types of families are nuclear and non-nuclear. The sex of the head of the household is male or female. The states are Goa, Tamilnadu and rest of states are grouped as others.

The answers for the questions: antenatal check-ups for the mother for youngest child; during pregnancy importance explained of delivering child in hospital to husband; pregnancy complications: vaginal bleeding, convulsions, prolonged labour; told about sources of care for complications; during pregnancy, importance explained of delivering in hospital, proper nutrition food, breastfeeding, keeping baby warm, delivery cleanliness, clean blade to cut the cord, told about family planning; knowledge of ovulatory cycle, are yes and no. The places of birth of youngest child are hospital or health facility and others. The reasons for not delivering youngest child in health facility are: cost too much, facility closed, too far/no transportation, don't trust facility/poor quality service, no female provider, not the first child, mother did not think necessary, respondent did not think necessary, family did not think necessary, other and don't know. The reasons child's mother did not have antenatal check-up are: he did not think it necessary/did not allow, family did not think it necessary/did not allow, child's mother did not want check-up, has had children before, cost too much, no female provider at facility, too far/no transportation, other and don't know.

The difference between ideal and living children has been calculated and classified in three groups; number of ideal children is less than the number of living children, equal and more. This variable has been used as a proxy for fertility.

The exposure to media has been reclassified into two groups as high and low exposure. There are three exposures given in the data; frequency of watching television, frequency of listening to radio and frequency of reading newspaper: not at all, less than once a week, at least once a week and daily (code- 0, 1, 2, 3 are used respectively for these options). These code have been added (ranging from 0 to 9) and those men and women, who are getting a score of at least 5 or above (out of total 9), have been classified as having high exposure to media.

Exposure to none: (0, 0, 0)

Exposure to any one: [(0, 0, 1/2/3) or (0, 1/2/3, 0) or (1/2/3, 0, 0)] = score from 1 to 3.

Exposure to two: [(0, 1/2/3, 1/2/3) or (1/2/3, 0, 1/2/3) or (1/2/3, 1/2/3, 0)] = score from 2 to 6.

Exposure to all three: (1/2/3, 1/2/3, 1/2/3) = score from 3 to 9.

LIMITATIONS OF THIS STUDY AND DATA ON MEN'S INVOLVEMENT IN NFHS-3

There are many limitations in this study. First, the Husband's involvement is a very complex topic of discussion, which cannot be measured by a single indicator. This paper assesses husband's involvement in pregnancy care by considering husband's presence at ANC and involvement in various aspects of birth preparedness. But the combination of other variables such as; spousal communication about partner's health, husband's assistance in households and other activities could improve the accuracy of the measure of husband's participation.

To mention here some of the drawbacks of the data, NFHS-3 does not provide information on availability and accessibility of health care components. Although the approach of NFHS-3 in measuring violence is optimal, the possibility of underreporting of violence, particularly of sexual violence cannot be entirely ruled out (IIPS 2005-06). After inclusion of husband-wife relationship variables, the sample size at state level reduces sharply. So whether the result at state level can be generalized poses doubt. Also, in the couple file of NFHS-3 many of the questions that have been asked to both husband and wife are not included (like in availing ANC only husband's report is given).

The question on knowledge regarding antenatal and delivery care is expected from all men aged 15 and above as taken in the survey, but here it is asked form the husbands, who had any live birth in previous three years.

STUDY AREA

The study area encompasses two states of India, namely Goa and Tamilnadu. The reasons for taking these two states in this study are given later in this section.

Birth in India has traditionally been considered a ritually impure activity. The tasks associated with assisting at a delivery, particularly cutting the umbilical cord and disposing of the placenta, were and generally continue to be considered polluting and the people undertaking them regarded as unclean. Along with many other occupations thought of as undesirable, birth attendance has traditionally been the responsibility of people, in this case women, belonging to specific sub-castes within the so-called Backward and Scheduled (formerly untouchable) Castes. Birth attendance has therefore also been a family occupation, based on caste. The responsibility of assisting at local births has been handed down from older women to their daughters or daughters-in-law, called *dais*.

Of the dais, those who are in their forties and fifties and had raised their own children pass on their skills to younger female relatives. Consequently, the incentive to work as a *dai* is not primarily financial but a matter of family duty. Indeed, many dais express dissatisfaction with the compensation they are given by families for attending births (about half the local daily wage for women in the area), some food or old clothes.

Dais tell sense of responsibility towards their community as reasons for working as *dai*. Birth attendance is rarely a full-time occupation. The majority, of the *dais*, assist at deliveries in addition to working as day labourers, commonly in agriculture or construction, and looking after their own households.

Most attend only one or two births a month in their own village and one or two adjoining villages. Deliveries are usually attended by a small number of neighbouring

women or older female relatives. Most dais emphasize that the mother of the woman in labour should not be present because her distress and empathy will prolong the birth. Men should not be present at the birth of a child.

One condition which appeared to have particular local significance concerns a child being born with the cord around the neck. The dais in Tamilnadu consistently said that this is a very inauspicious occurrence, particularly for the child's maternal uncles (Mulder 1995). The uncles are not permitted to see the baby until a particular ceremony takes place, usually on the 'bathing day', involving the oldest maternal uncle. His task is to place a garland of flowers (or, in wealthier families, a golden chain) around the baby's body. He has to do so, however, without seeing the child, so he takes the garland by his toes, and across a barrier of some kind (usually a sari or other cloth), places it diagonally around the child's body. If this ceremony is performed correctly, the inauspicious circumstances of the child's birth are made ineffective.

While a number of practices in relation to food and childbirth are still widely reported in Tamil Nadu but as a result of training programmes these practices may be changing. One of these is the custom of not allowing a woman to eat or drink anything (including water) for three days after delivery. Now dais do not recommended this. While *dais* advise restrictions in consumption following labour, all agree that it is important for the woman to eat or drink something as soon as she feels like it. They complain in fact of difficulties in persuading mothers and mothers-in-law that a newly delivered woman needs food and drink. Another 'traditional' practice in Tamil Nadu involves discouraging new mothers from breastfeeding for the first three days after birth. Sometimes newborns are fed water with sugar for the first three days because Colostrum, the mother's first milk which is slightly yellow in colour, has traditionally been considered unclean and unsuitable for newborns. Since water is the

main carrier of infectious diseases in India and colostrum is rich in nutrients and antibodies, this practice is likely to have contributed significantly to a high infant mortality rate (Mulder 1995).

Goa

Goa is India's smallest state by area and the fourth smallest by population. Located on the west coast of India in the region known as the Konkan, it is bounded by the state of Maharashtra to the north and by Karnataka to the east and south, while the Arabian Sea forms its western coast.

Panaji (Panjim) is the state's capital, while Vasco da Gama is the largest city. Goa, along with Daman and Diu was made into a centrally administered Union Territory of India. On 30 May 1987, the Union Territory was split, and Goa was made India's twenty-fifth state, with Daman and Diu remaining Union Territories.

Goa encompasses an area of 3,702 km². It lies between the latitudes 14°53′54″ N and 15°40′00″ N and longitudes 73°40′33″ E and 74°20′13″ E. Most of Goa is a part of the coastal country known as the Konkan, which is an escarpment rising up to the Western Ghats range of mountains, which separate it from the Deccan Plateau. The highest point is the Sonsogor, with an altitude of 1,167 meters (3,827 feet). Goa has a coastline of 101 km (63 miles).

Goa's main rivers are the Mandovi, the Zuari, the Terekhol, Chapora River and the Sal. The Mormugao harbor on the mouth of the river Zuari is one of the best natural harbors in South Asia. The Zuari and the Mandovi are the lifelines of Goa, with their tributaries draining 69% of its geographic area. Goa has more than forty estuarine, eight marine and about ninety riverine islands.

Most of Goa's soil cover is made up of laterites which are rich in ferric aluminium oxides and reddish in color. Further inland and along the river banks, the soil is mostly alluvial and loamy. The soil is rich in minerals and humus, thus conducive to plantation. Some of the oldest rocks in the Indian subcontinent are found in Goa between Molem and Anmod on Goa's border with Karnataka.

Goa, being in the tropical zone and near the Arabian Sea, has a hot and humid climate for most of the year. The month of May is the hottest, seeing day temperatures of over 35 °C (95 °F) coupled with high humidity. The monsoon rains arrive by early June and provide a much needed respite from the heat. Most of Goa's annual rainfall is received through the monsoons which last till late September.

Goa has a short winter season between mid-December and February. These months are marked by nights of around 20 °C (68 °F) and days of around 29 °C (84 °F) with moderate amounts of humidity. Further inland, due to altitudinal gradation, the nights are a few degrees cooler.

The state is divided into two districts: North Goa and South Goa. Panaji is the headquarters of the north Goa district and Margao of the south district. Each district is governed by a district collector, an administrator appointed by the Indian government.

Goa's major cities include Vasco, Margao , Mormugao, Panaji and Mapusa. The region connecting the first four cities is considered a *de facto* conurbation, or a more or less continuous urban area.

Rice is the main food crop with pulses, ragi and other food crops are also grown. Main cash crops are coconuts, cashewnuts, arecanuts, sugarcane and fruits like pineapples, mangos and bananas.[1] The State has a rich forest cover of more than

1. http://www.india.gov.in/knowindia/st_goa.php accessed on 12/12/2009

1,424 km². Goa's state animal is the Gaur, the state bird is the Ruby Throated Yellow Bulbul, which is a variation of Black-crested Bulbul, and the state tree is the Asan.

Tourism is Goa's primary industry: it handles 12% of all foreign tourist arrivals in India. [2] Goa has two main tourist seasons: winter and summer. In the winter time, tourists from abroad (mainly Europe) come to Goa to enjoy the splendid climate. In the summer time (which, in Goa, is the rainy season), tourists from across India come to spend the holidays. Tourism is generally focused on the coastal areas of Goa, with decreased tourist activity inland.

The land away from the coast is rich in minerals and ores and mining forms the second largest industry. Mining in Goa focuses on ores of iron, bauxite, manganese, clays, limestone and silica. Rampant mining in areas rich in Iron Ore and other minerals is now threatening the forest cover as well as posing a health hazard to the local population.

Agriculture, while of shrinking importance to the economy over the past four decades, offers part-time employment to a sizable portion of the populace. Rice is the main agricultural crop, followed by areca, cashew and coconut. The fishing industry provides employment for about forty thousand people, though recent official figures indicate a decline of the importance of this sector and also a fall in catch, perhaps coupled with the fact that traditional fishing has given way to large-scale mechanised trawling.

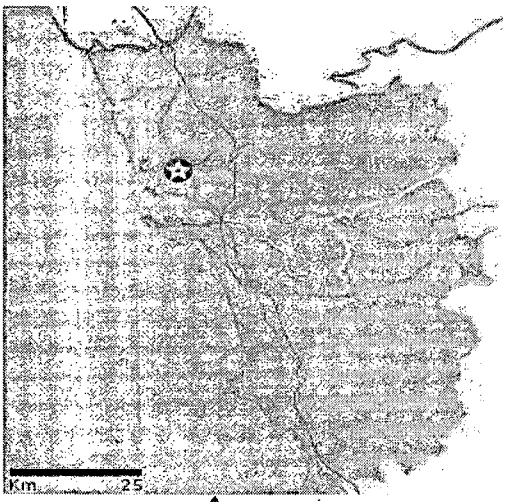
Medium scale industries include the manufacturing of pesticides, fertilisers, tyres, tubes, footwear, chemicals, pharmaceuticals, wheat products, steel rolling, fruits and fish canning, cashew nuts, textiles, brewery products.

2. http://www.goenkar.com accessed on 12/12/2009

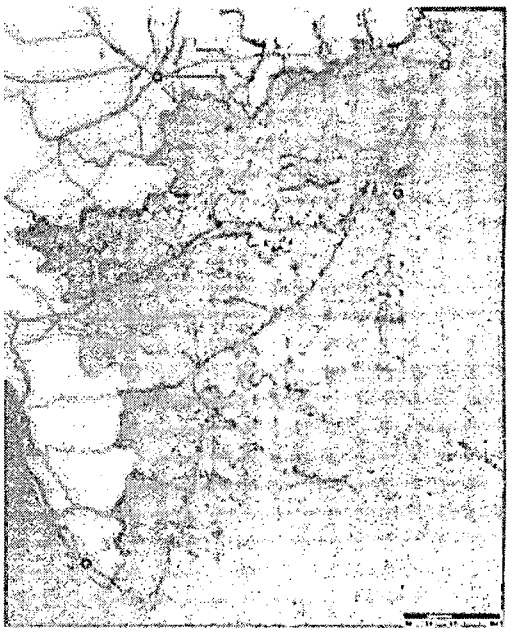
M-1

MAP OF STUDY AREA

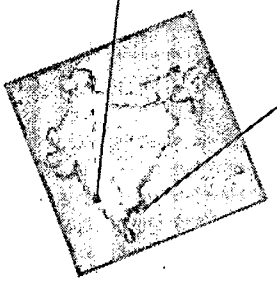
GOA



TAMILNADU



INDIA



Goa's public transport largely consists of privately operated buses linking the major towns to rural areas. Government-run buses, maintained by the Kadamba Transport Corporation, link both major routes (like the Panjim–Margao route) and some remote parts of the state. In large towns such as Panjim and Margao, intra-city buses ply. However, public transport in Goa is less developed, and residents depend heavily on their own transport, usually motorised two-wheelers. Goa has two National Highways passing through it. NH-17 runs along India's west coast and links Goa to Mumbai in the north and Mangalore to the south. NH-4A running across the state connects the capital Panjim to Belgaum in east, linking Goa to cities in the Deccan. The NH-17A connects NH-17 to Mormugao Harbour from Cortalim, and the new NH-17B, is a four lane highway connecting Mormugao Harbour to NH-17 at another location, Verna, via Dabolim airport. Goa has a total of 224 km of National highway, 232 km (144 mi) of state highway and 815 km of district highway.

Hired forms of transport include unmetered taxis, and, in urban areas, auto rickshaws. A unique form of transport in Goa is the motorcycle taxi, operated by drivers who are locally called "pilots". These vehicles transport a single pillion rider, at fares that are usually negotiated. River crossings in Goa are serviced by flat-bottomed ferry boats, operated by the river navigation departments. Goa has two rail lines—one run by the South Western Railway and the other by the Konkan Railway. The line run by the South Western Railway was built during the colonial era linking the port town of Vasco da Gama, Goa with Hubli, Karnataka via Margao. The Konkan Railway line, which was built during the 1990s, runs parallel to the coast connecting major cities on the western coast.

Goa has a population of 1.344 million residents, making it India's fourth smallest (after Sikkim, Mizoram and Arunachal Pradesh) state. The population has a growth

rate of 14.9% per decade.[3] There are 363 people for each square kilometre of the land.[4] Goa is the State with highest proportion of Urban Population with 49.76% where of the population live in urban areas.[5] The literacy rate of Goa is over 82%.[6] The sex ratio is 960 females to 1000 males. The birth rate is 15.70 per 1,000 people in 2007.[7] Goa also is the State with lowest proportion of Scheduled Tribes at 0.04 % in India.[8]

According to the 2001 census, out of a total population of 1,343,998, the majority 886,551 (65%) were Hindus, 359,568 (26%) were Christians, 92,210 (6%) were Muslims, 970 (0.07%) were Sikhs, 649 (0.04%) were Buddhists, 820 (0.06%) were Jains and 3530 (0.24%) belonged other religious communities.[6, 9]

Tamilnadu

Tamil Nadu covers an area of 130,058 square kilometres, and is the eleventh largest state in India. The bordering states are Kerala to the west, Karnataka to the northwest

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3 http://goagovt.nic.in/GoaPPp.doc. accessed on 12/12/2009.

4 http://goagovt.nic.in/gag/arepop.htm accessed on 12/12/2009.

5 http://www.censusindia.gov.in/Census_Data_2001/India_at_glance/rural.aspx accessed on 12/12/2009.

6 http://goagovt.nic.in/gag/educ.htm accessed on 12/12/2009.

7 http://www.navhindtimes.com/articles.php?Story_ID=053150 accessed on 12/12/2009.

8 http://www.censusindia.gov.in/Census_Data_2001/India_at_glance/scst.aspx accessed on 12/12/2009.

9 http://www.censusindia.gov.in/Census_Data_2001/Census_data_finder/C_Series/Population_by_religious_communities.htm accessed on 12/12/2009.

and Andhra Pradesh to the north. To the east is the Bay of Bengal and the union territory of Puducherry. The southernmost tip of the Indian Peninsula is located in Tamil Nadu. At this point is the town of Kanyakumari which is the meeting point of the Arabian Sea, the Bay of Bengal, and the Indian Ocean.

The western, southern and the north-western parts are hilly and rich in vegetation. Tamil Nadu is the only state in India which has both the Western Ghats and the Eastern Ghats and they both meet at the Nilgiri hills. The Western Ghats dominate the entire western border with Kerala, effectively blocking much of the rain bearing clouds of the South West Monsoon from entering the state. The Eastern parts are fertile coastal plains and the northern parts are a mix of hills and plains. The central and the south central regions are arid plains and receive less rainfall than the other regions.

Tamil Nadu has a coastline of about 910 kilometres which is the country's third longest coastline. Tamil Nadu is heavily dependent on monsoon rains, and thereby is prone to droughts when the monsoons fail. The climate of the state ranges from dry sub-humid to semi-arid. The state has three distinct periods of rainfall: (1) Advancing monsoon period, South West monsoon (from June to September), with strong southwest winds; (2) North East monsoon (from October to December), with dominant northeast winds; and (3) Dry season (from January to May).

There are 32 districts at present in Tamil Nadu. Tamil Nadu is the seventh most populous state in India with a population of 62,405,679 as of the census of 2001.[10] It is the eleventh most densely populated state in India with a population density of 478 persons per square kilometre as of 2001, having increased from 429 in 1991, significantly higher than the Indian average of 324 persons per square kilometre. Tamilnadu has 44% of its population living in urban areas, the highest among large states in India.

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10 http://www.census.tn.nic.in/religion.aspx accessed on 12/12/2009.

Tamil Nadu's population grew by 11.19% between 1991 and 2001, the second lowest rate for that period (after Kerala) amongst populous states (states whose population exceeded 20 million in 2001). Its decadal rate of population growth has declined since 1971, one of only three populous states (along with Kerala and Orissa) to show this trend. The state has registered the lowest fertility rate along with Andhra Pradesh and Goa in India in year 2005-06 with 1.8 children born for each woman, lower than required for population sustainability.

Hinduism is followed by the majority of the people. Christianity, though a minority, has the highest population in absolute numbers when compared to other states, are getting established stronger by acquiring and purchasing lands and buildings. Tamil is the official and the principal spoken language of the state. As of the 2001 Census, Tamil is spoken by 89.43% of the population followed by Telugu at 5.65%, Kannada at 1.68%, Urdu at 1.51% and other languages at 1.67%.[11] While Tamil is the only official language of Tamil Nadu, English is also in common usage as an official language of India. When India adopted national standards Tamil was the very first language to be recognized as a classical language of India.

Tamil Nadu has performed reasonably well in terms of literacy growth during the decade 1991-2001. The state's literacy rate increased from 62.66% in 1991 to 73.47% in 2001, which is above the national average.

India has a human development index calculated as 0.619, while the corresponding figure for Tamil Nadu is 0.736, placing it among the top states in the country. The life expectancy at birth for males is 65.2 years and for females it is 67.6 years. However, it has a number of challenges; significantly, the poverty is high, especially in the rural areas. High drop-out and low completion of secondary schools continue to hinder the

11 http://www.censusindia.gov.in/Census_Data_2001/Census_Data_Online/Language/Statement3.htm. accessed on 12/12/2009.

quality of training in the population. Other problems include class, gender, inter-district and urban-rural disparities.

Tamil Nadu has historically been an agricultural state and is a leading producer of agricultural products in India. In 2008, Tamil Nadu was India's fifth biggest producer of Rice.[12] The Cauvery delta region of the composite Thanjavur district is known as the Rice Bowl of South India. In terms of production,

Tamil Nadu is one of the highly industrialized states in India. Many heavy engineering and manufacturing companies are located in and around the suburbs of Chennai (nicknamed, 'Detroit of Asia') and Coimbatore (nicknamed 'Manchester of South India').

Tamil Nadu has a well-established transportation system that connects all parts of the state. This is partly responsible for the investment growth in the state. Tamil Nadu is served by an extensive road network, providing links between urban centers, agricultural market-places and rural areas.

Tamil Nadu has a well-developed rail network as part of Southern Railway. Headquartered at Chennai, the Southern Railway network extends over a large area of India's Southern Peninsula, covering the states of Tamil Nadu, Kerala, Pondicherry, a small portion of Karnataka and a small portion of Andhra Pradesh.

The state has a wide range of flora and fauna with many unique species and habitats. To protect this wide diversity of wildlife there are many Protected areas of Tamil Nadu, including Biosphere Reserves, National Parks and several Wildlife Sanctuaries.

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12 http://www.irri.org/science/ricestat/data/may2008/WRS2008-Table07.pdf accessed on 12/12/2009.

Tamil Nadu's tourism industry is one of the largest in India, which attracts Indian and foreign tourists.

Comparison between Goa and Tamilnadu

As per DLHS-3 data, the literacy level in Goa is more than that of Tamilnadu, and the rural-urban differential in literacy is less in Goa. The proportion of population of age 15 and less years is more in Tamilnadu. It is evident from the table-1 that more Goan people have high standard of living than people in Tamilnadu. The age at marriage for both girl and boy is higher in Goa than Tamilnadu. The fertility indicators show that Goa has lover level of fertility than Tamilnadu on an average. The usage of contraceptive methods is more in Tamilnadu baring a few methods than in Goa. In terms of antenatal care received by mothers and institutional delivery, both states show similar proportions reporting on these questions. But in terms of health infrastructure Goa seems to be more advanced than Tamilnadu.

According to NFHS-3 data (table- 2), both these states are having Christianity as the second largest community after Hindus. Tamilnadu has majority of OBCs and Goa has majority of 'Others'. In terms of education of male and female both, Goa is more advanced than Tamilnadu. Although there has been decline in the fertility in the both states, yet in Tamilnadu it is steadier. At present both states are having equal level of TFRs. From the table, one can observe that women are having more decision making power in Goa and they are more self-dependent also as compared with Tamilnadu.

In total, the level of urbanization, health care infrastructure and care received by women during antenatal and delivery time, religious distribution, fertility level etc. make both states similar.

T-1

COMPARISON BETWEEN GOA AND TAMILNADU BASED ON DLHS-3 DATA 2007-08						
	GOA			TAMILNADU		
Population and households profile	TOTAL	RURAL	URBAN	TOTAL	RURAL	URBAN
Population literate age 7+ years (%)	86.8	84.0	89.6	77.6	72.5	85.2
Population below age 15 years (%)	22.6	22.8	22.4	25.8	26.6	24.7
Mean household size	4.4	4.5	4.3	3.9	3.9	3.9
Percentage of household that:						
Have electricity	97.5	96.7	98.2	91.2	89.0	94.6
Have access to toilet facility	77.0	66.7	87.0	38.8	19.5	67.8
Live in a Kachcha house	8.7	12.5	5.1	18.7	24.7	9.7
Live in a Pucca house	39.7	31.3	47.8	37.5	28.7	50.7
Use piped drinking water	79.8	72.1	87.3	85.9	86.4	85.1
Low standard of living	15.5	24.0	7.3	44.3	57.9	22.9
High standard of living	61.1	47.7	74.2	27.9	13.0	50.2
Marriage						
Mean age at marriage for boys	29.7	29.4	30.1	26.8	26.4	27.4
Mean age at marriage for girls	25.1	24.5	25.9	21.4	21.0	22.0
Boys married below age 21	2.9	2.1	3.6	5.0	6.0	3.4
Girls married below age 18	3.3	2.5	4.1	9.4	11.2	6.4
Currently married women with 10 or more years of schooling	47.1	38.4	54.5	29.1	20.6	41.4
Fertility						
Births to women during age 15-19 out of total births	2.3	1.7	2.9	3.2	3.4	2.8
Women age 20-24 reporting birth of order 2 & above	32.6	39.0	27.5	35.8	37.6	32.6
Women with two children wanting no more children	76.5	76.6	76.5	79.2	73.9	85.9
Current use of family planning methods						
Any method	45.0	44.8	45.2	59.9	59.8	60.1
Any modern method	35.9	36.2	35.7	57.8	58.2	57.4
Female sterilization	23.1	27.5	19.3	53.8	55.5	51.3
Male sterilization	0.2	0.2	0.2	0.2	0.2	0.2
Pill	1.6	0.7	2.4	0.2	0.2	0.2
IUD	1.8	1.9	1.8	2.0	1.3	3.0
Condom	9.0	5.6	11.9	1.6	0.9	2.6
Any traditional method	9.1	8.6	9.5	2.0	1.6	2.7
Mothers who received any antenatal check-up	99.0	99.5	98.7	98.9	98.5	99.3
Mothers who had three or more ANC	95.8	98.4	93.7	95.6	94.7	97.0
Mothers who had at least one tetanus toxoid injection	98.0	99.5	96.9	97.3	96.8	98.0
Institutional delivery	96.3	97.8	95.1	94.1	91.8	97.6
PHCs having Lady Medical Officer	62.5			62.4		
PHCs functioning on 24 hours basis	62.5			50.6		
PHCs having new born care services	80.0			68.0		
PHCs having referral services for pregnancies/delivery	50.0			63.4		

But economically, in education and status of women is better in Goa than Tamilnadu. Only two other states come near to Goa and Tamilnadu, they are Kerala and Andhra Pradesh, but none of them having the high level of urbanization. The kind of similarity Goa and Tamilnadu show is not evident elsewhere.

For this study, several variables (as given in PCA variables' list in annexure) were taken and analysed by Principle Component Analysis (PCA). The result shows that Goa and Tamilnadu come close in the PCA index. Hence these two state are chosen for analysis.

Pregnancy and Birth Rites: Men and Women

In the Tamil context, the only enviable status of women is that of *kaṭṭukkalutti*, the married woman. The attribution of responsibility for infertility to the woman can be read throughout the theoretical corpus on the female status in this region (Wadley 1991, Leslie 1992, Kapadia 1995). Accordingly, the unmarried virgin, *kanni*, is characterized by a capricious but auspicious power that puberty rites undertake to canalize. The unmarried mother is seen as evil and inauspicious. She could become a ghost at her death and threaten the prosperity of the community. The married woman with children, *kaṭṭukkalutti*, is beneficent and auspicious. She would continue to ensure the prosperity of her family after her death. The sterile woman, *malaṭi*, is potentially evil and inauspicious. After her death, she could disturb the fertility of beings in the community. The widow, *vitavai*, is viewed as the worst type because she was not able to preserve the health and life of her husband. Finally, the woman who dies during pregnancy or childbirth, *cumaitāṅki*, would be potentially evil and held responsible for a difficult pregnancy or childbirth.

In Tamilnadu, pregnancy is seen as the most vulnerable of all transitional stages. The state of the pregnant woman is ambiguous; she is passing through a cultural realm that has few or none of the attributes of the past, i.e., womanhood, or of the future state,

i.e., motherhood. The pregnant woman has a specific position in her family and in the society. This stage of pregnancy is existentially involved in the domain of life and death. At the same time, the woman and the baby in her womb are vulnerable and need protection from the evil eye, malign spirits and ghosts.

There are do's and don'ts concerning appropriate food, activities and safe and unsafe places. Thus, the *vaḷaikāppu* ceremony becomes a pretext for the pregnant woman to go to her natal home and spend a few restful weeks there before delivery. She not only gets physical rest, but also feels less tense and nervous than she would among her in-laws, whom she may not have known for more than a year. As the pregnant woman is more susceptible to evil spirits thirsting for the foetal blood, specific rites are performed to implicitly ward off evil forces that might destroy the foetus. Lastly, this ceremony is the public announcement and celebration of a woman's first conception, which is in a sense the biggest event in her life. The *vaḷaikāppu* is a *rite de passage*, classically divided in three phases of separation, transition and reintegration (Gennep 1981), in which womanhood is transformed to motherhood. There is a widespread saying in Tamil that the woman approaches death at the time of delivery and, after giving birth, she assumes a new life.

The giving of gold to their daughter and son-in-law is not compulsory and depends upon their economic status. They also bring two garlands, one for their daughter and another for their son-in-law. The *vaḷaikāppu* is performed by the *vaṇṇātti* (washer woman) of the village. This woman works as *maruttuvacci* (midwife/traditional birth attendant) to the village people.

After worshipping the main gods Pullari and Agni (fire), the iḷanīr kaṇṭirakkiratu (opening of the eyes of a tender coconut) rite is performed.

T-2

COMPARISON BETWEEN GOA AND TAMILNADU BASED ON NFHS-3 DATA 2005-06			
	India	Goa	TN
Religion			
Hindu	81.6	64.5	89.3
Muslim	12.5	7.9	3.9
Christian	2.7	27.4	6.7
Sikh	1.6	0.1	0.0
Social groups			
SC	19.2	4.7	22.2
ST	8.4	4.8	0.8
OBC	39.6	16.6	74.5
Other	31.9	70.0	2.4
Education (Female)			
No education	41.5	21.5	30.6
<5 years	18.1	14.5	14.5
5-7 years	15.7	15.1	19.3
8-9 years	10.2	14	14.9
10-11 years	6.7	15.4	9
12 or more years	7.6	19	11.6
Median number of years of schooling completed	1.9	6.8	4.5
Education (Male)			
No education	21.9	10.8	14.6
<5 years	20.9	15.9	16.0
5-7 years	18.4	16.3	23.7
8-9 years	14.8	16.3	16.9
10-11 years	10.6	19.2	13.1
12 or more years	13.2	21.2	15.6
Median number of years of schooling completed	4.9	8.0	6.3
Population age 6-17 years attending school in the 2005-06			
Male			
Urban	77.1	87.3	86.2
Rural	74.7	85.7	88.6
Total	75.4	86.6	87.5
Female			
Urban	76.1	82.8	86.1
Rural	62.9	82.9	79.9
Total	66.4	82.8	82.5
Total			
Urban	76.6	85.1	86.1
Rural	68.8	84.3	84.3
Total	71.0	84.8	85.1
Percentage household having			
electricity	67.9	96.4	88.6
improved source of drinking water	87.9	80.1	93.5
toilet	44.6	76.0	42.9
solid fuel for cooking	70.8	33.3	60.5
pucca house	45.9	73.6	69.9
Mean number of persons per room used for sleeping	3.3	2.7	2.9

contd.

Women's decision making			
Alone or jointly with their husband decide how their own earnings are used	80.9	92.0	87.5
Alone or jointly with their husband decide how their husband's earnings are used	68.2	73.7	81.4
Earn more or about the same as their husband	21.0	22.7	22.1
Men's decision making			
They alone or jointly with their wife decide how their wife's earnings are used	83.4	88.3	84.3
Their wife alone or jointly with them decides how their own earnings are used	68.3	66.0	83.3
Their wife earns more or about the same as them	25.8	35.8	24.1
ASFR			
15-19	0.090	0.025	0.056
20-24	0.209	0.086	0.151
25-30	0.139	0.128	0.109
30-34	0.062	0.087	0.034
35-39	0.025	0.027	0.008
40-44	0.007	0.005	0.001
TFR (15-49)			
NFHS-3	2.680	1.790	1.800
NFHS-2	2.850	1.770	2.190
NFHS-1	3.390	1.900	2.480
Percentage of women who usually make specific decisions alone or jointly with their husband			
Own health care	62.2	67.5	73.2
Making major household purchases	52.9	67.3	63.3
Making purchases for daily household needs	60.1	74.6	77.8
Visits to her family or relatives	60.5	84.5	76.7
Percentage who participate in all four decisions	36.7	47.0	48.8
Percentage who participate in none of the four decisions	20.5	7.5	8.2
Percentage of men who say that wives should have the final say alone or jointly with their husband in			
All of the five decisions	49.7	62.3	44.7
None of the five decisions	3.6	1.6	1.5
Women's access to money			
Percentage who have money that they can decide how to use	44.6	56.7	25.4
Percentage who have a bank or savings account that they themselves use	15.0	42.3	15.8
Women's knowledge and use of microcredit programmes			
Percentage who know of a microcredit programme	38.6	56.6	79.0
Percentage who have taken a loan from a microcredit programme	4.0	2.5	13.4
Percentage of women allowed to go to three specified places alone	33.4	56.8	54.2
Percentage who agree that a husband is justified in hitting or beating his wife if			
She goes out without telling him	29.0	14.2	43.0
She neglects the house or children	34.7	26.2	54.2
She argues with him	30.3	17.2	38.0
She refuses to have sexual intercourse with him	14.1	8.3	12.5
She doesn't cook properly	20.4	7.7	24.9
He suspects she is unfaithful	25.1	14.3	12.1
She shows disrespect for in-laws	40.6	21.6	42.7

The tuft of the tender coconut is not fully removed, but only cut slightly off to reveal the eyes of the coconut. This rite has symbolic value. The pregnant woman opens the eyes of the *iḷanīr* (tender coconut) perforating them with her index finger (*ālkāṭṭi viral*). If the eyes are opened and the *nīr* (water) oozes out, splashing on her face, people will view this as a sign of a normal delivery. If the pregnant woman is not successful in the first attempt to open the eyes, she will have to try again with an *arivāl* (sickle). She will then penetrate the eye of the coconut with her index finger. In this case, it will be perceived as a sign of a future obstructed labour. Moreover, if the pregnant woman opens the eyes of the tender coconut without difficulty, it is thought that the child will not have any problem in opening its eyes at the time of delivery. If there should be any complication, then the child may have difficulty in doing so.

A *kaṭṭukkalutti* (auspicious married woman) holds an *ammi-kulavi* (pestle), standing on the left side of the pregnant woman. Theoretically, the pregnant woman is supposed to hold the pestle. However, because it is recognized by all that the effort of carrying a heavy weight is to be avoided at the end of the pregnancy, this function is carried out by a *kaṭṭukkalutti*. Three auspicious married women hold a plantain leaf on the right, on the left and on the back side of the pregnant woman's body. The pregnant woman bends forward and rests her hands crosswise on two *nīrkuṭaṅkal* (new earthen pots filled with water). She makes a hole in the *nīrkuṭam*, which are placed directly in front of her, with the tip of her index finger. Then the pregnant women stay bended forward. A banana leaf is placed on the back, from her lower back to her head. Each *kattukkalutti* pours coconut milk with a *pālatai* (a milk ladle) over the central groove of a banana leaf using the right hand. This rite is performed to divine the sex of an unborn child and is said to be the traditional scanning method in Tamil society. If the coconut milk flows straight down into the water pots through the index finger of the pregnant woman, the birth of a male child is foretold. In this case, the *maruttuvacci* (midwife) who is performing the ceremony will shout loudly *āṇpiḷḷai* (male child) three times. Should, however, the coconut milk not flow straight down but crookedly,

the *maruttuvacci* shouts *peṇpiḷḷai* (female child) three times. This part of the ceremony ends with the cutting of the *murunūl* (twin thread) tied to the *iraṇṭu nīrkuṭaṅkal* (two new earthen water pots). The *tāymāman* or *māman* (maternal uncle) of the pregnant woman applies cantaṇam and turmeric powder (*mañcal*) to her cheeks. He then puts vermillion (*kuṅkumam*) on her forehead and the parting of her hair. The vaḷaikāppu, originally practiced by certain social groups, is today celebrated in numerous families in all classes, castes and geographic areas (Petitet 2007).

Chapter-2

LITERATURE REVIEW

Maternity and delivery of a child has long been viewed as an activity exclusively in the arena of women. Cultural ethos of this kind is reflected in all rituals during pregnancy in all parts of India. However with increasing medicalization of delivery care, more nuclear families and increase in husband- wife communication is bringing change in age old views. "The International Conference on Population and Development (Cairo Conference, 1994) and The Fourth World Conference on Women (Beijing Conference, 1995) have initiated the debate on men's participation in reproductive health care" (Singh 1998). Before 1994, the available literature notes the men as an influencing factor in maternal health care utilization. However post 1994 policies welcomes men's participation in maternal health care not only to reduce the maternal mortality but to improve overall health condition of men, women and children, so that fertility, mortality and morbidity can be effectively controlled. The available literature can be divided in two groups:

1. The first group in which information, education, knowledge regarding maternal health care was given to males and females separately or as couple. The authors of these literatures, themselves tried to provide the required education regarding antenatal care, delivery and post natal care or any third party did. This education may be related to hygiene during antenatal, delivery and post delivery period, care, awareness regarding complications/ problems during this period, nutrition and food, medicines etc. And later these authors or any other agency/ NGO etc. tried to evaluate the impact of this education, increase in the knowledge and participation of men, improvement in health of mother and newborn etc.

2. The other group of authors deal with none of these above said surveys but try to assess male's participation, knowledge and impact on maternal health care with the help or without help of qualitative and quantitative studies.

Here, I have divided this literature review in following subtopics:

1. Men's involvement and participation in antenatal and delivery care.

1.1 Men's knowledge regarding antenatal and delivery care.

1.2 Men's participation in antenatal, delivery care

a. Accompany

b. Payment

c. Services

d. Help in home during antenatal and post natal period

2. Hindrances in men's involvement.

2.1 Social norms/ Tradition/ Gender roles

2.2 Health system

2.3 Financial/ Occupation

3. Socio-economic factors influencing men's participation

4. Strategies to involve men.

4.1 Counseling

4.2 Clinical based

4.3 Community or work place based

5. Expected impact of increase or decrease in men's participation.

5.1 Positive impact

5.2 Negative impact

1. Men's involvement in antenatal and delivery care:

Inclusion of men in reproductive health care is found to be a significant factor, which brings down maternal mortality (Bhalerao 1984, Grady 1996, Singh 1998, Bloom 2000, Turan 2001, Carter 2002, Dudgeon 2004, Singh 2004, Varkey 2004, Verma 2006, Mullany 2007, Singh 2009). Before 1994, the situation was unlike today, women's empowerment, strengthening of health services etc. were thought to be more important for better utilization of health services by females. This is only after International Conference on Population and Development (1994), that many countries of the world initiated for bringing down the maternal mortality by programmes that involve men (maternal mortality was not so high in developed countries as compare to developing countries) and India was one of them. The 'Reproductive and Child Health Policy' of 1997 emphasized the need to incorporate the areas through which maternal mortality and morbidity can be curtailed so that mother and baby, both can live a healthy life. The present literature shows that the researchers have recognized men as an influencing factor, but the volume of such literature is limited (the fact that the literature on men's role and participation in maternal health care notes this line "there is paucity of literature on this topic").

There are several pathways through which men's influence works. "The involvement of men has been seen in several ways, for instance: (1) men's involvement in decisions about family size and family planning; (2) men's responsibility to reduce risky sexual behaviour and prevent spread of sexually transmitted infections; (3) men's support for the reproductive health of women; and (4) men's own reproductive and sexual health needs" (Barua 2004). There are several benefits of men's involvement as pointed out by various scholars. In India, where women's autonomy is particularly low, educating and involving men in reproductive health matters may be the only effective means of influencing change in the poor health outcomes of women and girls (Singh 1998). The safe motherhood initiative proclaims that all pregnant

women must receive basic, professional antenatal care. Ideally, antenatal care should monitor a pregnancy for signs of complications, detect and treat pre-existing and concurrent problems of pregnancy, and provide advice and counseling on preventive care, diet during pregnancy, delivery care, postnatal care, and related issues (Padma 2005). Hence involving men can improve the condition of their wives during antenatal period and at the time of delivery. Involvement is also necessary because the actual decision to seek treatment rested with the husbands in more than half the cases (Padma 2005).

1.1 Men's knowledge regarding antenatal and delivery care:

The scholars are of two opinions regarding men's knowledge of antenatal and delivery care (Bhalerao 1984, Bender 1995, Singh 1998, Ormel 1999, Bloom 2000, Ransom 2000, Barua 2004, Singh 2009) -

a. ***Have knowledge***: The surveys, done independently and with help of some agency, show that majority of men have knowledge about reproductive health care. The knowledge regarding maternal health care decreases as one examines first contraceptive, antenatal care like hygiene, iron tablets and further complications. Barua in her research found that more than three quarters of the husbands were aware of the need to seek routine antenatal care, the antenatal problems and the need to treat these problems. An even higher proportion was aware of the need for hygienic precautions during delivery, problems during delivery and that such problems require care (Barua 2004). The knowledge about nutrition, hygiene, complications during pregnancy and delivery available services/ treatment/ care, etc. varies with level of education of men. A study conducted by Action Research in Community Health and Development (ARCH) in Gujarat found that men had high levels of correct knowledge on need for good nutrition and reduced workload during pregnancy, though they knew little about the details of antenatal care, iron tablets, or tetanus injections (Barua 2004).

b. ***No or not sufficient knowledge:*** Some scholars argue that men have less knowledge about pregnancy and delivery complications than other aspects of reproductive health (Singh 1998, Bloom 2000, Barua 2004). In another study, also in Gujarat, husbands were found to be unaware of the care their wives received during pregnancy and delivery, and were not present to accompany their wives for clinic visits or delivery (Barua 2004). There is no universalisation in knowledge about maternal health care. The men are influenced by their culture, hence the inherited knowledge mixes up with knowledge, they receive through advertisement, education etc. There are different sources of knowledge regarding antenatal and delivery care. The knowledge gained from different sources also differs according to most famous or advertised or used medicine or service as iron tablets. Husbands knew little about the details of care during delivery. Their perceptions of 'care' in this period usually entailed arranging for the delivery at a medical institution (Barua 2004). Similarly, while a large majority of husbands was aware that problems can occur in the antenatal, delivery and postnatal periods, knowledge about specific serious problems like excessive bleeding, convulsions, abnormal presentation, puerperal sepsis was reported by less than half the men. The most dramatic was the case of antenatal care where 85 per cent husbands are aware of antenatal problems, but only 48 per cent of them were aware of swelling, and 20 per cent or fewer knew about other serious problems. Even husbands who did not know the tablets and injections their pregnant wives were given were willing to follow doctor's orders (Barua 2004). This is not only true about medicines and treatment but most of the men have no accurate idea of reproduction and related aspects because these are less discussed issues. Their responses pertaining to the fertile period during the menstrual cycle illustrate that they have scant knowledge of the physiology of reproduction. Even fewer men recognized danger signs of pregnancy and childbirth (Singh 1998).

1.2 Men's participation in antenatal, delivery care:

Padma's study in Andhra Pradesh villages (2005) reveal that there are certain benefit of nuclear family like husbands are more careful regarding health of their wives, but there is hardly anyone to care and help in household duties as cooking etc. The study points out that few men take actions/decisions when they are told regarding health problems (some don't bother at all), but women feel that they should realize their selves and support them. More than ninety five percent women expect men to support financially, calling health personnel, carrying her to health facility, buying medicine or other required services/ things, stay with her in health facility, arranging transport, caring elder children after delivery and the most important is emotional support, these are not mere expectations from men but their responsibilities in India.

a. ***Accompany:*** Men are sought to accompany their wives for antenatal check-ups, delivery and other health requirements.

b. ***Payment:*** In both routine care and treatment of problems, their participation was more likely to take the form of paying for care than accompanying their wives (Barua 2004). "Three out of four men saw their support only in terms of finance (Padma 2005).

c. ***Services:*** Providing medicines, safe delivery etc. is also expected from men. Less than half thought they could support by calling a healthcare professional, even less than a quarter realized their responsibilities in terms of getting necessary medicines or arranging transport (Padma 2005).

d. ***Help in home during antenatal and post natal period:*** Almost every woman, irrespective of age or parity, expected her husband to extend care. Expectations were especially high regarding emotional support, and health and nutritional care. Less than three per cent of the women felt there was no need for their husbands to physically help with managing older children or assisting with housework (Padma 2005).

2. Hindrances in men's involvement:

Men's participation in antenatal and delivery care is depend upon various factors such as; cultural practices prevalence in particular area, their education, occupation, health seeking behaviour, perception regarding health services and providers etc. Odimegwu (2005) and others study men's role in emergency obstetric care in Nigeria and asserts that there is change in the social concept of health seeking and health behaviour so there is further need to examine men's role in more than one region. Singh's study of Ahmadnagar district (Singh 2009), Maharastra covers one tehsil and two PHC under it to interview men. The study substantiate that women in nuclear family receive better health care than their counterpart in joint families. Some cultural practices like the birth of first baby in parents' home take away the opportunity from men for being present at the time of delivery (Singh 2009).

2.1 ***Social norms/ Tradition/ Gender roles:*** Men are assigned earning work usually in all societies of the world, and works related to childcare, house etc. are not their responsibility. The men are expected to earn for family and serve as a moral guide. Housework and childcare were not seen as responsibilities of fathers. They should help the mother with these tasks if needed and if there is time (Turan 2001). After long duration of work or hard work, men feel to get relax; hence they cannot do both, outside hard work and house work simultaneously. Several of the new fathers claimed that they did not have any time or energy to deal with the baby or household matters after working long hours (Turan 2001). Hardly men are given children to take care and other females in the home help in doing house duties as well care of baby. There was also a general feeling among both women and men that men are less competent than women in caring for children and house work. One of the duties of the new father during the first few months is to play with the baby, so that the mother can do the housework. Most of the women had help with household tasks from their mothers, mothers-in-law, sisters or other women in their immediate environment

(Turan 2001). The mothers also express expectations for communication, understanding and emotional support from the fathers of their children, rather than physical assistance with the tasks of motherhood. Usually decisions regarding infant feeding and care are made by the mother, with important input from other women and doctors. Fathers may be informed and consulted at times, but they are often not around when such decisions are made (Turan 2001).

There are well assigned gender roles in the society and it is expected from men and women both to respect these roles. Many a time men do not see pregnancy, birth and infant care as being in their sphere of responsibility. Also problematic is the persistent view that pregnancy and childbirth are matters to be handled strictly by women (Pal 2000). The education or counseling provided in such situations may yield expected results. When such sessions are conducted then women want men to attend but most of these women did not have the negotiating power to get them to do so. It is always kept in the mind that there may not be enough impact of an education session for couple as compared to separate sessions for male and female due to cultural barriers (Turan 2001).

Age is also recognized a major constraint in availing antenatal services (Barua 2004). Studies in India show that there is a strong culture of silence and shame around discussing reproductive health problems and seeking care (Barua 2001). Newly married young men are willing to listen to discussions of new and gender-sensitive ways of approaching women's health. These men do, however, continue to be paralyzed by immense social pressures from elders, particularly older women of the family (Mitra 2000). Many a times they are not welcome in women's domain and their young wives suffer (Barua 2004).

Mitra have found Muslim women to be more enthusiastic than their Hindu counterparts in accepting birth control methods, and much more forthcoming in revealing or discussing their husband's exposure histories (Mitra 2000).

Also seen in some cultures that women get less importance than children, they give birth. The wellbeing of children is a subject that resonates well with most men (Pal 2000). What is less encouraging are the observations that men, family members, and women themselves persistently believe that a man must not be present during his wife's labor (SEWA 2000).

Those men, who come forward to help women against the norms, become an object of ridicule. One important problem identified was that when community men become open to gender equality, they often report facing criticism and humiliation within the extended family when attempting to assist with housework or take on some of their wives' responsibilities. Not only are their attempts to help criticized by elder members of the family, both male and female, as well as within the community, but in some instances their help is not even appreciated by their wives (Patel 2000). Gender differences in Cambodian society appear to have a profound effect on male involvement in reproductive health, which is usually assumed to be a woman's concern (Watson 2005). This is not that all the men like/ don't like to be present but those who want, for them breaking social norms becomes difficult, they fears social ridicule (Raju 2000).

2.2 ***Health system:*** Husbands who did go with their wives were made to sit outside, and were not given any explanations about the care their wives received (Barua 2004).As well as the continued practice by ANC clinic staff of asking men who do accompany their wives for check-ups to wait outside, making their effort feel useless (Pal 2000). There were a number of institutional and social barriers specific to men's participation, e.g. the 'female' atmosphere of the antenatal clinic, past exclusion from antenatal visits and difficulties in getting time off work (Turan 2001).

2.3 ***Financial/ Occupation:*** A review, of all government (of India) policies and programmes related to maternal health care, done by Khan (2002) shows that there is no place for men in these programmes. And whatever men-centered programmes are there, they face lack of funds (Sternberg 2004).

The most prominent barriers to male involvement in maternal health included low levels of knowledge, social stigma, shyness/ embarrassment and job responsibilities (Mullany 2007).

3. Socio-economic factors influencing men's participation:

The factors which control or influence men's participation are recognized as education, media exposure, age, place of residence, number of children and perception of the problem (Singh 1998, Bloom 2000, Odimegwu 2005, Singh 2009).

Statistically significant factors	Studies
Husband education	Miles-Doan (1998), Nielsen (2001), Navaneetham (2002), Pallikadavath (2004), Kabir (2005)
Husband occupation	Ciceklioglu (2005)

(Source: Simkhada 2007)

The scholars have identified husbands' education and employment as significant controller of maternal health care utilization. Antenatal education for men and women is the most important (Bhalerao 1984, Nagawa 1994, Kaune 1998, Turan 2001). The outcome of the education, material etc. provided to participants is sometimes evaluated and sometimes it is not possible to follow up to participants. There is lack of evaluation of such target programme (Sternberg 2004). It is expected that the provided material and education will result in better outcomes such as more demand of antenatal care services or check-ups or egalitarian approach. Fathers' participation in antenatal education programmes is expected to result in changes in their

knowledge, attitudes and skills related to perinatal health, i.e. family health during the pregnancy, birth and newborn periods. These, in turn, should result in behaviour changes that can positively affect the reproductive health status and psychological well-being of the family. These include use of antenatal care, post-partum and post-natal services, breastfeeding and prevention of unwanted pregnancy (Turan 2001).

Education increases intra-spousal communication. The awareness programmes make possible for fathers to know about their queries regarding many complications during antenatal period. The NGOs' experience provide evidence, by a 40 percent increase in the number of men seeking out health workers to register their wives for early antenatal care and the fact that, on average, one out of three women is now accompanied by her husband on visits to the hospital. Early rapport between health workers and newlyweds was seen as crucial to program success (SEWA 2000). The success of education and campaigns depends also upon the health workers role. The trained and gender sensitized male health workers have been able to motivate men in the community to contribute towards women's health, and have played an important role in sensitizing their male co-workers within the organization (Patel 2000).

Varkey (2004), with others in 'Men in Maternity Study in India' (a study supported by Population Council and ESIC in Delhi in which some ESIC dispensaries were used to contact the users. These users were divided in control and intervention group and then counseling, screening etc. were done) found that the attitude of husbands regarding involvement in maternity care before study and after study remains more or less same. The counseling and awareness increases joint decisions. This may be due to several reasons. Sometimes men participate half-heartedly and many a times they see the provided education with the glance of their culture. Attendance of men during antenatal education session in clinics was lower than women, where husbands were more educated and wives working outside, they preferred to participate as couple in these sessions. Men seem to take lesser interest in reading the provided material

during and after the session as compared to women. Few men used telephonic service provided by surveyors/ researchers for any query or problem (Turan 2001). If this is the condition then one should not expect from men to participate with full enthusiasm in maternity care because they do not know anything extra after participating in any campaign or programme as compared to their previous knowledge.

4. Strategies to involve men:

The scholars who argue about disseminating awareness or do surveys or NGOs, all of them have advocated about better planning regarding men's involvement. The strategies include educating men regarding antenatal care and delivery care through study material, classroom discussion, door to door campaigns, work place discussion, letter-box method (in which men can drop questions and later someone can answer) etc. Roth (2001) summarizes the work done by NGOs to involve the community (so that men can realize their role) in Bangladesh, Ghana, Sierra Leone, Nigeria and Nepal and suggest some strategies for inclusion of men. These strategies are depending upon demand or supply based means.

4.1 ***Counseling:*** The sensitization and mobilization of communities with emphasis on men can reduce the risk during antenatal and delivery period so efforts for this strategy are important (Roth 2001). There was clearly a strong demand from the new parents who participated in the focus groups and interviews for information and counseling about pregnancy, childbirth and the post-partum period (Turan 2001).

4.2 ***Clinical based:*** When husbands come with their wives for any treatment or check-up, then targeting them for antenatal care may help in sensitizing them. It is very difficult to target working men, outside of their workplace.

4.3 ***Community or work place based:*** Roth (2001) shows case studies from Ghana, Nepal, Bangladesh, Nigeria and Sierra Leone, and suggests some strategies for bringing down the maternal mortality and concludes that there is need of better strategies to include men in maternal health care with community. Interventions

which appeared to be helpful in dissemination of knowledge include: a hotline, community involvement through meetings, camps, question boxes in schools and special educational camps or exhibits for men. Interventions that are either not effective or achieve unclear results include: clubs (men's club, adolescents' club), male-only clinics and condom vending machines (Khan 2002).

The effectiveness of these strategies depends upon the users' characteristics, needs, timing, quality etc. Hurdles encountered in designing the male workshops have related primarily to issues of timing and scheduling. Also, successful attendance was attained only when workshops took place on Sunday, when most men do not have to work. However, identification of staff willing to participate in workshops on Sundays became problematic. Finally, identification of appropriate physical space to hold the workshops has also been problematic (Pal 2000). Not only timing, place and worker, the popular events are also important in influencing the attendance. While the NGOs have taken some initiative and could provide some leads as to possible interventions, ultimately it is focused policy and programmes on the part of government which will make a difference. At present, the Government has not crystallized any definitive policy or programme which could help in the involvement of men (Khan 2002).

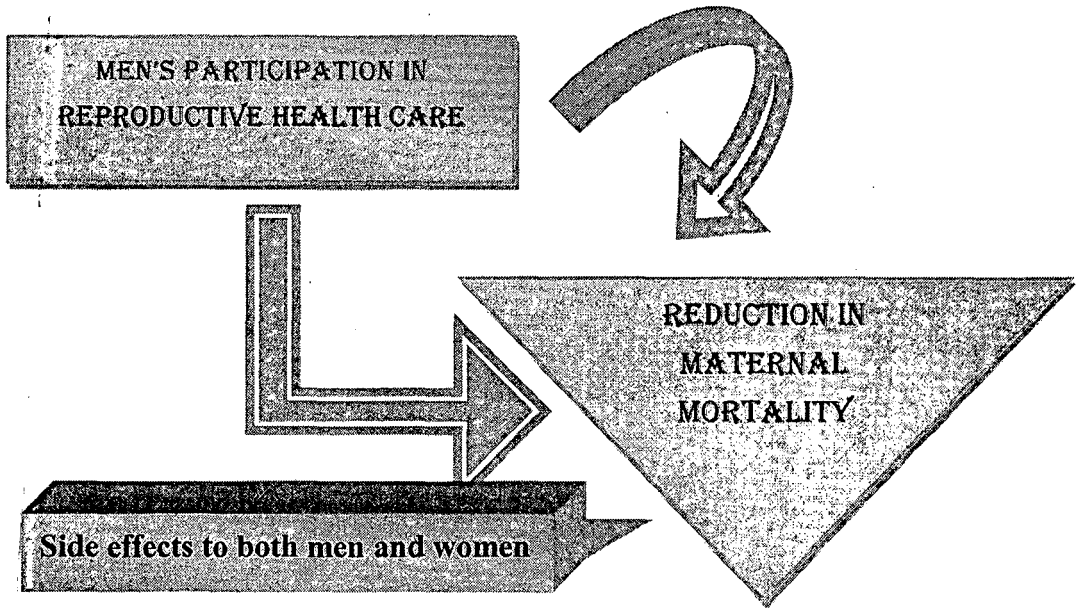
5. Expected impact of increase or decrease in men's participation on women:

5.1 ***Positive impact:*** It has been argued that male involvement in antenatal and delivery care can bring down maternal mortality, reduce the risk of dying of a newborn, improved health of mother and baby and so on. Nevertheless, others argue that men's involvement can lead to increased use of services, reduced maternal mortality, improved birth outcomes, and overall better health for women (Barua 2004). The available evidences show that inclusion of men can influence not only mortality and morbidity but fertility also. The availability and support of husbands play an important role and when wives take decisions regarding their reproductive

health, it is always less helpful for them as compared to husbands decision (Barua 2004, Odimegwu 2005, Padma 2005).

F-1

Impact of Men's Participation



5.2 ***Negative impact:*** Although there are certain benefits, improvements and progress due to men's participation in reproductive health care, yet it has been questioned by the scholars. The programs that aim to involve men pose some serious questions about the effects of involving men in areas that have traditionally been considered the preserve of women, such as childcare, pregnancy and fertility control (Berer, 1996; Helzner, 1996). Sternberg asks some questions as:

1. Whether men's involvement actually increases men's power over their female partners or whether it will help to empower women?
2. There is a need for evaluations that examine the impact of the strategy and ask the question, does men's involvement in sexual and reproductive health promotion empower women?
3. Does 'involvement' help men achieve the capability to resist social norms of male dominance?

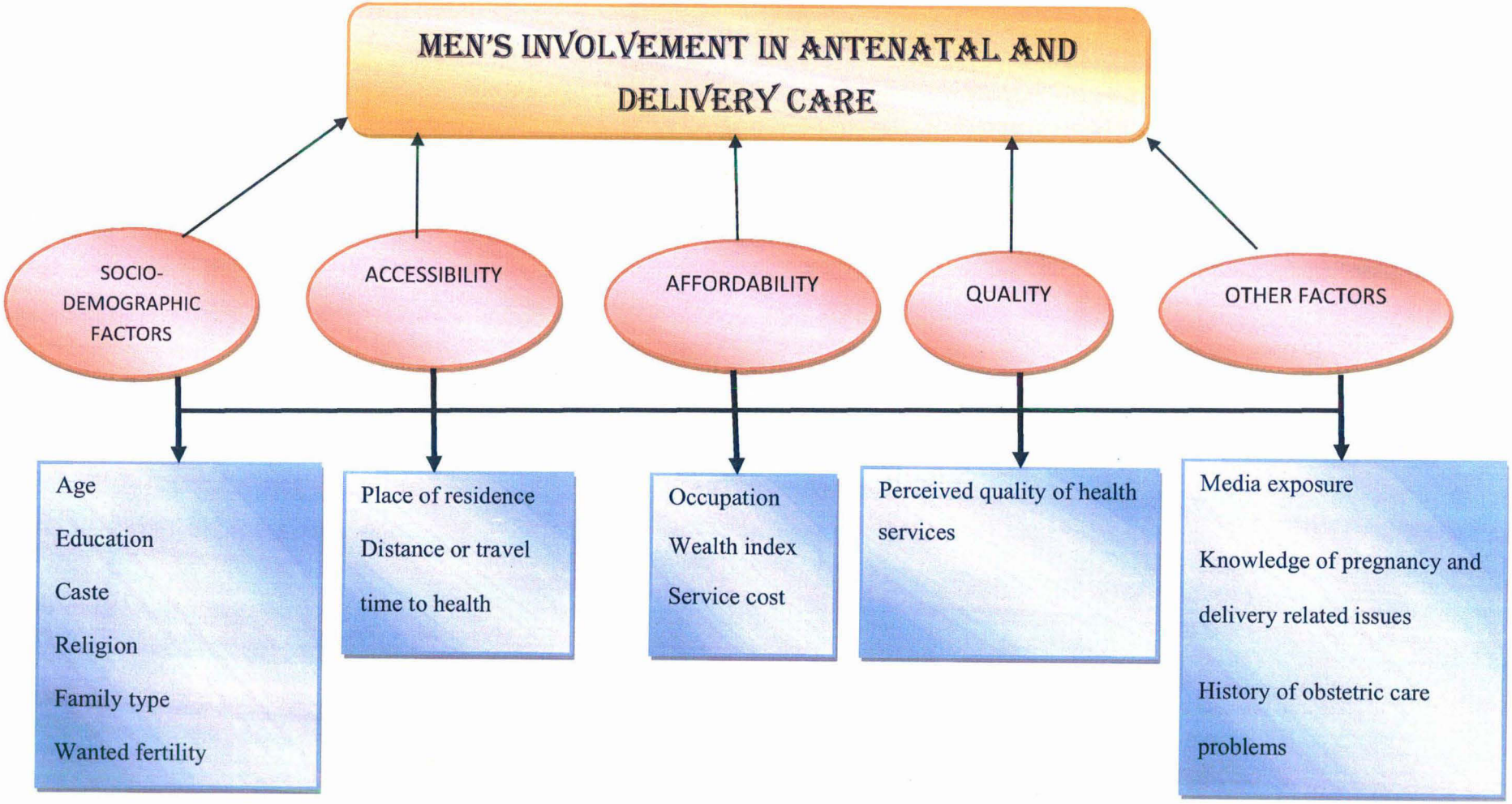
4. What is the impact of men's involvement in programs on the lives of the men involved?
5. How are 'involved' men coping with issues such as losing control over families if family size is negotiated with wives?
6. What is the effect, if any, of men's involvement in their own gender identity?
7. Are new, caring, sharing models of masculinity being formed or are men learning more sophisticated ways to assert their dominance over women?"

These rather important questions have yet to be answered. The effects of interventions on men need to be evaluated (Sternberg 2004). In same tune some other researchers note that encouraging men's involvement could enhance men's power as decision-makers at the expense of women's ability to make decisions about their own health or that it may be an unwelcome intrusion into what has traditionally been a 'woman's domain' (Ormel 1999, Ransom 2000, Barua 2004).

CONCEPTUAL FRAMEWORK

This conceptual framework is the product of review of theoretical issues done in this study. This framework reveals the variables, the interrelationship between the variables and how they are linked with men's participation in antenatal and delivery care. Fig.- 2 shows the conceptual framework utilized in this study. As shown in figure, predictor variables influence response variables directly and indirectly.

F-2


MEN'S INVOLVEMENT IN ANTENATAL AND DELIVERY CARE
SOCIO-DEMOGRAPHIC FACTORS
ACCESSIBILITY
AFFORDABILITY
QUALITY
OTHER FACTORS
Age
Education
Caste
Religion
Family type
Wanted fertility
Place of residence
Distance or travel time to health
Occupation
Wealth index
Service cost
Perceived quality of health services
Media exposure
Knowledge of pregnancy and delivery related issues
History of obstetric care problems

Chapter-3

BACKGROUND CHARACTERISTICS OF MEN

NFHS-3 collected data regarding antenatal care and delivery care from married men for the first time in the latest round (That is third round of NFHS in 2005-06). The questions, already discussed in data and methodology section, provide an insight into men's understanding and involvement with reproductive issues. Current chapter will discuss the background characteristics of the respondents in Goa and Tamilnadu on the backdrop of India. The characteristics, which will be highlighted in this chapter, follow the analysis plan presented schematically in previous chapter. The socio-demographic variables, other factors are discussed in this section which comes under accessibility and affordability factors and few variables are discussed in later section under knowledge regarding antenatal and delivery care.

Socio- Demographic characteristics:

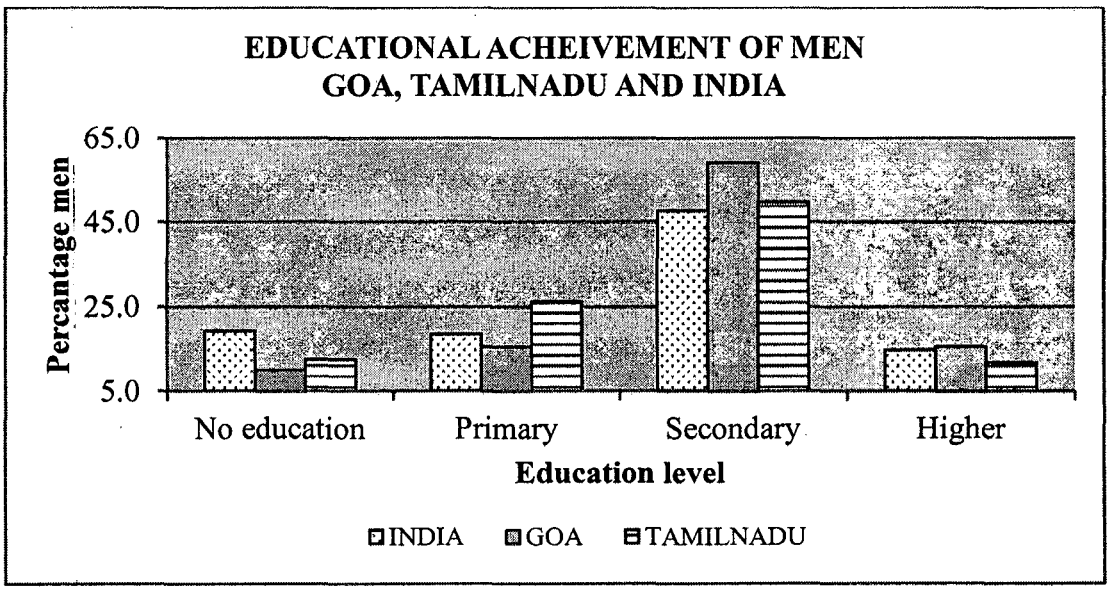
At national level 44884 currently married men, and for Goa and Tamilnadu, 656 and 3501 currently married men respectively, were asked questions pertaining to antenatal and delivery care. The highest number of these respondent men belongs to 35- 39 year age- group in all three places.

Goa has no currently married men in age- group of 15-19, that is an indication of higher age at marriage for men in this state. However, Tamilnadu and India have currently married men in this age- group. Although the percentage of the men in this age- group is less than 1%, yet this is below the legal age of marriage for men (as legal age of marriage for men is 21 years in India).

To inquire about fertility, the questions on number of children born and desired or ideal children were asked. Interesting enough, for Tamilnadu and India almost 30% currently married men reported that they already had more children than desired,

whereas in Goa it was 16%. It may due to low contraceptive prevalence, less effective contraception, as it clearly indicates towards unwanted fertility.

G-1



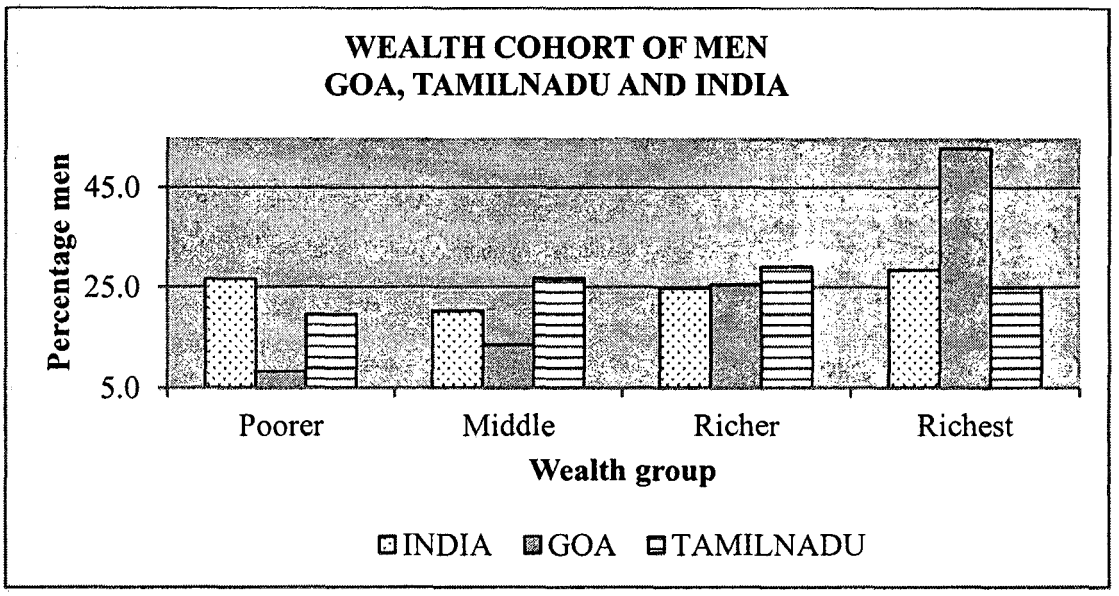
Goa has majority of its currently married men in other category and the least in SC-ST category, but for Tamilnadu, the majority is of OBC category and interesting enough for national level the sample is more or less evenly distributed in all three categories. Hindus are having the highest proportion among currently married men in Tamilnadu (around 89%) followed by India as a whole (75%) and Goa (71%).

Muslims constitute the second largest community at all India level, but in Goa and Tamilnadu the second largest community is of Christians. In the sample of Goa only Hindus, Muslims and Christians are represented, whereas in Tamilnadu some Jains are also represented.

As per sample data, majority of these currently married men stay in urban areas in both Goa and Tamilnadu because these states are highly urbanized states in India, but not in case of country as a whole where majority of population reside in rural areas. In Goa, almost 75% currently married men have secondary or higher education, but in

Tamilnadu and country as a whole only 61% and 62% respectively currently married men are having secondary or higher education.

G-2



The currently married men in Goa are majorly clustered in the richest cohort. The poor constitute the small fraction (8%) here, but at national level they are more than one- fourth (27%). For Tamilnadu and all India level, wealth wise these people are somewhat evenly distributed. In all three places, the major fraction is staying as nuclear family, reaching as high as 69% in Tamilnadu. Most of the Indian and Tamilnadu households are headed by males leaving less than 5% families where females are head but in Goa around 14% households are headed by female, which may be a sign of gender- just society. Awareness seems to be high, as newspaper reading, radio listening and watching TV concerned, in Goa and Tamilnadu, where respectively 60% and 67% currently married men, in the sample, are having high media exposure (media exposure has been indexed as high and low, which is discussed in methodology section). Awareness is integrated with the high rate of urbanization, literacy and well-being. Around 19% currently married men in

Tamilnadu responded that they have been away from their home/ community for more than one month at a time in the last 12 months, where for nation as a whole it is 14%.

In totality the picture emerges from collected sample date that Goa and Tamilnadu are somewhat having similar background characteristics for currently married men when compared to national average.

The other factors shown in the framework are discussed in the next section on knowledge regarding antenatal and delivery care among men.

T-3

Percentage distribution of currently married men according to socio- economic characterstics

Characterstics of currently married men		GOA	TAMILNADU	INDIA
Age-groups	15-29	10.1	15.9	22.1
	30-34	17.5	17.4	18.7
	35-49	57.6	56.8	49.6
Place of residence	Urban	52.4	54.9	48.1
	Rural	47.6	45.1	51.9
Highest educational level	No education	9.9	12.5	19.2
	Primary	15.4	26.1	18.5
	Secondary	59.2	49.7	47.7
	Higher	15.4	11.7	14.6
Social category	SC-ST	13.9	25.9	30.0
	OBC	24.5	70.9	37.9
	Other	61.5	3.1	32.1
Wealth index	Poorer	8.2	19.5	26.6
	Middle	13.6	26.6	20.3
	Richer	25.5	29.0	24.7
	Richest	52.7	24.9	28.4
Family type	Nuclear	51.4	68.8	52.8
	Non-nuclear	48.6	31.2	47.2
Sex of household head	Male	85.8	96.3	95.1
	Female	14.2	3.7	4.9
Away for more than one month in the last 12 months at a time	No	84.2	81.1	86.2
	Yes	15.8	18.9	13.8
Media exposure	Low	40.4	33.8	52.4
	High	59.6	66.2	47.6
Difference in ideal and living children	Ideal less	16.5	29.9	31.1
	Equal	42.1	39.7	34.9
	Ideal more	41.4	30.4	34.1
Religion	Hindu	71.5	89.1	75.4
	Other	28.5	10.9	24.6

KNOWLEDGE REGARDING ANTENATAL AND DELIVERY CARE

Like family planning, pregnancy care is a key component of reproductive health, which comprises different stages of pregnancy outcomes: antenatal, delivery and postnatal care. Pregnancy health is physical, mental and social wellbeing of women immediately before (antenatal), during pregnancy/delivery (natal) and after childbirth (post natal) (WHO 2002). Thus pregnancy care means the provision of essential care of pregnant women to ensure safe delivery including postnatal care and treatment of complications of mother and newborns. Complications during pregnancy and childbirth are leading causes of death and disability among women of reproductive age in developing countries. These complications, which can occur at any time during pregnancy and childbirth without signs, require prompt access to proper obstetric services. Most of the deaths and disabilities due to childbirth are avoidable by providing emergency medical interventions. Immediate and effective care before, during and after delivery can make the difference between life and death for women. Therefore, pregnancy care can prevent adverse outcomes when it is sought in time. The well-being of mother and baby depends on the pregnancy care that a mother receives during her pregnancy. This section is pertains to the analysis of knowledge regarding antenatal and delivery care among men.

Male involvement in Maternal and Child Health (MCH) is one of the burning issues in the Reproductive and Child Health program (RCH). Tradition, norms, values are some of the important pillars of the Indian society. It has been seen that reproductive and child health are the very personal matter of Indian women for ages. Male are less involved in it (WHO, 1998). In the boundary of in-house work women have restricted her in cooking, taking care of the family members, rearing child and thus male involvement in maternal health is a big challenge in India. Although studies of men's reproductive attitude and behavior have grown in number, they are dominated by a problem oriented approach. In spite of the sizable increase in the interest in male

involvement in RCH, Indian studies have mainly focused on the basic measurement of fertility, contraceptive use and reproductive preferences (Chattopadhyay 2009). The knowledge is still scanty with regard to predictors in MCH by husband's perceptions, attitudes, behaviors and communication. Whereas, the process of reproduction entails mutual responsibilities, men's participation in reproductive and maternal health is mostly negligible and neglected in many developing countries.

Men's participation in pregnancy care should not be interpreted in terms of physical involvement during antenatal, delivery and postnatal check-up but they can also help partner indirectly. For example, men can help in domestic work, advice for immunization and consumption of iron and folic acid tablets, advice on appropriate nutrition and rest during the time of pregnancy. In addition, they can support their wives to buy vitamins and special foods (especially food rich in iron and fortified with vitamin A). Oropesa et al. (2000) in their study among Puerto Ricans on US have shown that husband's psychological support is positively associated with good pregnancy output. Likewise, husbands not only support their partners by accompanying and providing financial resources during medical check-up when they seek care but also play important role in decision making in various stages of pregnancy health. Although the health policy in India is for men and women to share an equal responsibility, men's participation in pregnancy care is still low due to social and cultural taboos and inhibition. Husband's support for women during pregnancy, which is a critical time for them, has not yet been promoted effectively in India. Existing Indian literatures document a little information about husband participation in pregnancy care.

The question on antenatal care was canvassed among currently married men in NFHS-3. The highest proportion (95%) of the currently married men in Goa reported about receiving of antenatal care of their wives during the last birth, followed by Tamilnadu (92%). However, the proportion at national level was as low as 73%. So,

selected states are having very high rate of antenatal care. It is proved by going one step ahead, by asking place of delivery for the youngest child, in Tamilnadu 93% currently married men had reported place of delivery as hospital or health facility, in Goa 89% but national average is just 50%. It is evident that the percentage of home deliveries has declined from 53 percent in 1994-1998 to 36 percent in 1999-2003 in Tamilnadu (Balasubramanian 2005). The reason for the highest proportion of institutional delivery may be that Tamilnadu, unlike some other states in India, does not have a serious shortage of women doctors, and women in general are not as opposed to male doctors as is the case in some northern states (Ramachandar 2002).

The currently married men, whose youngest child was less than three years of age at the time of the survey and for whom the mother did not receive any antenatal care, were also inquired the reasons for not availing antenatal care. At all India level two out of five men (40%) thought it was not necessary for the mother to receive antenatal care. Another 16% of the currently married men said that their family did not think it was necessary or did not allow the mother to receive antenatal care. However, 13% of the currently married men responded that mothers theirselves did not think it was necessary to have check-ups. For 17% of the currently married men, the main reason for the mother not receiving antenatal care was that it costs too much, very much similar in Tamilnadu (16%), but not in Goa, where majority of the sample was from upper quartile of wealth index. If put altogether total 80%, 58% and 56% of the currently married men respectively in Goa, Tamilnadu and national level had reported that the main reason is that either husband did not allow or think it necessary/ family did not think the check-up was necessary. In contrast two reasons; men/ family did not think it necessary account only for 27%, 21% and 43% respectively for Goa, Tamilnadu and India level for reasons not delivering child in hospital or health facility. For Goa other important reasons are distance/ no transportation, do not trust facility, poor quality of services whereas, not the first child, cost too much and distance/ no transportation are important reason for not delivering child in hospital or

health facility for husbands in Tamilnadu. Balasubramanian (2005) notes that public hospitals play an important role in delivery services for rural poor women from socially disadvantaged groups in Tamilnadu and if they were to depend on private health facilities for delivery care, it is possible that many more women from disadvantaged sections of society would be heavily indebted or have to resort to home deliveries.

When a service is perceived as beneficial, families within the study area avail themselves of it, sometimes in spite of beliefs and customs that might mitigate against its use (Matthews 2005). Routine antenatal care is generally accepted and the choice of the ANM as the attendant at delivery is widespread, but domiciliary births remain the norm, and routine postpartum care is hardly ever sought because cost (including the hidden costs of payment for supposedly free services), lack of education and social standing, problems of time and distance, perceptions of the severity of unexpected problems, and the culturally unacceptable ambience of nearby facilities. Quality of care that is expected from local services is a crucial element of a family's decision-making process when choosing whether to seek care for pregnant women or those in labor.

In North India, the patriarchal, patrilocal kinship system allocates power within the household based on the age and sex of its members: Men and older kin have authority over women and younger family members (Singh1998). Because most married women live in some type of extended household that involves one or more of their husband's elder family members, wives are usually dependent on a number of people for decision-making, especially if the decision involves going outside the household or spending money. Regardless of her particular family structure, a woman is usually directly accountable to her husband.

Men who had a child less than three years of age were asked whether at any time when the mother was pregnant with their youngest child any health provider or health

worker spoke to them about family planning or delaying the next children; the importance of delivering the baby in a hospital or within a health facility; or the importance of proper nutrition for the mother during pregnancy. They were also asked whether anyone explained to them the importance of the breastfeeding the baby immediately after delivery, of keeping the baby warm immediately after birth, of cleanliness at the time of delivery, and of using a new or unused blade to cut the cord. For family planning or the importance of delivering the baby within a health facility/ importance of breastfeeding/ importance of delivery cleanliness, the highest proportion of currently married men in Tamilnadu responded yes, as compared to Goans and all India average. But, for importance of clean blade to cut the cord after birth and importance of proper nutritious food to mother, more Goan currently married men replied yes as compared to Tamilnadu and national average. This shows better communication between health-worker and expected fathers or husbands who have already fathered children. This may be due to better education of husbands, their inquiring nature regarding these important issues and health programmes which spread awareness among men.

As compared to explanation of currently married men, where the majority remain unaware in Goa and Tamilnadu for the knowledge of pregnancy complications while most of them are aware about the importance of antenatal care and delivery care. Highest proportion of them who had knowledge about pregnancy complications like vaginal bleeding, convulsions and prolonged labour was informed by a health-worker. Informed fatherhood was highest in Tamilnadu, followed by Goa. National average falls far below the study states' figures. It stems out from analysis that to achieve the goals of 100% institutional delivery, there is more concern on delivery related aspects rather than care about pregnancy related complications. While majority of men in Goa and Tamilnadu reported that they were explained about the nature of required care during pregnancy but not so in case of pregnancy complications and its implications. The knowledge regarding pregnancy complications, has still not reached to majority

of men, is also confirmed by other studies (Bloom 2000) found only 4.4% men named convulsions as one of the danger signs, while a larger number named vaginal bleeding (18·9%) in a study in Uttar Pradesh, India). When asked whether any health-worker has told them the source of care if such pregnancy complications occurs, 55%, 37% and 42% currently married men in Tamilnadu, Goa and at all India level respectively positively responded.

The difference in rites and rituals, performed during reproductive period in these state, also influence the antenatal and delivery care. Involvement of the males in any birth related rituals has always remained less. No men are allowed in fact, some men aren't informed that their wife is even in labor until the baby is already born (Hollen 2003). The husband is often seen as disconnected to the birth, without having any authority over it. Some women reported that the involvement of husband would be a good thing in their culture because then men would have more respect for women and the work of childbirth (Hollen 2003).

After analyzing the background characteristics of currently married men and their knowledge regarding antenatal and delivery care, the next section examines the characteristics of those men, whose wives availed antenatal and delivery care.

T-4

Percentage distribution of currently married men according to antenatal and delivery care knowledge

Knowledge regarding antenatal and delivery care		GOA	TN	INDIA
Antenatal check-ups for the mother for youngest child	No	5.5	8.1	26.7
	Yes	94.5	91.9	73.3
Place of birth of youngest child	Other	11.0	7.0	49.9
	Hospital, health facility	89.0	93.0	50.1
Reason for not delivering youngest child in health facility	Cost too much	9.09 #	18.6	19.6
	Facility closed	4.5	1.4	1.8
	Too far/no transportation	22.7	18.6	9.6
	Don't trust facility/poor quality service	13.6	2.9	1.5
	No female provider	0.0	4.3	0.5
	Not the first child	0.0	10.0	4.3
	Mother did not think necessary	13.6	8.6	15.3
	Respondent/ Family did not think necessary	27.3	21.4	43.5
Reason child's mother did not have antenatal check-up	He/ Family did not think it necessary/did not allow	80.0 #	57.7	56.4
	Child's mother did not want check-up	0.0	14.1	12.9
	Has had children before	0.0	9.9	2.5
	Cost too much	0.0	15.5	17.4
	No female provider at facility	0.0	1.4	6.2
	Too far/no transportation	0.0	0.0	1.3
Knowledge of pregnancy complications like vaginal bleeding, convulsions, prolonged labour	No	62.5	57.4	67.3
	At least one	9.0	7.2	6.9
	More than one	28.5	35.4	25.8
Informed about sources of treatment for complications	No	62.5	44.6	58.1
	Yes	37.5	55.4	41.9
During pregnancy, importance of antenatal and delivery care parametres explained	No	13.6	25.4	35.4
	At least one	9.1	1.4	7.9
	More than one	77.3	73.2	56.7
Knowledge of ovulatory cycle	No	19.2	40.4	23.9
	Yes	80.8	59.6	76.1

Based upon less than 25 unweighted caes

Chapter-4

ANTENATAL AND DELIVERY CARE

The aim of ANC is to produce a healthy mother and baby at the end of pregnancy by:

1. Preventing and treating pregnancy-related or inter-current morbidity, such as hypertension of pregnancy, anemia, malaria, tetanus, and STDs; and

2. Detecting women at increased risk of complications of delivery.

One of the most widely used strategies to improve maternal health was, and still is, antenatal care (ANC). However, ANC strategies in developing countries, where most births occur at home, were modeled on ANC in developed countries, where almost all births are institutional. ANC often does not, therefore, support the new emphases on skilled birth attendant and obstetric emergency care (Gerein 2003).

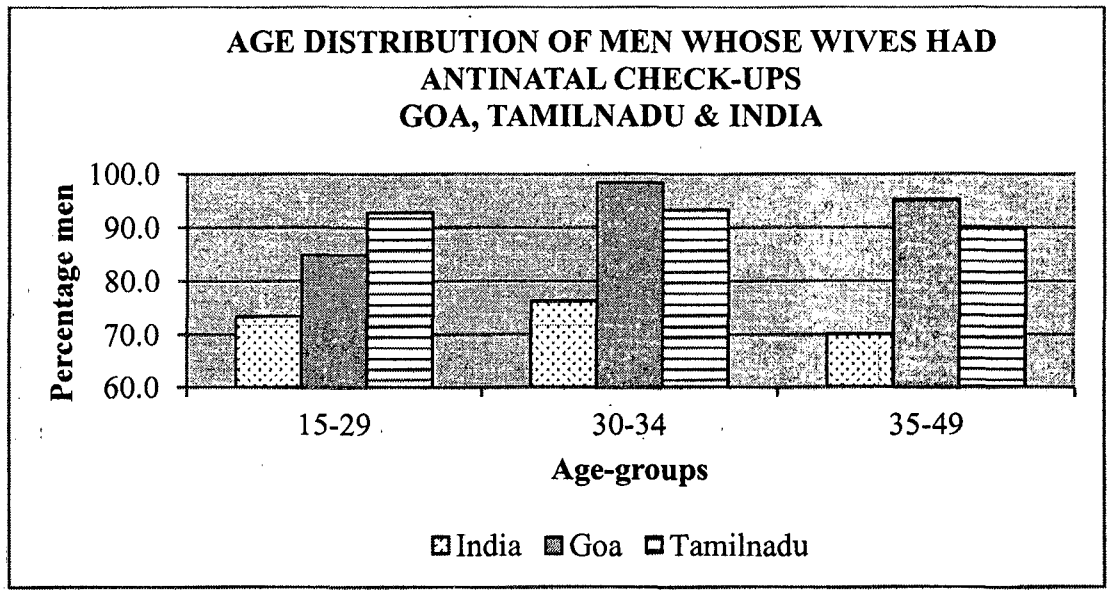
This section looks into certain socio- demographic, economic characteristics of men whose wives had received antenatal and delivery care during last pregnancy and live birth.

Only women are covered by ANC programs because of their reproductive role, but in many social contexts their voices are not heard in community decisions about health, and they are even more rarely involved in influencing the planning and management of local health services. At the most basic level, they may need permission and money from their husband or family to access health care (Wall 1998). Hence the call for more involvement of men in ANC and reproductive health is must (Gerein 2003).

The men, whose wives received antenatal care and their last child was delivered within a health facility, show different characteristics across regions. Goan have edge over Tamilnadu men in age-groups of 30-34 and 35-49 years. In these both age-groups more Goan had reported about receiving antenatal check-up as compared to

Tamilnadu. The national average is well below than these states. But in the age-group of 15-29 years Tamilnadu men have majority. The similar case is with place of delivery of the youngest child, but here Tamilnadu has similar response as Goa in later two age-groups. Research on the effects of age on utilization of maternal health services has been less conclusive. Either age is seen as a benefit to utilization, or a hindrance (Matthews 2005). Older and more parous women have an accumulated knowledge of health care services yet younger women often have better knowledge of modern health care and facilities (Elo 1992; Fos 1994; Hajo 1995). Similar is true with men, whereas older men were more likely to know more about reproductive health than younger ones, this was particularly true for the likelihood of knowing signs of maternal complications (Bloom 2000).

G-3

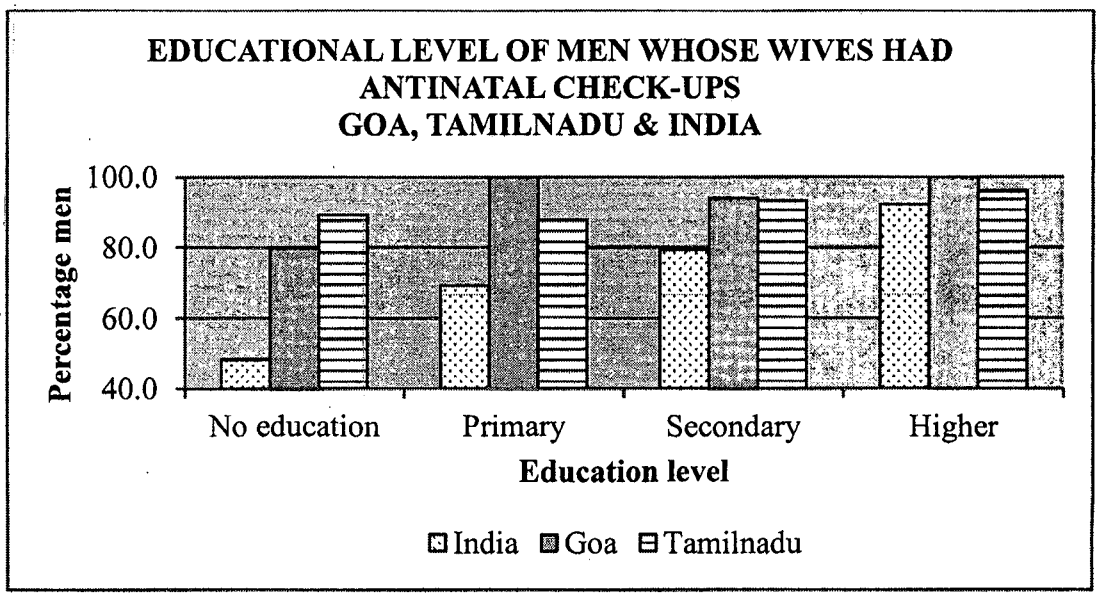


The men in urban areas, who were asked whether their wives had antenatal check-ups for the youngest child, 98%, 95% and 86% of them respectively in Goa, Tamilnadu and at national level have given positive response. For Goa and Tamilnadu, in rural areas also 91% and 87% men replied yes whereas national level average is only 63%.

For place of delivery as health facility both for urban and rural areas, Tamilnadu comes first leaving Goa and national average behind.

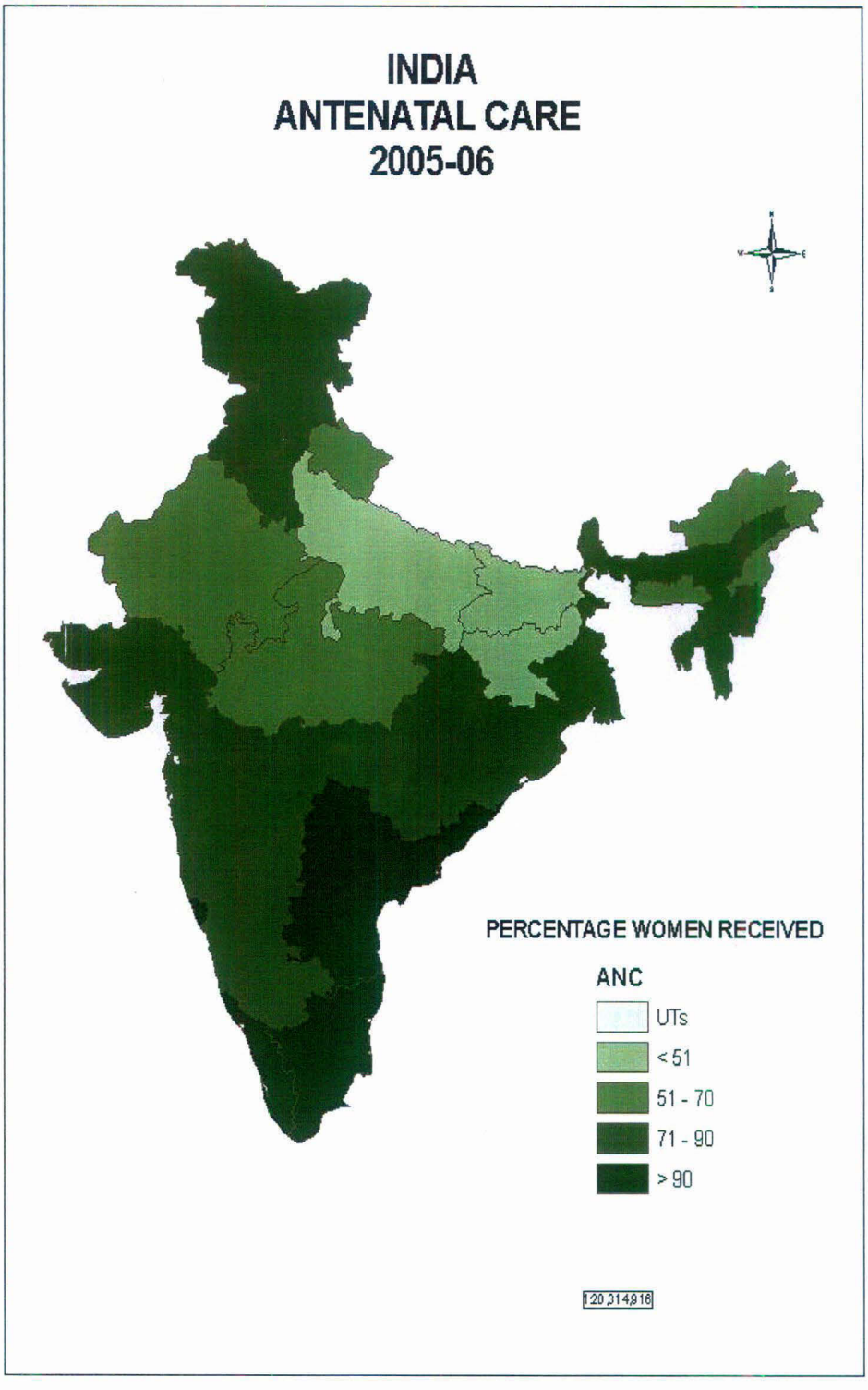
Maternal education has repeatedly been shown to have a beneficial impact on maternal health care uptake and also that any education is a marker for improved antenatal care, but that only secondary schooling affected the use of better delivery services (Matthews 2005). There is high positive correlation between men's education and women's education, showing that women in the families, where men have higher education tend to be highly educated. So men's education works as catalyst for women's education and also for service utilization like reproductive health care etc. The educational levels of those men whose wives had antenatal check-ups show no major difference between Goa and Tamilnadu.

G-4



More than 80% men who were asked the question regarding antenatal and delivery care have given positive response in both these states, but not at national level.

M-2


INDIA
ANTENATAL CARE
2005-06
PERCENTAGE WOMEN RECEIVED
ANC
UTs
< 51
51 - 70
71 - 90
> 90
120,314,916

As level of education of men increases the proportion whose wives had received antenatal check-ups, also increases at all India level. Odimegwu (in a study on "Men's role in emergency obstetric care in Nigeria") generalizes that the older and educated men are more likely to know the danger signs than the younger and uneducated ones (Odimegwu 2005).

T-5

Place of birth of youngest child is health facility/ hospital			
Highest educational level	India	Goa	Tamilnadu
No education	23.5	60.0	83.9
Primary	39.7	92.0	89.5
Secondary	55.5	90.9	94.5
Higher	80.9	92.9	98.7

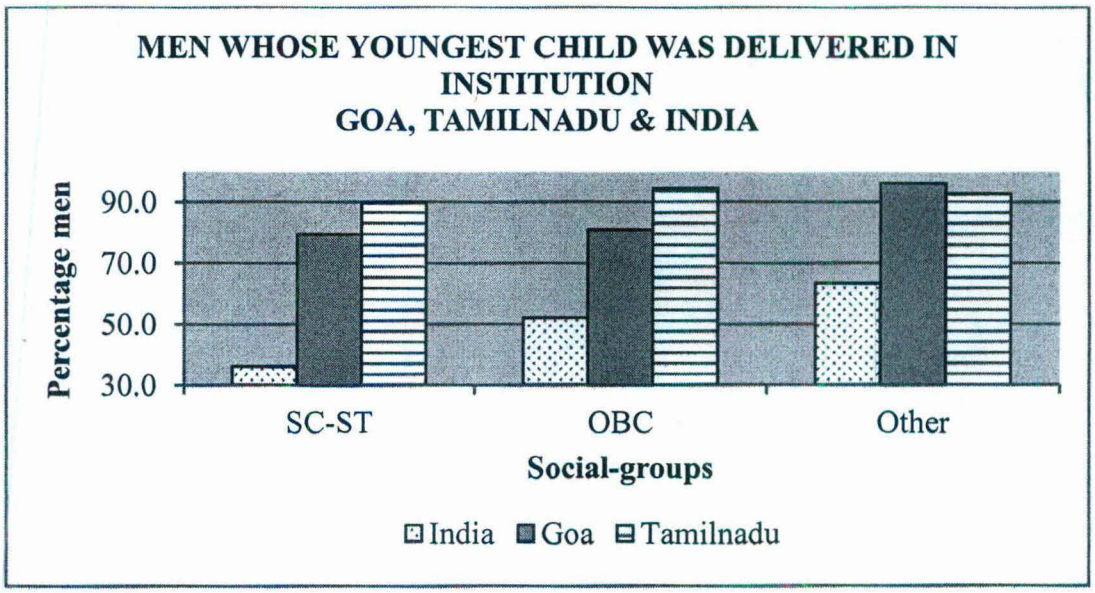
(Source: computed from NFHS-3)

In Goa and country as a whole, the more proportion of women had received antenatal check-ups but the delivery within health facility was low across all educational levels of men. Whereas, the situation is reverse in Tamilnadu. But more proportion of men, of each educational level reported the place of delivery as health facility as level of education increases in all three places. Education is positively associated with the use of antenatal care services. Nearly three fourth of pregnancies (72 percent) of literate women had received vaccination and medical test. But among illiterate women it was only 51 percent (Balasubramanian 2005).

In Goa, more proportion of men across all social groups (SC-ST, OBC and Other) reported that their wives had antenatal check-ups as compared to Tamilnadu and national average. Among SC-ST, antenatal check-up, were received to as high as 90% of the wives whereas, national average is 66%, and that of Tamilnadu is 88%, which shows better well-being of SC-ST in these states. Among OBCs, 98% Goan have antenatal check-ups compared to predominant OBC population state of Tamilnadu

(95%). The utilization of complete antenatal care services was slightly low among schedule caste, schedule tribes than the others (Balasubramanian 2005).

G-5



But against antenatal check-up, the scenario for institutional delivery is different. Tamilnadu has higher proportion of SC-ST and OBCs, who had safe delivery compared to Goa and national average. In Tamilnadu, 'Others' are having less proportion of men whose wives had antenatal check-ups and delivered baby in institution as compared to OBCs. At all India level, 'Others' are having the best condition. The different studies have observed that caste dynamics play an important role in delivery care. The final factor associated with the choice of ANM at delivery was caste: still a strong factor in care seeking in the rural context with scheduled castes and tribes much more likely to opt for lay assistants (Matthews 2005). Non-trained person like neighbours and relatives mostly assisted home deliverers of higher order births. But qualified persons like ANM and doctors attended a substantial percentage of home deliveries of women with higher standard of living and belonging to higher caste groups in Tamilnadu (Balasubramanian 2005).

The men, who responded for the questions on antenatal and delivery care, have been categorized in two religious groups; Hindu and others. The others include Muslim, Christian, Sikh, Buddhist/ Neo-Buddhist, Jain, Jew, Parsi, Zoroastrian, other religion and those without religion. Hindu men at the national level had responded for better antenatal care and delivery care when compared to men from other religions.

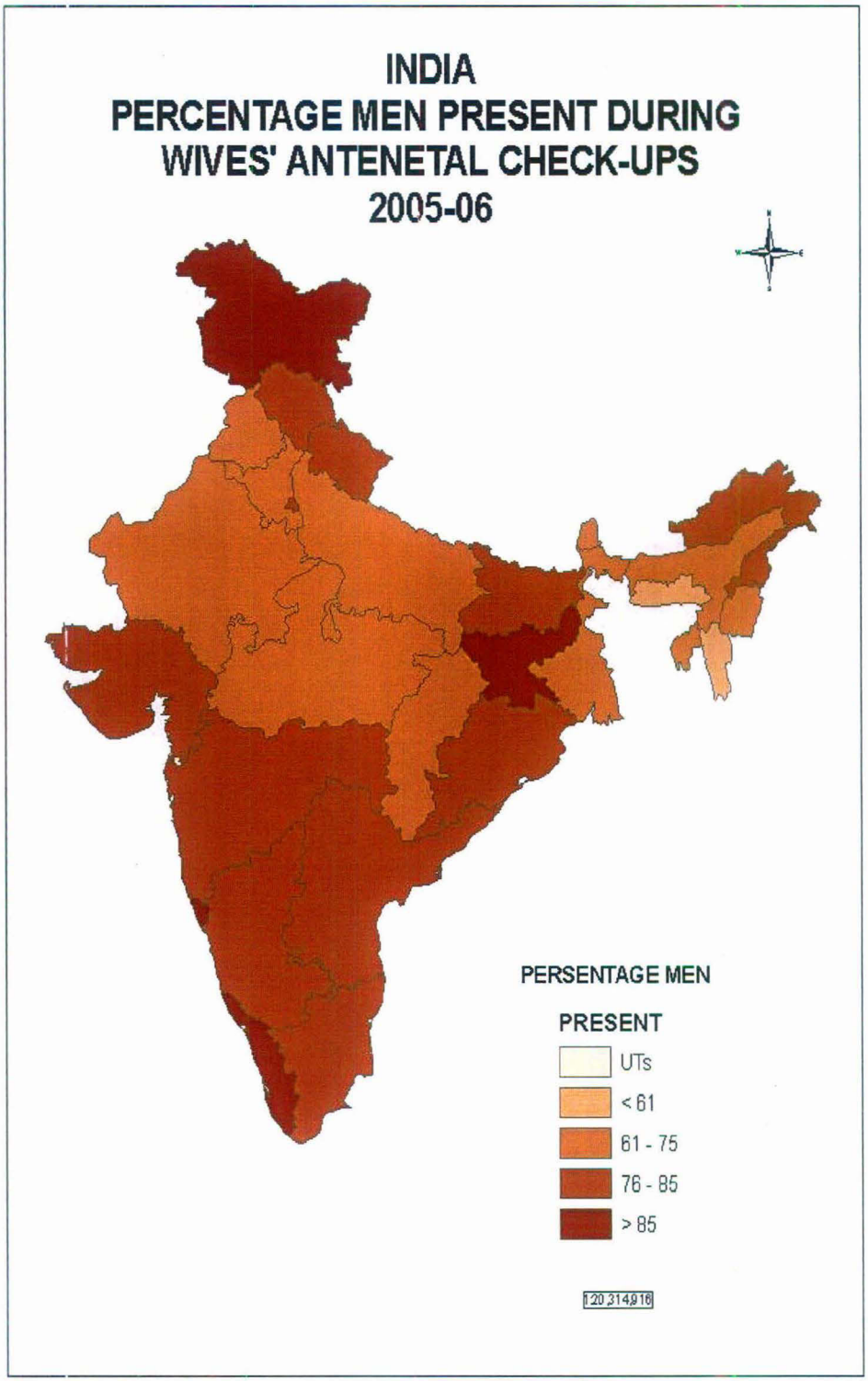
T-6

	Antenatal check-ups			Delivery in health facility		
Religion	India	Goa	Tamilnadu	India	Goa	Tamilnadu
Hindu	74.0	93.8	92.0	52.0	86.8	92.5
Other	71.3	96.4	92.2	45.1	94.6	97.4

(Source: computed from NFHS-3)

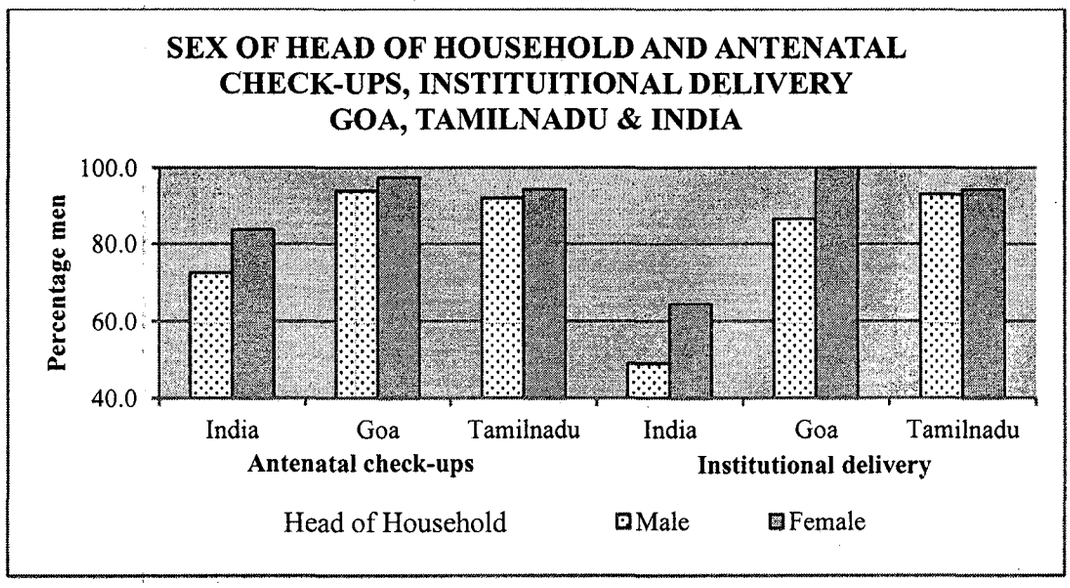
However, according to their husbands, 96% women among other religious-groups in Goa have antenatal check-ups, which is higher than Hindu women and same is true about Tamilnadu women also. 'Medical checkups and vaccination were more common for births to Christian women (82%) than for births to Muslims (46%) and Hindus (64%)' (Balasubramanian 2005). The difference between positive responses from Hindu men and men from other religions for antenatal check-ups in Tamilnadu is minimal, but for institutional delivery it is around 5%, it substantiates the claim that women from other religions are having more antenatal check-ups and institutional delivery in these two southern states than national average. At the national level, Hindus perform well above other religious groups in terms of antenatal and delivery care, but not in all states.

M-3


INDIA
PERCENTAGE MEN PRESENT DURING
WIVES' ANTENETAL CHECK-UPS
2005-06
PERSENTAGE MEN
PRESENT
UTs
< 61
61 - 75
76 - 85
> 85
120,314,916

The men have admitted, "When head of household is female, there are more antenatal check-ups and institutional delivery as compared to male headed houses" across Goa, Tamilnadu and country as a whole. The difference between men's positive response for antenatal check-ups in female and male headed household is more at the all India level than it was in Goa and Tamilnadu. This difference is less in Tamilnadu for both antenatal check-ups and institutional delivery between male and female headed household.

G-6



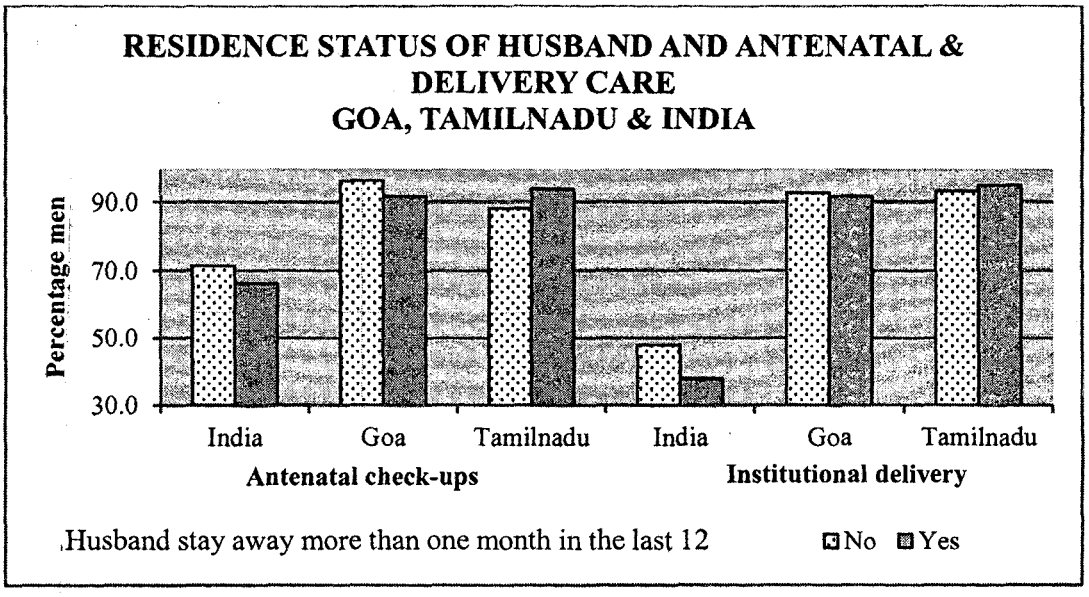
With socio-cultural, demographic factors and accessibility, economic factors also matters when it comes to avail antenatal and delivery care. An antenatal check-up by doctor or prenatal assistance by doctor costs less than the delivery in hospital; public or private. Low household income can be a barrier to the uptake of modern health services even when services are publicly provided. In India, researchers have found that per capita costs of health care are high in poorer rural areas due to transport costs and private fees where no other services are available at an emergency (Duggal 1989).

T-7

Wealth index	Antenatal check-ups			Delivery in health facility		
	India	Goa	Tamilnadu	India	Goa	Tamilnadu
Poor	50.6	85.0	82.5	20.9	75.0	82.1
Middle	73.1	89.3	89.5	42.7	85.7	92.8
Richer	84.2	96.2	96.8	61.4	86.8	96.5
Richest	93.1	97.0	97.5	84.9	93.9	98.8

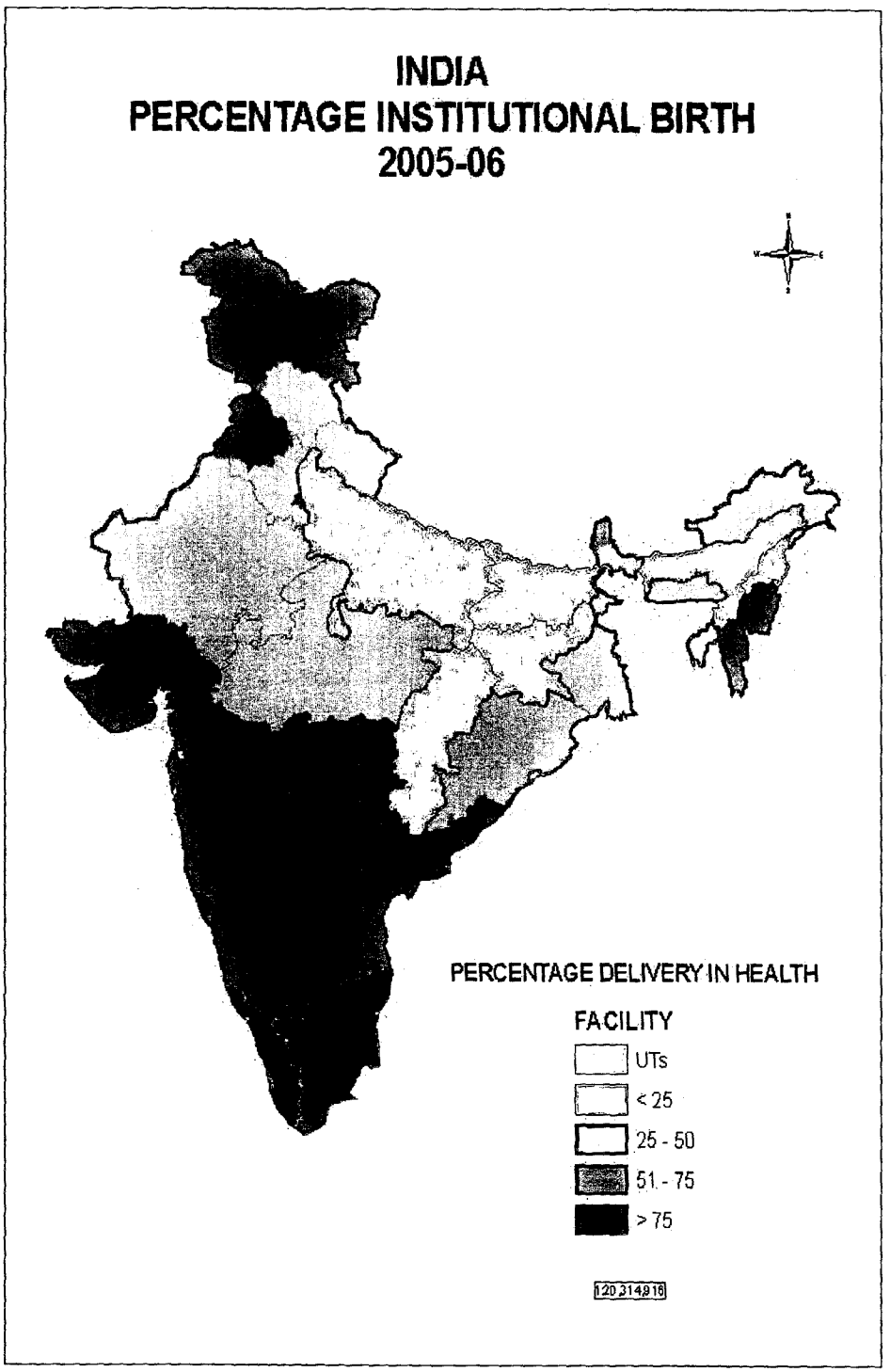
(Source: computed from NFHS-3)

At the national level 51% men (who are categorized as poor) responded that their wives had antenatal check-ups during previous pregnancy, whereas only 21% of them said that their last baby was delivered in a health facility. And there is no surprise to see this gap of 30% among the people at the bottom level of income reduces as we approach towards higher income people. The richer have 23% and the richest have 8% gap between antenatal check-ups and institutional delivery at the all India level. For Goa, this gap, between availing antenatal care and delivery care is less and for Tamilnadu it is negligible. Availing antenatal care across different income strata is also seen varying at national level, where among poor 51% responded positively as compared to 93% among the richest. In the states of Goa and Tamilnadu, the difference between different income groups is remarkable but not as high as at the national level. Due to better antenatal care in Goa, this difference between the poor and the richest is less than Tamilnadu, but due to better delivery care in Tamilnadu it reverses. There is higher difference between the poor and the richest in Goa for institutional delivery than it was in Tamilnadu. The proportion who received complete care was 53 percent in the low standard of living group and rose to 76 percent in the high standard of living group for Tamilnadu (Balasubramanian 2005).



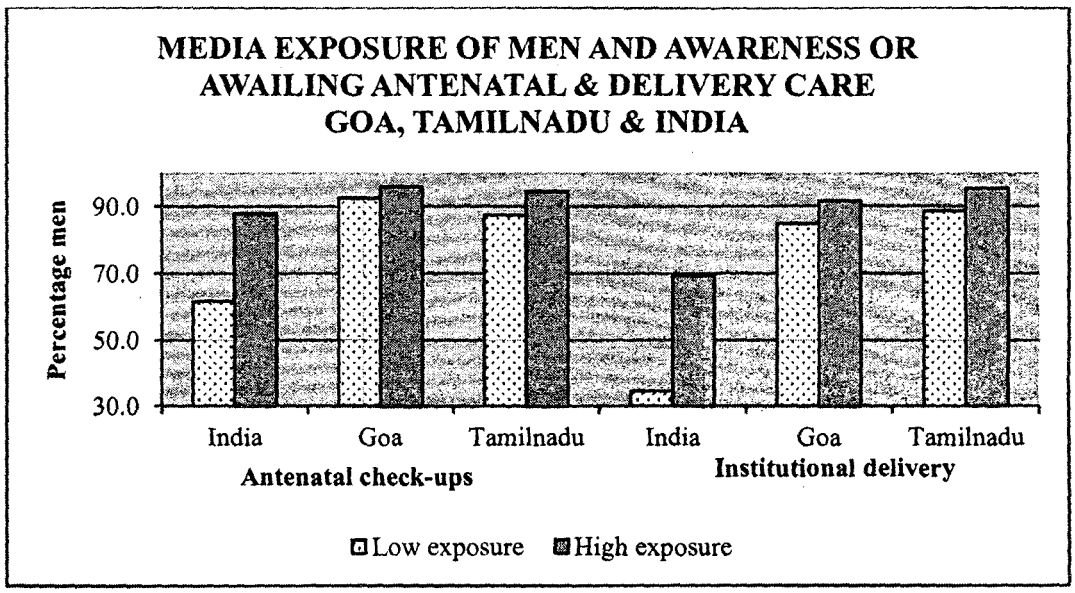
Staying away of husbands from families/ houses also has relation with availing health care services, particularly reproductive health care services which require better spousal communication. At the national level and in Goa, higher proportion of men have reported that staying away of husbands from families for more than one month in last 12 months, then there are less antenatal check-ups and institutional deliveries, but not in Tamilnadu, where men among those staying away have reported more antenatal check-ups and institutional deliveries than men who do not stay away for more than one month in last one year.

Awareness regarding family planning, pregnancy complications comes through TV, radio and newspaper etc. media sources, and men were asked whether they watch/ listen or read these sources or not. Awareness is also closely connected with the level of education one has acquired.


INDIA
PERCENTAGE INSTITUTIONAL BIRTH
2005-06
PERCENTAGE DELIVERY IN HEALTH
FACILITY
UTs
< 25
25 - 50
51 - 75
> 75
120314916

Among the men who had low media exposure, lesser proportion had reported awareness or availing about antenatal check-ups and institutional delivery than men with high media exposure in all three locations.

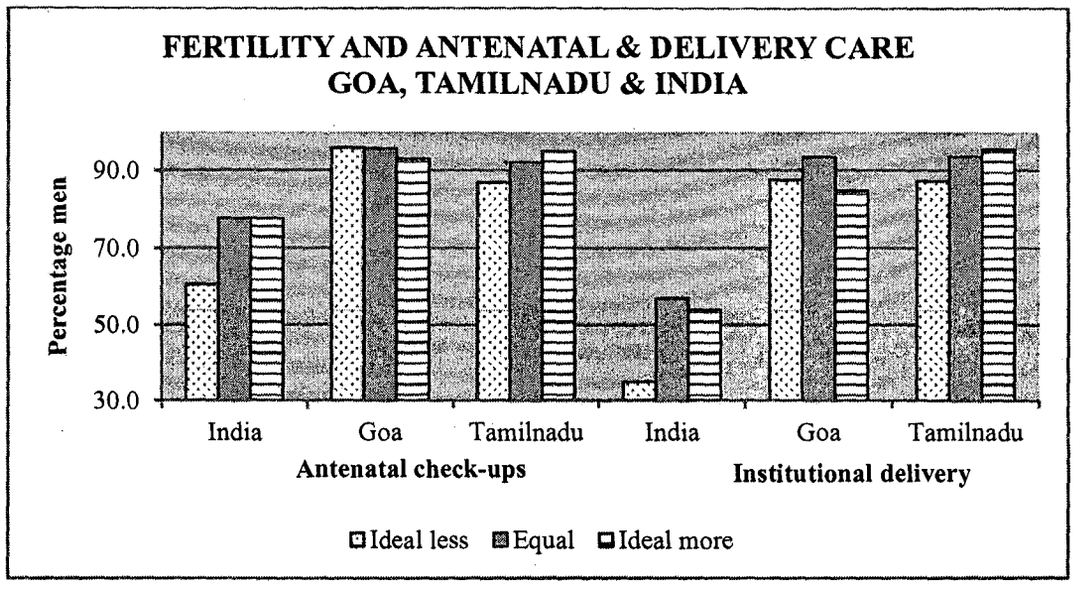
G-8



But the difference between these two, proportion of men with low and high media exposure is more at the national level than it was in Goa and Tamilnadu. Except Tamilnadu, in Goa and at the all India level the difference between two proportions; proportion of men with low media exposure and high media exposure is more for delivery care than for antenatal check-ups.

Desire for children (wanted fertility) also has influence upon health-seeking pattern during pregnancy. The proportion of men, who reported yes for antenatal check-ups of their wives are the highest among those who want children or have desire for fertility in the state of Tamilnadu and at the national level. But in Goa, the proportion is the highest among those whose ideal size of children is less than what they already have.

G-9



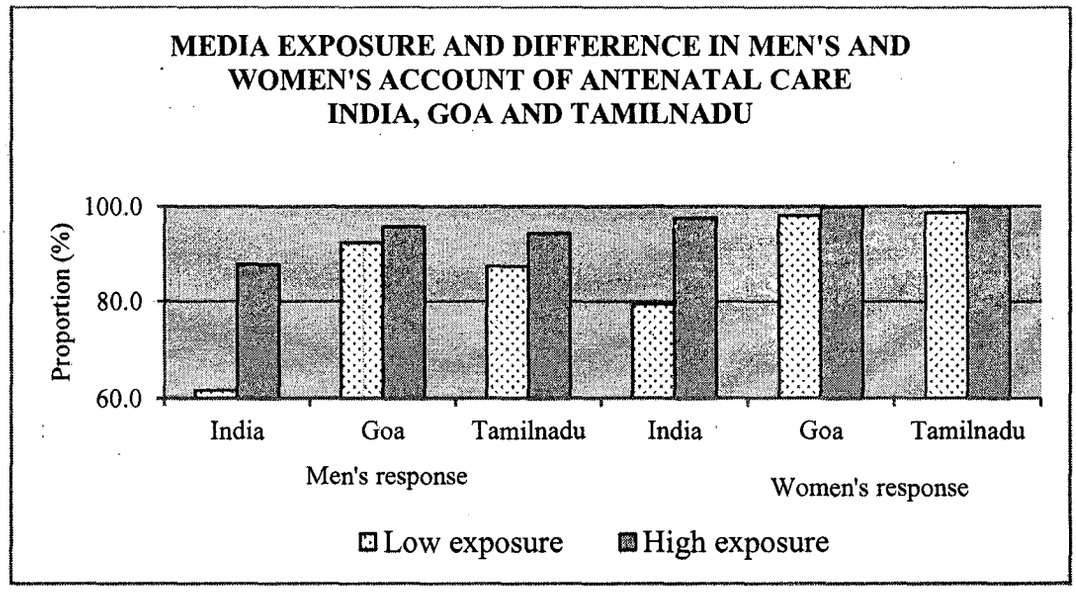
The difference between proportion of men whose ideal size of children is less than living children and proportion of men whose ideal size of children is more than the living children, in terms of positive response for antenatal check-ups and institutional delivery is the highest at the national level. This shows the negligence of pregnancy and delivery complications. The men and other family members pay greater attention when it comes to desired children but become less careful when they have children already and no more desire for children.

Comparison between Characteristics of Men and Women as Reported by Them Separately

As antenatal and delivery care services are utilized by women, there could be differences in the responses when questions regarding these matters are asked from men and women separately. In NFHS-3, questions pertaining to reproductive health were asked to men, whose wives had given birth in three years prior to the survey, and women separately. After analysis men's point of view as per their account it has been felt that women's account should also be taken into consideration to understand men's view more accurately. A cross-tabulation analysis has been done to gain insight into

differentials and similarities among men and women's reporting. This analysis takes only those men and women who responded for questions on antenatal care. The tables and graphs presented in this section show the proportion of men (their wives) and women who said yes for antenatal check-ups during recent pregnancy cross-tabulated with certain socio- economic and demographic characteristics.

G-10



There seems no difference among proportion of men and women age-group wise who had positively reported for antenatal check-ups. A higher proportion among women claimed that they had received antenatal check-ups than men's reporting in Goa, Tamilnadu and all India level; in Goa it is as high as 100% for women in upper age-groups.

T-8

PERCENTAGE MEN WHOSE WIVES RECEIVED ANTINATAL CHECK UP AND HAD INSTITUTIONAL DELIVERY

		Antenatal check-ups for the mother for youngest child			Place of birth of youngest child in health facility		
		India	Goa	TN	India	Goa	TN
Age	15-29	73.4	84.8	92.8	46.8	69.7	93.3
	30-34	76.2	98.4	93.3	54.9	93.7	93.0
	35-49	70.1	95.2	90.0	49.2	92.3	92.7
Media exposures	Low exposure	61.6	92.4	87.4	34.6	84.8	88.5
	High exposure	87.8	95.8	94.4	69.4	91.6	95.3
Caste	SC-ST	66.0	89.7	88.4	36.1	79.3	89.7
	OBC	71.7	97.9	93.6	52.1	80.9	94.5
	Other	82.4	95.3	92.6	63.3	96.2	92.6
Religion	Hindu	74.0	93.8	92.0	52.0	86.8	92.5
	Other	71.3	96.4	92.2	45.1	94.6	97.4
Difference in ideal and living children	Ideal less	60.6	95.8	86.8	34.9	87.5	87.3
	Equal	77.6	95.6	92.0	56.9	93.4	93.6
	Ideal more	77.6	92.9	94.8	53.8	84.7	95.3
Number of children died (sex of died children)	More daughters died	56.0	85.7	92.3	27.6	71.4	92.3
	Equal deaths	47.6	0.0	100.0	24.5	0.0	100.0
	More sons died	60.4	100.0	85.4	30.1	75.0	80.5
	No death	76.5	94.7	92.3	54.5	89.9	93.6
Type of place of residence	Urban	85.7	97.9	95.5	69.0	90.7	96.5
	Rural	63.1	91.3	87.4	34.5	87.4	88.3
Highest educational level	No education	48.3	80.0	89.2	23.5	60.0	83.9
	Primary	69.1	100.0	87.8	39.7	92.0	89.5
	Secondary	79.3	93.9	93.2	55.5	90.9	94.5
	Higher	92.2	100.0	96.0	80.9	92.9	98.7
Sex of household head	Male	72.5	93.8	91.9	49.0	86.4	92.9
	Female	83.6	97.4	94.2	64.4	100.0	94.2
Away for more than one month	No	71.4	96.4	88.1	47.9	92.7	93.3
	Yes	66.2	91.7	93.8	37.8	91.7	95.0
Wealth index	Poor	50.6	85.0	82.5	20.9	75.0	82.1
	Middle	73.1	89.3	89.5	42.7	85.7	92.8
	Richer	84.2	96.2	96.8	61.4	86.8	96.5
	Richest	93.1	97.0	97.5	84.9	93.9	98.8

Due to higher age at marriage in Goa and Tamilnadu compared to national average the proportion of men and women reporting positively in younger ages is lower than that of higher ages, but not so at all India level where most of the women start child bearing and complete fertility cycle by permanent methods of contraception in early ages, resulting in lower proportion of men and women reporting antenatal check-ups.

As awareness plays major role in providing knowledge about pregnancy and delivery care, and there are differences in men's and women's level of education hence awareness, it is imperative to see the difference according to awareness. The difference between the proportion of men with low and high media exposure whose wives had antenatal check-ups is more than the difference between the proportion of women with low and high media exposure who had antenatal check-ups. As against of men's reporting, women (with high media exposure) tell that all of them (100%) in Goa and Tamilnadu had antenatal check-ups.

The similar results are seen in women's reporting when analyzed with type of place of residence, caste, religion, educational achievement, sex of household head and income levels. The proportion of women who received antenatal care is more where ideal size of children is more than living number of children (wanted fertility) as compared to the proportion of women who have more children than desired size in Goa, Tamilnadu and all India level but not so clearly reflected in men's reporting.

The women have reported in similar pattern for antenatal check-ups and delivery care as per other background characteristics. For delivery care there seems to be less gap among men's and women's response than for antenatal check-ups.

T-9

PERCENTAGE WOMEN WHO RECEIVED ANTINATAL CHECK UP AND HAD INSTITUTIONAL DELIVERY

		Antenatal check-ups for the mother for youngest child			Place of birth of youngest child in health facility		
		India	Goa	TN	India	Goa	TN
Age	15-29	83.9	97.2	99.3	49.0	88.4	90.6
	30-34	80.4	100.0	98.3	50.6	97.5	93.3
	35-49	68.2	100.0	97.9	38.3	98.5	86.3
Media exposures	Low exposure	79.4	98.1	98.7	43.4	90.6	88.8
	High exposure	97.5	100.0	100.0	84.5	100.0	96.7
Caste	SC-ST	75.6	97.2	98.4	34.7	87.5	84.5
	OBC	79.9	99.3	99.2	46.6	93.4	93.1
	Other	88.5	98.1	100.0	62.7	92.8	100.0
Religion	Hindu	83.4	98.7	98.9	49.5	92.1	90.1
	Other	77.1	98.6	100.0	45.1	95.3	96.1
Difference in ideal and living children	Ideal more	83.4	98.7	99.8	51.7	93.9	93.8
	Equal	86.3	99.4	99.2	54.8	95.1	92.4
	Ideal less	72.2	96.5	97.5	33.7	86.0	82.2
Number of children died (sex of died children)	More daughters died	67.4	100.0	100.0	25.8	81.0	74.1
	Equal deaths	58.5	100.0	88.9	22.1	0.0	88.9
	More sons died	71.3	100.0	100.0	30.9	81.8	85.5
	No death	84.4	98.5	99.0	52.6	94.0	91.8
Type of place of residence	Urban	91.1	98.7	100.0	70.8	92.9	96.3
	Rural	75.3	98.5	97.9	33.4	93.6	84.6
Highest educational level	No education	65.6	91.0	96.6	22.0	67.0	80.7
	Primary	82.3	98.9	98.9	39.9	85.6	84.7
	Secondary	93.0	99.8	99.6	66.6	98.3	94.0
	Higher	99.0	100.0	100.0	93.6	100.0	99.4
Sex of household head	Male	81.5	98.2	98.9	47.5	91.3	91.3
	Female	81.7	100.0	100.0	53.1	100.0	86.9
Wealth index	Poor	64.9	92.5	97.5	18.3	71.6	78.6
	Middle	80.9	96.5	98.4	40.7	85.8	88.8
	Richer	90.7	98.9	100.0	61.1	93.2	95.4
	Richest	97.5	100.0	100.0	85.8	98.6	99.0

The women in Goa and Tamilnadu are more open in reporting matters related with the reproductive health as compared to national average. As per this analysis men and women in Goa and Tamilnadu are having higher awareness regarding pregnancy complications, care etc. than all India average. The data show that men of reproductive age living in five districts of Uttar Pradesh know very little about the reproductive health examined (Bloom 2000). While the understanding of these issues is largely driven by socio-demographic characteristics such as urban residence, age and economic and educational status, men's belief about their ability to control reproduction has its own independent effect on their knowledge in each of these areas. Men's lack of reproductive health knowledge leaves women particularly vulnerable, as they are dependent on their husbands and other kin members for most types of health-related decision-making. Evidence from around the world indicates that maternal deaths result primarily from the delay in seeking care, which is largely caused by a lack of awareness among family members about the seriousness of the mother's condition (Fawcus 1988; Garenne 1997).

This shows that, men are less involved in antenatal care in all three study groups. However, since institutional delivery requires hospitalization, they involve themselves more. It could be true that the chances of recall error are higher while reporting antenatal care than reporting delivery care.

Chapter-5

ANALYSIS OF MEN'S INVOLVEMENT IN ANTENATAL AND DELIVERY CARE

Ever since it has been established that the attitude and level of involvement of the husbands towards their wife's health and morbidity plays a very prominent role in their wife's treatment seeking process, there have been efforts to involve men actively in the maternal health care in some places. Women are often unable to access pre-natal and natal health services for a variety of reasons including lack of control over household financial or transportation resources (Chattopadhyay 2009). Addressing men in the domain of reproductive health that has traditionally been associated with women is, to actually break into bastion of patriarchy and change mindsets, a task easier said than done. However, the problems can be several: addressing ignorant, not-so-ignorant but indifferent, ignorant but concerned, not-so-ignorant and concerned belonging to rural-urban locations of tribal/non-tribal groups and a permutation and combination of all the above and their intercept with patriarchy itself (Raju 2001). Reasons apart from financial often range from lack of time from spouse, lack of persons to care for the younger children and other dependents in the family. These reasons prove the urgency to include men in the RCH care. Keeping the hindrances in availing reproductive health services in mind, this analysis directly depends upon men's report because in Indian society, majority of households are headed by male and decision-making is centered around them. This part of the study presents the analysis of the framework variables which are shown schematically in chapter 2.

ANTENATAL CARE

The answers given by men for question; whether their wives had received antenatal check-up during the recent pregnancy, were coded as yes and no. A binary logistic regression analysis is done according to framework presented earlier. The result shows that (wives of) men, with higher ages, high media exposure, no previous history of children deaths, having desire for more children, urban residence, education, belonging to female headed households and rich families, have higher chances to avail antenatal care services with controlling other variables. But the women whose religious group is other than Hindu and husbands stay away for more than one month in the last 12 months have lesser chances of getting antenatal check-ups. The men in Tamilnadu and Goa reported that their wives had 2.6 and 4.5 times (respectively) higher chances of having antenatal check-ups while controlling other factors when compared to country as a whole. Thus spatial factors also inhibit the men's choice from resulting in safe pregnancy of their partners and delivery of their babies in other states of India. With a little support and information, more unprepared husbands could actively assist their wives, even when they lack proper obstetric care knowledge. In most cases, a husband is probably the best person to help his wife during labor because of their relationship of mutual caring and a husband also derives joy from participating in the birth of his child. However, a woman's ability to attend classes (on reproductive care issues etc.) and to receive active assistance in labor should not be dependent upon husbands' willingness to participate. Rather, women should have a range of alternative support persons and should be made aware of these alternative possibilities (Block 1981). And the women staying in the states of Tamilnadu and Goa are having the aforesaid alternatives, so the odds of getting antenatal check-ups and institutional delivery are higher in these states than that of all India average.

The husband's willingness to participate turns out to be critical in decisions affecting the physical comfort and satisfaction of his wife's birth experience (Block 1981). In his decision to prepare himself for childbirth by attending obstetric (care education) classes, he holds a veto over whether his wife will attend classes and the kind of classes she will attend. Whether or not he prepares for birth is the major factor influencing his ability to offer active help to his wife during labor. His active assistance during labor affects his wife's ability to use coping techniques that decrease pain and increase enjoyment. An understanding of the husband involvement has practical relevance for childbirth educators and medical personnel who want to help women have more favorable birth experiences.

Although Varkey et al. (2004) have not examined the casual relationship between demographic, socio-economic and spatial factors and men's involvement in maternity care in India, but they observed that men with better education and high exposure to mass media are more likely to participate in maternity care. Likewise, Sharma (2003) has not also attempted to study a casual relationship between information, education and communication (IEC) and husband's participation in pregnancy care; he argues that IEC is one of the influential factors encouraging men to participate in wives' pregnancy care in India. In the same way, an African study on "Men's role in emergency obstetric care in Nigeria" concludes that age, education, religion and mass media exposure (especially television) and number of wives show a statistically significant association with husband's involvement in obstetric care. It further generalizes that the older and educated men are more likely to know the danger signs than the younger and uneducated ones (Odimegwu 2005).

Men's age, media exposure, educational achievement, place of residence, economic status, desire for children, religious affiliation and provincial belonging have higher

BINARY LOGISTIC REGRESSION ANALYSIS FOR ANTENATAL CHECK-UPS FOR THE MOTHER OF YOUNGEST CHILD

Predictor variables		Sig.	Exp(B)
Age	15-29 (ref.)	.060	
	30-34	.022	1.153
	35-49	.106	1.110
States	Others (ref.)	.000	
	Goa	.015	4.527
	Tamilnadu	.000	2.699
Media exposures	Low exposure (ref.)		
	High exposure	.000	1.743
Caste	SC-ST (ref.)	.000	
	OBC	.013	.872
	Other	.025	1.166
Difference in ideal and living children	Ideal less (ref.)	.000	
	Equal	.000	1.635
	Ideal more	.000	2.060
Religion	Hindu (ref.)		
	Other	.000	.756
Type of place of residence	Urban	.000	1.517
	Rural (ref.)		
Highest educational level	No education (ref.)	.000	
	Primary	.000	1.712
	Secondary	.000	1.714
	Higher	.000	2.212
Sex of household head	Male (ref.)		
	Female	.009	1.345
Husband away for more than one month in the last 12 months	No (ref.)		
	Yes	.026	.868
Wealth index	Poor (ref.)	.000	
	Middle	.000	1.764
	Richer	.000	2.547
	Richest	.000	4.505
Constant		.000	.406

control over their wives antenatal check-ups, on same lines caste or social groupings, sex of head of household, temporary migration of husbands have lesser control but deaths of sons and daughters have no role in deciding about antenatal check-ups. In

my analysis, men's age does not seem to have much impact over their decision regarding their presence during wives' antenatal check-ups when controlling other variables. The odd of men's reporting of their wives' receiving of antenatal check-up increase slightly from age-group of 15-29 to that of 30-34 (sig. at .05 level). Belonging to Goa increases significantly the odd of wives receiving antenatal check-ups upto 4.5 times and that to Tamilnadu upto 2.7 times as compared to country as a whole while controlling other variables. High media exposure among men has significantly influenced the odd of wives receiving antenatal care (1.7 times higher for men with high media exposure than those with low media exposure and significant at .01 level). It is quite interesting to note that wives of the men belonging to OBC have lesser odd for antenatal check-ups than the odd for SC and ST but for 'Others' the odd is higher (sig. at .05 level) when other variables are controlled.

The difference between the number of children born in a family and the ideal number of children for that family also has significant control over wives getting antenatal check-ups. The wives of the husbands who desire for more children have two times higher chances of receiving antenatal care than the wives of the husbands who already have more children than desired (sig.at .01 level) by controlling other variables. The wives of the men belonging to 'Other' religious groups have less likelihood of receiving antenatal care than those of Hindus' (sig. at .01 level) while controlling other variables. As compared to women in rural areas of the country, those in towns and cities have 1.5 times higher chances of receiving antenatal care according to their husbands (sig. at .01 level) while controlling other variables. Education plays vital role in shaping the minds of human beings. In this analysis of wives receiving antenatal check-ups, as education of husbands increase, the odds of their wives receiving antenatal check-ups also increase significantly. The husband with higher education are more likely (2.2 times higher) to get their wives antenatal check-ups than compared with men without education while controlling other variables.

The head of household being women also influences husband's reporting of their wives' antenatal care significantly (The odd for men who belongs to women headed household is higher 1.3 times than that of men headed households when controlling other variables). The temporary migration of husbands decreases the odds of their wives receiving antenatal check-ups (The wives, whose husbands were away for more than one month in last one year, have less likelihood of receiving antenatal care as per their husbands' reporting which is significant at .05 level while controlling other variables). The women from the richest wealth quartile families, according to men, had 4.5 times higher likelihood of getting antenatal check-ups as compared to women in poor families (significant at .01 level).

In a study of Nepalese men, Kumar (Kumar 2009) has found age, education, wealth index, partner's autonomy and children ever born (three or more) are significantly associated with husband's presence at the time of antenatal check-up. According to him age, education and wealth index are positively associated with husband's presence at the time of antenatal check-up and children ever born and husband presence at the time of antenatal check-up are also negatively associated. His results confirm the outcome of present study. The odds of men's participation are likely to be lower as the number of children increases. As against of my study, where men from other religions are likely to have lesser chances of getting their wives antenatal check-ups and institutional delivery he found that men from other than Hindu religion in Nepal have higher likelihood to participate in pregnancy care than men from Hindu religion.

DELIVERY CARE

The men play an important role in deciding the place of delivery, sometimes as husbands or elders etc. in the family. Balasubramanian (2005) in his study of Tamilnadu state found that women with more years of schooling and from households with higher standard of living were less likely to have home deliveries as compared to

less educated women from households with low standard of living. The percentage of institutional deliveries was slightly high in Christians and Muslims than among Hindus. Similarly women in nuclear family and rural areas had higher home deliveries than the others. The percentage of institutional deliveries among 'other caste' group was 64 percent, which was 22 percent higher than that of SC/ST caste (Balasubramanian 2005).

Men's age, caste, education, awareness, income, short term migration, desired fertility, place and state of residence, sex of household head, income and pre-birth counseling regarding the importance of delivering in hospital significantly control the decision making regarding place of delivery as institution (safe delivery) or other. The odd of having institutional delivery for women whose husbands were explained the importance of delivering in a health facility is 2.7 times higher than women whose husbands were not explained. This shows the underlying importance of counseling of husbands during pregnancy. The women from the richest families have 6.5 times higher chances for safe delivery as compared to women from poor families as reported by Indian men. The women whose husbands stay away for more than one month in the last 12 months have lesser chances of delivering in a health facility than women whose husbands stay at home or do not migrate temporarily (sig. at .01 level). The temporary migration (more than one month) of men is resulted mainly from seasonal employment outside of place of residence. Work itself limits the time spent on other family roles. Interference results if incompatible demands are placed on the individual (Altergott 1988). Not only high work participation rate among men but women's sharing of responsibility in works like fishing and tourism etc. makes women work outside of home. Their increasing participation in labour market without corresponding decrease in household responsibilities including childcare etc. increasingly requires men to become sensitive and willing to cross over their traditionally defined roles in order to handle changing idioms in gender relationships better (Raju 2001). The female headed households have higher odds of getting baby

delivered in health facility than male headed household with controlling other variables.

In all traditional societies pregnancy and childbirth are welcome events despite the potential danger to the life of both mother and child inherent in the process of parturition. Although traditional societies, particularly those in rural areas, lack scientific understanding of the physiological processes involved, they have devised measures based on empirical observation and tradition to cope with problems encountered during pregnancy, childbirth, and the postpartum period. This is well demonstrated by their attempt to prevent potential complications and reduce health hazards by such practices as the imposition of various restrictions and taboos on pregnant women and lactating mothers (Bhatia 1981). Men as decision-makers and bread-earners and family providers is a construct too familiar to obviate further discussion in establishing the construct and for women, more crucial than physical access to services is social access - i e, women need approval of their husbands and families to seek treatment. But the impact of such awareness in terms of actually translating it in individual behaviour is still problematic, very often because of fear of social alienation, isolation and ridicule that have been shown to be the biggest problems that men face. When it comes to social constructs and entrapping of men within such constructs, often the youth has been seen as a better investment. Involvement of husbands in antenatal care and delivery was perceived as unnecessary interference since these activities were clearly seen as belonging to women's domain and one often comes across statements such as "when I tried to assist my wife in her routine work I was criticised both by my wife and other community members..." The influence of the extended family (particularly mothers-in-law) often limits the ability of men to institute more positive behaviour towards their wives (Raju 2001).

Despite great regional and cultural differences, it is interesting to note that principle of management during pregnancy, labor, childbirth and postpartum period are surprisingly similar across India.

T-11

BINARY LOGISTIC REGRESSION ANALYSIS FOR THE PLACE OF BIRTH OF YOUNGEST CHILD

Predictor variables		Sig.	Exp(B)
Age	15-29 (ref.)	.000	
	30-34	.001	1.221
	35-49	.000	1.287
States	Others (ref.)	.000	
	Goa	.000	11.167
	Tamilnadu	.000	21.557
Media exposures	Low exposure (ref.)		
	High exposure	.000	1.350
Caste	SC-ST (ref.)	.000	
	OBC	.000	1.509
	Other	.000	1.738
Difference in ideal and living children	Ideal less (ref.)	.000	
	Equal	.000	1.725
	Ideal more	.000	2.011
Religion	Hindu (ref.)		
	Other	.000	.719
Type of place of residence	Urban	.000	1.623
	Rural (ref.)		
Highest educational level	No education (ref.)	.000	
	Primary	.002	1.298
	Secondary	.000	1.335
	Higher	.000	1.996
Sex of household head	Male (ref.)		
	Female	.005	1.327
Husband away for more than one month in the last 12 months	No (ref.)		
	Yes	.000	.744
Wealth index	Poor (ref.)	.000	
	Middle	.000	1.750
	Richer	.000	2.800
	Richest	.000	6.557
During pregnancy importance explained of delivering child in hospital to husband	No (ref.)		
	Yes	.000	2.678
Constant		.000	.053

Although these cultural practices poses similar barriers for men of Goa and Tamilnadu, yet higher level of media exposure, information provided to men regarding pregnancy and delivery complications in these states and how to cope with these complications, sources of care etc., the women in the states of Goa and Tamilnadu have 10 and 20 times respectively higher chances for safe delivery than their counterparts in many other Indian states.

Coley has divided fathers into three general classes in their reactions to and behavior during their wives' pregnancies: 1. The "solid" father who shows a reasonable amount of concern and understanding toward pregnant wives and are cooperative and supportive of the prenatal program without trying to run it. 2. The "selfish colt" who has the instincts and sensibilities of a herd bull.

This type believes he has done his proud duty by inseminating his female, and the consequences are her problem, not his. He has a minimal interest in the progress of his wife's pregnancy and is resentful when it interferes with regular routine or her house- hold duties. 3. The "nervous itch" who over identifies with his wife. He is just the opposite of the "'selfish colt." He worries excessively, listens to the Old Wives' Tales, tries to interpret the meaning of every new symptom, reads and hears about new "systems" and wants to know why the obstetrician is not using them (Coley 1976). With higher level of education, husbands understand the needs at every difficult and simple point of time during pregnancy and delivery (that is proved by seeing the high level of awareness regarding pregnancy complications with education among men of Tamilnadu and Goa), and with the higher level of wealth, he can fulfill that demand. These men turn out to be in Coley's first class, and there should be no surprise as men in Tamilnadu and Goa are highly supportive due to these reasons. The availability of choices (hospitals; public or private, doctors and other required facilities during pregnancy and delivery in these states) also makes men's task rather easy than many other Indian states. Although many of them remain out of home for

work, yet the availability of services and having money for availing these services, makes women in these states comfortable and secure.

In total the similar factors promote and discourage (means the factors which promote antenatal check-ups, also promote institutional delivery and vice versa) the antenatal check-ups and institutional delivery. The provincial set-up also interferes in seeking antenatal and delivery care is proved by this analysis.

The men in Goa and Tamilnadu are having better education, awareness, high income level, easy access to health facilities, coupled with empowered status of women, which decreases the gap between two sexes hence increasing the chances of availing maternal health services. This has happen due to better reach of health services in southern part of country and people's health seeking behavior (Neilsen 2001).

The perception, regarding health services offered in public/ private or NGO/ trust funded institution, decides the place of health care seeking. Shortcomings in the actual care provided both at home and in facilities, such as inadequate services or even mismanagement; cause some scepticism regarding the benefit of such care. Delivery at the PHC or government hospital does not guarantee good care. Further, the insensitivity with which women are treated makes them averse to institutional or medically attended deliveries. Many women prefer to have a birth within a household with an experienced relative in attendance, where cultural practices related to ritual pollution can be followed, and where their care-givers are familiar. Institutional deliveries are only sought where problems have occurred before, or where the improved setting of a private hospital can be afforded. The culturally alien environment of the hospital ward can lead to adverse outcomes if social support to women in labor is strictly controlled (Matthews 2005). Fear, pain and anxiety may be increased by a mechanized clinical environment and unknown attendants, with potentially undesirable effects on the progress of labor. It has been shown that support during labor accelerates recovery, favours early bonding between mother and child,

decreases anxiety and depression during the first six weeks postpartum and reduces the time spent in labor (Hofmeyr 1991; Klaus 1992).

In patriarchal society, men are considered to be superior to women and most of the decisions are relied on them. Men not only influence partner's health outcomes but also other aspects of life. On the other hand, the social construction of masculinity also helps men to be more powerful than their female counterparts. Apart from intra-household dynamics of power relations and decision-making whereby men (along with other older members of the family), seem to take most decisions including those related to reproductive health issues, usually with adverse implications for women' s health, other social changes warrant a redefining of traditional gender roles (Raju 2001). The culture views the mothers as the primary parent, with the father cast in a supportive role. She is the one who assumes most of the responsibility for the daily care and supervision of the child. Fathers often play with the child, and may help out by babysitting, feeding the child, and the like. However, they continue to see the mother, not themselves, as the person shouldering primary responsibility for the care of the child. Given that most of the burdens of child care fall to the mother, her parenting, more so than the husband's, should be sensitive to any diminution in spousal support. For husbands and wives, education is expected to be positively related to constructive parenting and negatively related to destructive parenting (Simons 1990).

In spite of traditional beliefs about gender roles and norms, the Indian society has been transforming that an increasing number of men are taking responsibility to their partners' health and other household activities. From the analyses, it is obvious that the likelihood of husband's involvement is likely to be higher at older ages than at younger ages. One of the possible explanations of this reason may be due to the fact that men at adult stage may have better understanding about the gravity of partner's health during the pregnancy. As described previously in other studies, the analyses

show that there is positive association between husband's involvement and education. This is because of the reason that education makes men more responsible to their partner's health as well as wellbeing of the familial life. The mass media exposure is an important determinant that encourages and creates awareness towards partner's health among husbands, the present analyses reflect this association between mass media exposure and husband's involvement. On the other hand, socioeconomic condition (wealth index) appears as a strong predictor of husband's involvement in pregnancy as shown by the analysis. For example; men with better economic condition are more likely to involve in partner's care than their poor counterparts. This may be due to the fact that men from poorer economic background have to spend more time in search for job to fulfill their daily needs than their richer counterparts.

The reason for the improvement in maternal health care in Tamilnadu are human resource strategies; change in the skill mix of its workforce, reorganizing its public health care systems, encouraging public-private partnerships, investment in health infrastructure, extended hours at existing centres etc. (Krupp 2009). Surveillance of maternal deaths and estimating the actual number of maternal deaths, enhancement of skilled care providers in rural areas, attracting doctors and staff nurses to work in rural areas, increasing availability of specialists at First Referral Units, establishment of comprehensive emergency obstetric and newborn care centres with round-the-clock emergency obstetric and newborn services, special programme for conditional cash transfer to pregnant women, birth-companion programme to improve social support during delivery, maternity picnic etc. numerous efforts have been taken by the government to reduce the maternal mortality (Padmanaban 2009). Goa and Tamilnadu, are urbanizing at a rate of 2% per year. Goa has a comparatively high proportion of reproductive-age women living in urban areas (53%), while many of the country's larger, poorer states have far lower proportions: Just 15–17% of reproductive-age women in Bihar, Orissa and Assam live in urban areas (Singh, S. 2009). This helps in accessing urban health facilities which are of better qualities also.

Moreover the per capita health expenditure in Goa is found to be second highest in the country (Bhandari 2007). So it is the commitment and effective strategies adopted by the state that are making changes in the maternal health care in these states.

It is clear in the analysis that the wives of men in Goa and Tamilnadu have higher chances of receiving antenatal care and having institutional birth than country as a whole and variations with background characteristics prove some of the results from previous studies.

Chapter-6

CONCLUSION

High maternal mortality ratio has always remained a concern for India and it has different implications considering the size of India's population. The country shares 25.7 percent of total maternal deaths in the world, which is the highest for any single country (WHO 2003). The involvement of men in reproductive health care of their wives is found to be one of the intervening measures to reduce the maternal mortality ratio in many countries of the world. It is only after ICPD, that the policies, regarding reproductive health, are making some effort in this direction. In this background this study tries to analyze the extent and effect of men's involvement in antenatal and delivery care of their wives. The study is based on NFHS III. The study area (Tamilnadu and Goa vis-à-vis rest of the country) selection is based on various geographic, socio- economic, demographic indicators. The indicators have been put into PCA (Principle Component Analysis of various pertinent variables). Both the states ranks well in terms of development and these states have progressed much on indicators of maternal and child health care. The percentage of women who received antenatal care in the three years preceding the survey was 96.6 percent (1992-93) and 98.1 (2005-06) for Goa and 95.6 percent (1992-93) and 99.1 (2005-06) for Tamilnadu (IIPS 2008, IIPS 2009). The IMR has been reduced to 15 (2005-06) from 32 (1992-93) in Goa and in Tamilnadu 30 (2005-06) from 68 (1992-93) (IIPS 2008, IIPS 2009). When the utilization of antenatal care services is almost universal in these states as compared to many northern states of the country, it creates curiosity as well as perfect situation to investigate men's involvement. The example set by these states can be further extended in other states where high rate of maternal and infant deaths is cause of concern.

The data in this study is taken from NFHS III. For the first time, NFHS III (2005-06) provides information from both ever-married and never married men (74,369), aged 15-54 year, collected by canvassing in-depth structured questionnaire throughout India. This large scale survey, collected data from men on varying aspects of theirselves and on aspects of women's health and welfare. In Goa, NFHS-3 is based on a sample of 3,231 households that is representative at the state level and within the state at the urban and rural levels. The survey interviewed 3,464 women age 15-49 from all the sample households and 1,185 men age 15-54 from a subsample of households to obtain information on population, health, and nutrition in the state. In Tamil Nadu, the survey is based on a sample of 6,344 households that is representative at the state level, within the state at the urban and rural levels. NFHS-3 interviewed 5,919 women age 15-49 and 5,696 men age 15-54 from all the selected households to obtain information on population, health, and nutrition in the state. The study involves different statistical and cartographic methods to investigate and present the analysis.

The study population in this study is currently married men of 15-49 year age-group. The highest proportion of them is of 35-39 years age-group in Goa and Tamilnadu. Their age at first marriage is quite high (mean age at marriage for male is 30 and 27 years respectively in Goa and Tamilnadu) for these states as compared to country as a whole (23 years). Relatively small fraction of them has had children more than they desired that suggests conscious fertility regulation among majority of the eligible couple. The majority of the study population belongs to 'Other' category in Goa (70.0) and to OBC in Tamilnadu (74.5). Most of these currently married men are Hindu, while second largest community is of Christians in study area. The spread of education and level of urbanization in Goa (educated men 89 percent) and Tamilnadu (educated men 85 percent) is higher than that of national average (educated men 78 percent) (IIPS 2007). The majority of currently married men in Goa belong to the richest quartile of wealth and have high media exposure in both the states. In totality

the picture emerges from collected sample data that Goa and Tamilnadu are somewhat having similar background characteristics for currently married men when compared to national average.

The second section of the third chapter looks into the knowledge regarding ANC and delivery care. The highest proportion (95%) of the currently married men in Goa reported about receiving of antenatal care by their wives during the last birth, followed by Tamilnadu (92%). However, the proportion at national level was as low as 73%. So, selected states are having very high rate of antenatal care. In Tamilnadu 93% currently married men had reported place of delivery as hospital or within a health facility, in Goa 89% but national average is just 50%. The reason for the highest proportion of institutional delivery may be that Tamilnadu, unlike some other states in India, does not have a serious shortage of women doctors, and women in general are not as opposed to male doctors as is the case in some northern states (Ramachandar 2002). At all India level two out of five men (40%) thought it was not necessary for the mother to receive antenatal care. Another 16% of the currently married men said that their family did not think it was necessary or did not allow the mother to receive antenatal care. However, 13% of the currently married men responded that mothers theirselves did not think it was necessary to have check-ups. When asked whether any health-worker has informed them the source of care if pregnancy complications occurs, 55%, 37% and 42% currently married men in Tamilnadu, Goa and at national level respectively responded positively. The higher proportion of currently married men in Goa and Tamilnadu are aware about ANC and delivery care as compared to national average.

In the next chapter, the analysis, of men's response regarding their wives ANC visit and having institution delivery for the youngest child, is done. The cross-tabulation analysis shows that variations among the receiver of ANC and institutional delivery are quite large for country as a whole as compared to study states when analyzed with

the background characteristics like level of education, residence (rural and urban), wealth etc. And there are also variations in the reporting pattern of men and women about receiving ANC and delivery care. Reporting from the women show that men are less involved in antenatal care in all three study groups. However, since institutional delivery requires hospitalization, they involve themselves more. It could be true that the chances of recall error are higher for males while reporting antenatal care than reporting delivery care.

After analyzing the background characteristics of the study population, those characteristics (specially men's age, social group, religion, state, place of residence, media exposure, desire for children, education, household ownership (male or female), temporary absence and economic condition of household) are put into logit regression analysis to see the effect of these factors on ANC and delivery care in the fourth chapter. The study observes that the temporary absence of husbands from household decreases the chances of wives receiving ANC and having institutional birth. The explanation of importance of safe delivery to a husband during his wife's pregnancy significantly increases the odd of institutional delivery.

Goa and Tamilnadu, both the states are advanced (in terms of human development) states of India. The per capita expenditure on health care is higher in these states as compared to country as a whole. The currently married men in these two states have higher age at marriage, lesser number of children and majority of them belongs to rich wealth quartile. The higher educational level of both men and women and awareness regarding matters related with ANC and delivery also influences the maternal health. As overwhelming literature suggest that these background factors influences men's involvement in their wives' ANC and having institutional delivery, this study also proves these findings. The study presents analysis of men's involvement in their wives' ANC and institutional delivery of their child in the selected study area.

The reason for the improvement in maternal health care in Tamilnadu are human resource strategies; change in the skill mix of its workforce, reorganizing its public health care systems, encouraging public-private partnerships, investment in health infrastructure, extended hours at existing centres etc. (Krupp 2009). Surveillance of maternal deaths and estimating the actual number of maternal deaths, enhancement of skilled care providers in rural areas, attracting doctors and staff nurses to work in rural areas, increasing availability of specialists at First Referral Units, establishment of comprehensive emergency obstetric and newborn care centres with round-the-clock emergency obstetric and newborn services, special programme for conditional cash transfer to pregnant women, birth-companion programme to improve social support during delivery, maternity picnic etc. numerous efforts have been taken by the government to reduce the maternal mortality (Padmanaban 2009). Goa and Tamilnadu, are urbanizing at a rate of 2% per year. Goa has a comparatively high proportion of reproductive-age women living in urban areas (53%), while many of the country's larger, poorer states have far lower proportions: Just 15–17% of reproductive-age women in Bihar, Orissa and Assam live in urban areas (Singh, S. 2009). This helps in accessing urban health facilities which are of better qualities also. Moreover the per capita health expenditure in Goa is found to be second highest in the country (Bhandari 2007). So it is the commitment and effective strategies adopted by the state that are making changes in the maternal health care in these states.

It is significantly proved that lesser men know the matters related with ANC and delivery care in India and few of them participate in these matters. While our country is focusing on various policies and programmes to reduce the maternal mortality, but the effective involvement of men is still a distant dream. If other states of India can invest in men's education and maternal health awareness programmes and change the policy to involve men, then we will be likely to reduce our maternal mortality and improve upon reproductive health problems, as well.

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LIST OF VARIABLES	
Variables	**Categories**
Age-groups	15-29
	30-34
	35-49
Type of place of residence	Urban
	Rural
Highest educational level	No education
	Primary
	Secondary
	Higher
Type of Caste/tribe	SC-ST
	OBC
	Other
Wealth index	Poor
	Middle
	Richer
	Richest
Family type	Nuclear
	Non-nuclear
Sex of household head	Male
	Female
Husband away for more than one month in the last 12 months	No
	Yes
Media exposure	Low
	High
States	Others
	Goa
	Tamilnadu
Difference in ideal and living children	Ideal less
	Equal
	Ideal more
Religion	Hindu
	Other
Antenatal check-ups for the mother for youngest child	No
	Yes
During pregnancy importance explained of delivering child in hospital to husband	No
	Yes
Place of birth of youngest child	Other
	Hospital, health facility

Reason for not delivering youngest child in health facility	Cost too much
	Facility closed
	Too far/no transportation
	Don't trust facility/poor quality service
	No female provider
	Not the first child
	Mother did not think necessary
	Respondent did not think necessary
	Family did not think necessary
	Other
	DK
Reason child's mother did not have antenatal check-up	He did not think it necessary/did not allow
	Family did not think it necessary/did not allow
	Child's mother did not want check-up
	Has had children before
	Cost too much
	No female provider at facility
	Too far/no transportation
	Other
	DK
Pregnancy complications: vaginal bleeding	No
	Yes
Pregnancy complications: convulsions	No
	Yes
Pregnancy complications: prolonged labour	No
	Yes
Told about sources of care for complications	No
	Yes
During pregnancy, importance explained of delivering in hospital	No
	Yes
During pregnancy, importance explained of proper nutrition food	No
	Yes
During pregnancy, told about family planning	No
	Yes
During pregnancy, importance explained of breastfeeding	No
	Yes
During pregnancy, importance explained of keeping baby warm	No
	Yes
During pregnancy, importance explained of delivery cleanliness	No
	Yes
During pregnancy, importance explained of clean blade to cut the cord	No
	Yes
Knowledge of ovulatory cycle	No
	Yes

PCA Variables List
Percentage of Urban Population
Percentage of Household having Water on premise
Percentage of Household having Separate kitchen
Percentage of Rich household
Percentage of Household availing services fromGood health care source
Percentage Population having Normal BMI
Percentage Population Received Education
Percentage Mothers received Prenatal care
Percentage Mothers have Baby postnatal check within 2 months
Percentage Children Ever had vaccination
Percentage Respondent employed all year
Percentage Spouse ever humiliated her
Percentage Couples having CEB= 2 or less
Percentage Mothers' Age at first birth=21 or more
Percentage Institutional delivery
Percentage Mothers' Age at first marriage= 18 or more