

**Differentials and determinants in utilisation
of public and private health facilities for
reproductive health services: A case study from
rural Tamil Nadu, India**

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CHAPTER-I

INTRODUCTION

The International Conference on Population and Development (ICPD) Programme of Action states that "reproductive health ... implies that people are able to have a satisfying and safe sex life and that they have the capability to reproduce and the freedom to decide if, when and how often to do so. Implicit in this last condition are the right of men and women to be informed and to have access to safe, effective, affordable and acceptable methods of family planning of their choice, as well as other methods of their choice for regulation of fertility which are not against the law, and the right of access to appropriate health care services that will enable women to go safely through pregnancy and childbirth and provide couples with the best chance of having a healthy infant. Reproductive health includes sexual health, the purpose of which is the enhancement of life and personal relations, and not merely counselling and care related to reproduction and sexually transmitted diseases"(1). Thus the full range of sexual and reproductive health care services as outlined in the ICPD PoA included:

- Family planning counselling, Information Education and Communication (IEC) services
- IEC and services for prenatal care, safe delivery and post natal care
- Prevention and appropriate treatment for infertility
- Abortion including prevention of abortion and management of complications arising from abortions
- Treatment of reproductive tract infections, sexually transmitted infections and other reproductive health conditions

- IEC and counselling as appropriate on human sexuality, reproductive health and responsible parenthood.

In addition, comprehensive reproductive health services to be available at the first referral level, includes complications arising out of the services mentioned above, diagnosis and treatment of cancers reproductive system. Close to twenty years after ICPD, comprehensive reproductive health services are still beyond the reach of many women. In a curious development after the MDGs began to occupy centre-stage, comprehensive reproductive health care seems to have become a forgotten goal, displaced by an exclusive focus on maternal health care.

The present monograph documents the availability and access to maternal health care and other reproductive health services in the state of Tamil Nadu in India. Tamil Nadu has been upheld as a model for the rest of India for its impressive progress in fertility reduction and its vast investments in the provision of health care in the public sector. The main question we seek to answer is, “To what extent has the strengthening of the public sector in health improved access to maternal health care and other reproductive health services for women from the most marginalised sections of society?.

The structure of this case study is as follows. This introductory section includes a brief review of India’s reproductive health policies and programmes and a review of the literature on determinants of utilisation of reproductive health services. Section two presents a brief profile of Tamil Nadu’s health status and structure of health care services. The second part of the section reviews state government policies on reproductive health and its larger impact in terms of utilisation of public or private health sectors for reproductive health care. The third section presents results of a field study which explored access to, utilisation of and expenditure incurred for maternal and other reproductive health services and differentials in these by caste, education and economic status health care. Section five summarises the findings and discusses their implications.

India’s reproductive health policies and programmes:

In the first three decades starting from 1951, India’s health and family welfare programme focus was only on maternal health mainly to improve antenatal care services with a high risk approach. But the programmes did not result in reducing maternal deaths as it envisaged. Then a thorough

review of programmes and strategies to reduce maternal deaths was done in late 1980's. The review highlighted the importance of emergency obstetric care and need for first level referral centres to reduce maternal deaths. Consequently, a national programme on Child Survival and Safe Motherhood programme (CSSM) was introduced in 1992. The CSSM programme was designed to improve the health status of women and children and reduce maternal, infant and child mortality rate. It is the watershed for all the recent programmes. However, the CSSM programme had limited success; trainings were more focused on child survival and adequate importance was not given to safe motherhood component. The emergency obstetric care services had not improved because of poor infrastructure and manpower in the First Level Referral Units (FRU's). Less than half of the FRU's were fully functional and very few had regular access to supplies of blood (2).

During the last four decades there have been tremendous changes in the provision of sexual and reproductive health services in India. Soon after the ICPD conference, the government of India took concrete initiatives to translate the ICPD PoA into action. As a first step, the government decided to change its policy and programme environment; immediately removed method specific contraceptive targets at national level and a comprehensive reproductive and child health programme was launched in 1997. The RCH programme incorporated the components relating to child survival and safe motherhood and includes two additional components, one relating to sexually transmitted disease (STD) and other relating to reproductive tract infection (RTI). Overall the components of RCH included; 1) Family planning 2) Client approach to health care 3) Child survival and safe motherhood 4) prevention and management of RTI/STD AIDS.

The second phase of RCH program i.e. RCH – 2 commenced in 2005 and was for five year period till 2010. Based on the lessons learnt in the interventions and achievements of the phase I, RCH phase II is implemented. The following three key interventions were implemented in the phase II of the RCH project. 1) Providing Emergency Care and round the clock health services. 2) Providing Basic Emergency Obstetric and Newborn Care Services – (BEmONC) round the clock within 7.5 Km radius. 3) Provision of adolescent clinics in Comprehensive Emergency Obstetric and New born Care (CEmONC) hospitals. Strategies for addressing adolescents sexual and reproductive health needs and provision for safe abortion services are also included in the RCH -2

The National Rural Health Mission (NRHM) programme was launched in 2005 by the national government at the centre. The Mission was seen as a means to carry out “necessary architectural correction” in the basic health care delivery system. The main objective of NRHM is to provide accessible, affordable, accountable, effective and reliable primary health care facilities, especially, to the poor and “Vulnerable” sections of the population. It also aims at bridging the gap in rural health care Services through ‘ASHA’ and improved health care, decentralization of programme to district level to improve intra- and inter sectoral convergence and effective utilisation of resources. NRHM’s two major interventions are 1) Interventions to strengthen the functioning of health facilities including promoting community participation 2) Interventions to improve maternal-neonatal and child health care services.

India's Health System

Sexual and reproductive health services in India are provided through public and private sectors. The public sector provides the health services through Central and State governments, Municipal corporation and local bodies. The services in the public sector are mainly free to the people and government is spending for it from the tax revenues. According to Bhore committee Report 1946, the private sector owned only eight percent of health care facilities in India (3) but it increased to 60 %. in early 1990’s. Now, as per the recent statistics available, 93% of all hospitals are in the private sector (4). Now, private sector plays a dominate role in providing curative health care services. Traditionally, public sector gives much focus to maternal and child health care and HIV/AIDS services. As a result the other SRH services like abortion, reproductive tract infections, anemia and menstrual irregularities and reproductive cancers are not given adequate attention either in the policy or in the service provision. Consequently, these services are mainly left to the private providers.

Review of Literature

A number of studies have found that socio- economic differentials in utilization of sexual and reproductive health care services are significant. Caste and class differentials in utilisation of maternal and reproductive health care services are wide (5,6,7)

According to several studies from Northern and Western India, women's educational attainment is directly associated with use of reproductive health care; higher levels of educational attainment results in greater use of antenatal, delivery contraceptive and sexual health care (8,9, 10). A study from Karnataka, South India also reported that better educated women from affluent household sought more treatment for gynecological morbidities than less privileged counter parts (11).

However, some studies suggest that poorer 'status' as conventionally understood –i.e. as having less education and living in poverty – may not always be associated with lower use of health care services. For example, a community based study in rural Tamil Nadu reported that illiterate wage labourers and women from lower socio economic groups ignored their ailments far less frequently than their educated and economically better placed counterparts. At the same time, unlike the latter, they also tended to resort at least as much to self-treatment, as to medical help (12). Another study reports that contrary to expectations, women's participation in economic activities acts as a barrier in utilisation of maternal and other sexual and reproductive health services because women were not able to take time off from work to seek health care (13). Of the demographic variables, parity is positively associated with utilization of reproductive health care services (9,12,14).

Global evidence shows that the choice of health care providers is influenced by socio demographic variables as well as hospital attributes. Numerous studies found that private health facilities are predominantly used for sexual and reproductive health care services. Taking into account privacy and confidentiality issues, for certain sexual and reproductive health problems like abortion and RTI/STI problems women tend to use more private sectors (15,16,17). Studies indicate that quality of care like doctor availability, waiting time, cleanliness and privacy at private health facilities enhance the probability that a health facility is used for any reproductive health purpose (18). Long waiting time, unprofessional attitude of some staff members, poor hygiene conditions are often cited for choosing a private clinic instead of public hospitals (19).

Cost has been seen as a barrier to use of service and also influence the choice of public or private sector. A study from Maharashtra, India reports that although women perceived that quality of care in the private facilities is good, the cost of such services often makes it unaffordable, and leaves women with no choice except to use public sector health facilities. Another study from

Philippines also found that the price is a significant determinant of choice of hospitals for poor households (20). A cross sectional study done during 1999-2000 in Andhra Pradesh reported that corruption appears to be very highly prevalent and was the top cause of dissatisfaction among public hospitals (21). A more recent report by World Bank (2008) on Reproductive health care in five south Asia countries (India, Pakistan, Bangladesh Nepal and Sri Lanka) indicates that private sector provides care to the majority in all the counties except Sri Lanka. Easy access and better quality of services importantly determines the use private hospitals. The report also highlights that poor quality of care in terms of lack of privacy and rude or insensitive behavior among public service providers are among the main determinant of not using public facilities (22).

Aim and objectives of the study

This is a case study of the state of Tamil Nadu in India which aims to explore the extent to which government's commitment to improving public sector health facilities has translated into access to maternal and other reproductive health services for women from the most marginalised sections of society.

The specific objectives of the research are,

- To review government policies and initiatives on reproductive health care and trends in utilisation pattern of public and private facilities for reproductive health services during the current decade (1999-2009)
- To understand the current pattern in utilisation of public and private facilities for reproductive health services,
- To explore the social determinants like caste, education, economic status and health system factors/policies in access to and utilisation of public and private health services for delivery and hospitalization related to other reproductive health needs.
- To document the costs related to delivery care and other in-patient reproductive health services in public and private facilities, consequences for financial burden of households and household coping strategies.

Data Sources

This case study is based on secondary data review and field study in five districts of Tamil Nadu. Secondary data on state government policies related to sexual and reproductive health care services and profile of public and private sector users in Tamil Nadu was drawn from various sources; published and unpublished studies, data available from the web, policy documents and government orders, schemes and initiatives, and documents, service statistics obtained from the state government, Directorate of Public Health and from the offices of Deputy Directorate of Health Services of five districts. In order to get insights into differentials and determinants in utilisation of SRH services, primary data was collected with men and women who accessed public and private sector for SRH services. The field data was gathered mainly to correlate and document the impact of the government policies/ interventions.

CHAPTER-II

Government Policies and programmes on Reproductive health care and its larger impact

Tamil Nadu is one of the pioneering states in India with a high ranking for Reproductive and Child Health programme implementation. The state has a long history of innovations in the health sector. It has good infrastructural facilities in the public health care system as compared to other Indian states. The 'Tamil Nadu' model and structure of health service delivery and its initiatives for promoting safe motherhood are highly appreciated by international health agencies like WHO. Currently, there are two major reforms underway in the state health system; the Tamil Nadu Health System Development Project (TNHSDP) and National Rural Health Mission (NRHM). Both address reproductive and child health as one of their priorities. TNHSDP activities focus on secondary level hospitals and NRHM – RCH project activities are implemented through Primary Health Centre network.

Before discussing government policy initiatives and programmes, a brief note on socio economic and health situation of the state and its public health infrastructure is presented in the following section.

2.1 Socio- economic and Health situation of Tamil Nadu:

Tamil Nadu is situated on the south-eastern side of Indian peninsula. According to 2011 Census, Tamil Nadu has a population of 72.1 million, accounting for 6 percent of total population of India. The population density in Tamil Nadu (555 persons) is much higher than the density for the country as a whole (382 persons). The overall sex ratio is 995 females per 1000 males [23]. The literacy rate among population aged seven and above is 80.3 percent. (86.8 percent for males and 73.9 percent for females)[23].

Tamil Nadu witnessed a rapid decline in fertility since the early eighties. Total fertility rate has come down to 1.7 in the year 2007 [24]. All sections of the population have experienced large fertility declines, desire fairly low family sizes and have low fertility. According to Sample Registration of System (SRS) estimated for 2009, crude birth and death rates were 16.3 and 7.6 per 1000 population and the infant mortality rate was 28 per 1000 live births. The maternal mortality ratio is 111 (SRS 2004-2006) 25. The average life expectancy was 69.8 years for females and 67 years for males [24].

At the same time, women's health status leaves much to be desired. More than half of ever married women in the age group of 15-49 in Tamil Nadu (53%) have anaemia, including 16 percent with moderate to severe anaemia. The prevalence has decreased by only 3 percentage points between NFHS-2 and NFHS -3 [26].

About one fourth of the every married women in the reproductive age group of 15- 49 years are underweight according to Body Mass Index. The utilisation of pregnancy and delivery care services in the state is good, Ninety seven percent of pregnancies women received three antenatal care visits and 90 percent of the deliveries were institutional (NFHS- 3, 2005-2006). Sixty percent of currently married women are using a method of contraception. Female sterilisation is the only method widely used; more than 95 percent of the current contraceptive users were women of permanent method users (26).

The rate of pregnancy wastage was high in the state. Of the 1.4 million pregnancies occurred in the year 2004, only 79.4 resulted in live births and the remaining end in pregnancy wastage (1.7 stillbirths,12.2 spontaneous abortions and 6.7 induced abortions (27).Another community based survey in rural areas of Tamil Nadu in the 2004 reported about 45 percent of ever married

women had one or more gynaecological morbidities on one months preceding the date of survey. Of them, about large majority (65%) sought treatment and 52 percent consulted private providers (28).

2.2 Public Health Administration in Tamil Nadu:

There are several different directorates under the control of Health and Family Welfare Department of Tamil Nadu which are responsible for provision of sexual and reproductive health services. The following section gives a brief note on activities of each of the directorates.

The Directorate of Medical Education is in-charge of developing medical education curriculum, administration of medical education colleges and teaching hospitals. The Directorate of Medical and Rural Health Services is in-charge of planning and implementation of all medical services through the grid of district, taluk hospitals and non taluk hospitals, dispensaries, mobile health units, women and children hospitals. The directorate also monitors implementation of all health legislation. The Directorate of Public Health and Preventive Medicine is in-charge of providing primary health care services through a network of 1421 PHCs and 8706 sub-centres as of 2007 [29]. The Directorate of Family Welfare is responsible for implementing family welfare programme activities it is almost entirely sponsored by the central government; only some minor provision is made under the State plan.

The Tamil Nadu RCH project unit, responsible for implementing reproductive and child health services, has recently been integrated with the State Rural health Mission of the National Rural Health Mission. Tamil Nadu State AIDS Control Project is implemented by an autonomous state corporation responsible for implementing the National AIDS Control Project.

What this amounts to is the splitting of responsibility for the provision of SRH services including maternal health care and safe abortion among many different departments: primary care with the Directorate of Public Health and Preventive Services, secondary care with the Directorate of Medical and Rural Health Services, while tertiary care is organised under the Directorate of Medical Education. Sexual health services are distributed between the State AIDS Control Programme and secondary and tertiary care facilities.

Besides these, the Tamil Nadu Health Systems Development (HSDP) Project is a World Bank funded project aimed at reforming the health system. It has focused on improving the secondary health care system in the state, with a particular focus on reduction of maternal mortality, infant mortality, universal cervical cancer screening, prevention and treatment of coronary heart disease and hypertension. It works closely with the Directorate of Medical and Rural Health Services.

Health infrastructure consists of five types of health care units viz. Sub-centres, Primary Health Centre (PHC), Community Health Centres (CHC), Dispensaries and Hospitals. The first three were designed to jointly address entire rural population whereas the last two cater to urban demand.

The private health sector in state is very complex, in terms of type of provider and system of treatment. Wide range of players starting from single doctor, clinics to multi-speciality hospital, formal and informal providers are in the system. As per the current statistics there are 1645 approved private nursing homes in the state for providing family welfare services.

Generally in Tamil Nadu, there was a steady increase in utilization of private sector for different health care needs (1994-95, 2003) [30,31,32]. However, even now, government health services may be the main source of health care for the less privileged groups. NSS data shows that as late as in 2003, those from scheduled castes and scheduled tribes had a higher probability of seeking care in the government facility. Forty percent of SC/ST's as against 27 percent used public health facilities for out-patients care [32].

The following section reviews the government initiatives on maternal and other reproductive health care services to improve the availability and access to maternal health and other reproductive health care services in the public sector and also compares its larger impacts.

2.3 Pregnancy care services:

Policies and programmes

Improving accessibility: During the late 1990's the state government took different steps to improve primary health care services in general and antenatal care ANC services in particular. Initially, in order to improve the mobility of Village Health Nurses (VHNs), two-wheelers (cycle or moped) were provided to them with training to ride it [25] Recently during the year 2006 –

2007, 8683 – village health Nurse working in all the 8683 health sub-centres were provided mobile phone with one year prepaid sim card. This has enhanced their accessibility in providing emergency and delivery care services [33].

Outreach ANC camps: ANC outreach camps were started in 1997. The camps provided antenatal care to women who did not have the time or money to travel to PHCs. These camps were held regularly on a fixed day of a month in each health sub-centre. Fixed day outreach camps for antenatal care was provided by a team consisting of the PHC medical officer and VHNs serving the area are now a regular feature [33].

Support groups for pregnant women: In 2002, a pilot project began in two districts to train non-school-going adolescent girls to empower them to act as link persons between the community and health service providers. They were given training on reproductive health issues such as changes in adolescence, menstrual and personal hygiene. They were also taught about conception, antenatal care, danger signs during pregnancy, family planning, and information about availability of emergency obstetric services and abortions services. Each adolescent girl was expected to take care of 5 - 6 pregnant women and five postnatal women in their village, under guidance of the Village Health Nurse. They were to provide advice on diet, intake of Iron and Folic Acid - IFA tablets and stress the importance of institutional deliveries, among other things. This scheme was later extended to all districts under RCH-2 [33].

Incentives to Health Workers: Towards promoting of ANC and institutional deliveries the government introduced incentive schemes for health workers particularly for Village Health Nurse -VHN/Auxiliary Nurse Midwives- ANM since 1996. Under this scheme Rs 50 per case was given to VHN/ANM if she provided at least five ANC checkups and conducts institutional delivery. If ANC was provided by ANM but she refers the mother for institutional delivery she gets incentives of Rs 25 [34].

Free Lunch to pregnant women: Recently in 2008, government of Tamil Nadu introduced free lunch for pregnant women who seek ANC and natal care services in the Primary health centres in Tamil Nadu. It aims to promote the health of the mothers and child so, that women can stay in the PHC before the expected date of delivery and have adequate food. This scheme was on trial basis introduced into Vellore district and expanded to all PHC's from April 2008 [35].

Larger Impact of the government programmes

All the pregnancies in the state are registered through Integrated Child Development Scheme ICDS/ Anganwadi centres¹ and Auxiliary Nurse Midwives/ Village Health Nurses in every village. It is one of their main activity and they do make regular field visit to enrol pregnant women and provide ANC care. Annually, about 12.5 -13 lakh pregnancies are registered in the state. It is seen from the table 3.1 that number of ANC mothers registered in Tamil Nadu had slightly increased from 12.8 lakh in the year 1998-1999 to 13.6 lakh in 2001-2002. There after it has declined slowly every year till the current period. The continuous declining trend could be probably due to decline in fertility rate and increased used of contraception. Currently, in the year 2007-2008 about 12.6 pregnancies were registered in the state and 11.35 lakhs deliveries occurred.

Tamil Nadu is one of the few states in India which has achieved near universal coverage in many of the maternal care indicators. Antenatal care initiatives including tetanus immunization for pregnant women have been successful in Tamil Nadu. According to the NFHS-3 survey conducted in 2005, 98.6 percent pregnant women in Tamil Nadu received some form of antenatal care and 96 percent of pregnant women received two or more doses of Tetanus Toxoid injections (26). As per the recent statistics available all most all (99%) pregnancies women received three or more number of ANC visits (36).

2.4 Delivery care services:

Policies and programmes

Introduction of 24X7 delivery care services in PHC's: During 1997-99, an attempt was made to provide 24-hour delivery services in some PHCs, staffed by three medical officers. This model did not meet with much success. After reviewing this experience, it was decided to change this to a model with three additional staff nurses, two cleaners and a driver to equip PHCs for 24 hour delivery services. The nurses were skilled in conducting normal deliveries, and were to refer complications after providing obstetric first-aid for haemorrhage, premature labour or newborn complications. This was initiated in 1999-2000 in seven selected districts. This attempt was extremely successful and the project was up scaled to cover 780 PHCs in two phases. During

¹ Anganwadi is a government sponsored child-care and mother-care center in India. It caters to children in the 0-6 age group and pregnant women. It provides supplementary food and nutritional powder to pregnant women

2007-08, 220 more PHCs were to make available 24 hour services [33]. In 2009, all the 1421 PHCs in Tamil Nadu were declared as 24 hours PHC. A large proportion of PHCs in the state have two medical officers posted in the facility, one is a female doctor [34].

Developing first level referral Unit: Encouraged by its success in increasing institutional deliveries through 24-hour PHCs, the government decided to upgrade some of these PHCs in every block into Basic Emergency Obstetric and Neonatal Care (BEmONC) centres. The idea is that every woman would have access to a BEmONC centre within a 7.5 km radius. In 2007, there were 385 BEmONC centres in Tamil Nadu [33]. Under the RCH-2 each BEmONC centre is equipped to provide the following services 1) Normal deliveries 2) Manual Vacuum aspiration for termination of pregnancy 3) Tubectomy 4) Blood storage centres 5) Stabilisation of obstetric and newborn emergencies and referral 6) Essential newborn care, especially care of premature and newborn babies.

Hiring of private anaesthetists: An acute shortage of anaesthetists in the public health system, meant that even if other facilities were available, operations could not be conducted. Under the Reproductive and Child Health (RCH) programme, the Medical Officers (MOs) at the First Referral Units (FRUs) and Primary Health Centres (PHCs) in Tamil Nadu were empowered to contract in private anaesthetists (local practising anaesthetists or a retired anaesthetist). Initially, it was permitted at FRUs to provide emergency obstetric care including the conduct of Caesareans and hysterectomies. Later, anaesthetists could also be hired to conduct tubectomies and other elective gynaecological surgical cases at FRUs and tubectomies in PHCs where operation theatres are functional, on specific days. Initially it was implemented in 44 PHCs in the seven districts and selected 75 FRUs in 24 districts. The scheme is now extended to all the PHCs and government hospitals in the state except the medical college hospitals and urban municipal hospitals [37].

Secondary level referral centre: Comprehensive Emergency Obstetrics and New Born Care centres (CEMONC) are initiated to ensure maternal survival and to lower maternal morbidity. Comprehensive Emergency Obstetric and Newborn Care (CEmONC) centres include all the above services provided in BEmONC centres and in addition, have blood collection and storage and operation theatre facilities. The idea is to have one CEmONC centre within 10 kms

of travel for every woman, open round the clock, equipped with an Operation Theatre where emergency c-sections can be performed and blood bank with storing and collecting facilities. The CEmONC centre is supposed to have separate casualty for obstetrics, and new born cases in addition to casualty for general cases. Each CEmONC centre is meant to be staffed by four obstetric and gynaecology specialists, four paediatric specialists, two general surgeons and two anaesthetists [33].

Birth companion: The state government has passed a G.O (Government order). Allowing for a woman companion to be present at delivery to provide support to the woman delivering and to establish breastfeeding. The presence of companion during child birth meant that a woman was never left alone during this intensely stressful and frightening time in her life. The presence of a female relative in labour is a low-cost intervention that has proven to be beneficial to labour outcomes [33].

Emergency transportation: Under the - Tamil Nadu Health System Development project - TNHSDP scheme public private partnerships were introduced in Tamil Nadu for running emergency ambulance services. The scheme is implemented in collaboration with non-governmental organizations in many districts. Under the project, TNHSDP provides equipped ambulance and running costs to selected NGO's. Other expenses incurred for running the service are borne by the NGOs. The NGOs met these expenses by charging nominal user fees from those above poverty line [Rs 5 per Km] while providing free services for those below poverty line. Emergency transportation is made available free of cost to women who develop obstetric complications to reach the nearest CEmONC centre through the medical cum referral control rooms set up in each district under the TNHSDP to provide public access to ambulances [33].

In addition to ambulance services run by TNHSDP project, in 2008, government introduced another publicly funded ambulance service, which can be accessed by dialling the number 108 from anywhere in the state. The ambulance is fully equipped to provide emergency treatment during transportation with a doctor and nurse in attendance. It is also implemented through the public private partnership mode. This scheme is implemented under the support of EMRI – Hyderabad. Currently the ambulance service is free [38].

Maternal death audits: Documentation of each and every maternal death and maternal death auditing was initiated in Tamil Nadu during 1990's. Initially, VHNs were asked to send telegrams to the - Deputy Director of health services- DDHS in the event of any maternal death. This was followed by investigation of maternal deaths using a structured format. In 1996, facility based audits were put in place. Another attempt at reviving maternal death audits was introduced in 2000. A district maternal death investigation team carried out a field-level investigation of all reported maternal deaths, to identify medical as well non-medical causes including health system failures. This information went up to the highest levels: to the State commissioner of Maternal and Child Health and the district collector. In 2004, the government of Tamil Nadu issued a G.O. issuing guidelines for carrying out community-based verbal autopsies of all maternal deaths in the state [33].

Maternity Benefit Schemes: Dr. Muthulakshmi Reddy maternity benefit scheme was introduced by the state government in September 2006. Under the scheme, cash assistance of Rs.6000/- is given to pregnant women falling Below Poverty Line. This intervention is meant to help women cover costs of nutritious food and also compensate for wage loss so that they get adequate rest. As per the original guidelines of this scheme, pregnant women have to obtain family income certificate from the revenue department to avail maternity assistance. Taking into a hardship for obtaining the certificate, in 2008 the state government has relaxed the condition saying recommendation of the Village Health Nurse who examines the beneficiary during pregnancy would be sufficient to avail the benefit. Rupees.100 crores was sanctioned for implementing the scheme in first year. During the next financial year (2007–2008) a sum of Rs. 300.00 crores was released. During the two year period (2006-2008), a total of 4, 59,037 pregnant women have benefited under the scheme [39, 40].

Janani Suraksha Yojana (JSY) is another maternity benefit scheme. It is fully funded by the national government under NRHM. The scheme aims at reducing the maternal and infant mortality by focusing on skilled attendance in delivery. Under the scheme, a sum of between Rs 500 and Rs 700 is being granted to women from BPL households if they deliver in home and an institution respectively. The BPL criteria are not applicable for SC/ST women. That is irrespective of their economic status all the women in the poor caste (SC/ST) avail the benefit [37]. This scheme is only eligible for the first two deliveries.

Larger Impact of the government programmes

Tamil Nadu has made significant progress in promoting institutional delivery. Now, the state has almost reached the stage of universal institutional births. The proportion of home deliveries declined from 16 percent in 1998-99 to 1.7 percent 2007-2008. In 2007-2008, more than 98 percent of deliveries in Tamil Nadu were in a health facility [41].

Table - 2.1
Source of Delivery Care

Year	No. of Antenatal mothers Registered	No. of Deliveries Conducted at						
		Public Facilities	%	Private	%	Home	%	TOTAL
1998-1999	1289346							1108063
1999-2000	1353700	548897	46.65	437963	37.22	189817	16.13	1176677
2000-2001	1301195	547683	47.71	435330	37.92	164915	14.37	1147928
2001-2002	1362854	581397	49.26	456003	38.64	142770	12.10	1180170
2002-2003	1299512	580754	50.26	460636	39.86	114174	9.88	1155564
2003-2004	1285324	597259	52.18	459014	40.10	88400	7.72	1144673
2004-2005	1279260	620269	54.01	462638	40.28	65546	5.71	1148453
2005-2006	1271321	620325	54.99	458047	40.61	49513	4.39	1127885
2006-2007	1263473	621892	55.35	463324	41.23	38446	3.42	1123662
2007-2008	1263744	682608	60.15	433099	38.16	19127	1.69	1134834

Interestingly, despite the increasing number of private clinics and corporate hospitals in the state, there has been gradual decline in utilisation of private hospitals for delivery care in the recent

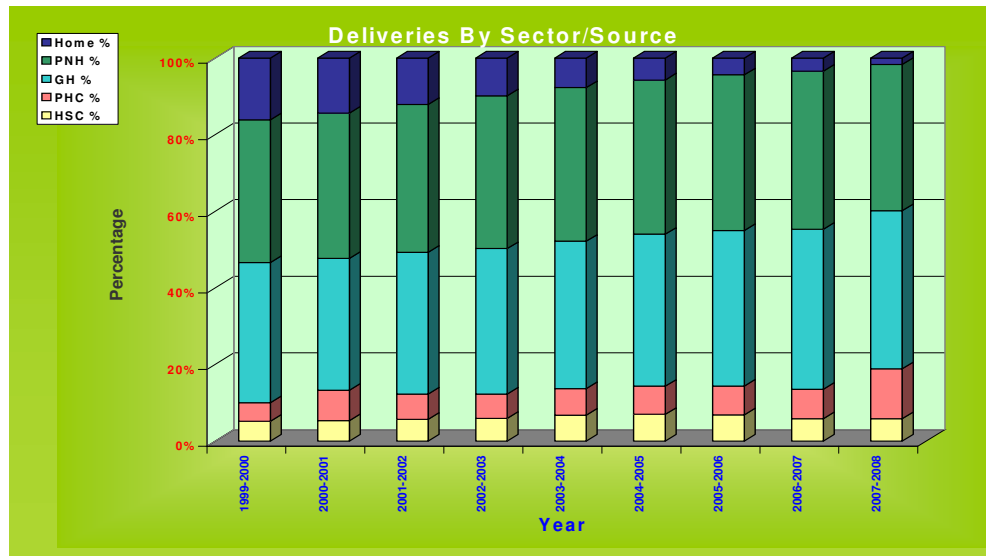
years 1999-2000, public sector deliveries accounted for 55.6 percent of institutional deliveries and the rate had increased slowly every year till 2006-2007 (57 percent) and in 2007-2008 there was a sudden upsurge of 4 points (61 percent). Currently, three fifths of the hospital deliveries in the state were in a public institution and only 39 percent were in the private sector.

Table-2.2

Number of Institutional Deliveries in Tamil Nadu by facility wise

Year	Public	%	Private	%	Total
1999-2000	548897	55.62	437963	44.38	986860
2000-2001	547683	55.71	435330	44.29	983013
2001-2002	581397	56.04	456003	43.96	1037400
2002-2003	580754	55.77	460636	44.23	1041390
2003-2004	597259	56.54	459014	43.46	1056273
2004-2005	620269	57.28	462638	42.72	1082907
2005-2006	620325	57.52	458047	42.48	1078372
2006-2007	621892	57.31	463324	42.69	1085216
2007-2008	682608	61.18	433099	38.82	1115707

Graph -1



It is seen from the graph -1 that in all the years most of the deliveries in the public sector were in government hospitals, followed by PHC and health sub centre. But proportion of PHC deliveries to the total public sector delivery has increased remarkably in the recent years. For example, the number of PHC deliveries during the year 2007-2008 was 1.7 times more as compared with the previous year (2006-2007). Overall, the increase in PHC deliveries has contributed directly to declining home and private sector deliveries. Tamil Nadu government's recent initiatives and schemes on promoting institutional delivery have yielded good results. Importantly, the increased accessibility in terms of introducing 24 X 7 services in PHC's, introduction of BEmONC and CEmONC centre and above all maternity benefits scheme have a significant role in it.

Public facilities are the main source of delivery care services for rural poor women. A recent study in one poor district of Tamil Nadu (2004) reported that most of the deliveries of scheduled caste group (85 %) were in public health facilities, whereas only a third of the deliveries of women from castes higher-up in the traditional caste hierarchy. There was a wide cost difference in accessing public and private hospitals for delivery care. The median cost of delivery in private hospital was about 4.5 times greater (Rs 2000) than in the public health facilities (Rs. 450/). Non- SC / ST women had spent 2.25 times the amount spent by women of SC/ ST' communities, probably because of their extensive use of the private sector. [42]

2.5 Contraception and abortion services:

Policies and programmes

Target free approach: Tamil Nadu was the first state in India to introduce the ‘Target-Free’ Approach in family planning starting with one district in 1991-92, well before ICPD [25]. In 1995 the state government passed a government order to extend the “Target free approach” throughout the state. Now there are no targets assigned to the peripheral workers either by the collectors or by district health officers. The state is adopting “MCH approach” to achieve the family welfare goals [39].

Incentives for Beneficiaries: Sterilisation is free for all acceptors. During hospitalization for delivery followed by sterilization, diet, medicine and transport are also free in public hospitals. In addition, female / male acceptor for sterilization were paid Rs.200/- and Rs.175/- respectively as compensation [43]. But as per the national government, currently the incentives are revised as Rs 600 for SC/ST women and those below poverty line, for others it is Rs 250/- The incentive for vasectomy operation is Rs 1100/- [40].

Insurance Scheme for mothers who undergo surgical sterilisation: A unique scheme of providing Insurance coverage for the mothers who undergo sterilization has been introduced from February 2001, onwards by Government of Tamil Nadu through National Insurance Company Limited. Under this scheme, each mother will be insured at Government risk paying a premium of Rs.14/- per case. Then the central government has launched a Family Planning Insurance Scheme from 2005 uniformly across all over the country with some modifications. As per the revised policy, Rs.2 lakh for death due to sterilization in hospital or within 7 days from the date of discharge from the hospital and Rs.50,000/- for death due to sterilization within 8-30 days from the date of discharge from the hospital and Rs.25,000/- for failure of sterilization leading / non-leading to child birth and actual not exceeding Rs.25,000/- for cost of treatment up to 60 days arising out of complication from the date of discharge and up to Rs.2 lakh per claim towards Indemnity Insurance per Doctor but not more than 4 in a year [39].

Introducing new techniques on Medical Termination of Pregnancy: Dilation and curettage (D&C) is the only method widely used for induced abortion in Tamil Nadu. From 2005-2006, the state government is making efforts to popularize MVA technique for abortion in the public

sector. Manual Vacuum Aspiration (MVA) is simple technique that has proven to be safe and effective in termination of pregnancy within the first eight weeks of gestation and can be performed in any institution with basic facilities. Initially to create a trainer base, few selected obstetricians from all the medical colleges have been trained in the institute of obstetrics and Gynaecology at Chennai in the MVA technique. These trainers have trained other obstetricians in their medical colleges. Now all the medical colleges perform MVA procedures [39].

Larger Impact of the government programmes

Female surgical sterilisation /tubectomy is the only permanent method widely used in Tamil Nadu. Even though the procedure of male contraceptive operation /vasectomy is very simple, its usage is very low. There is also wide publicity for no scale vasectomy operation. But due socio-cultural factors and misbeliefs associated with the male contraceptive operation, the method is not familiar. It, accounted less than one percent of the sterilization acceptors in 2007-2008.

Next to sterilisation, intra uterine device (CU-T) is the preferred method used (Table). Annually about 35 thousand and odd women used IUD. Overall except for one or two years, the annual growth rate of contraceptive users decline steadily over the years due to declining fertility rate.

Table - 2.3

Trends in Family Welfare Performance 1999-2008

Year	Number of MTP's	Annual Growth Rate	Sterilisation users	% of Increase Decrease	I.U.D users	% of Increase Decrease	C.C users	% of Increase Decrease	O.P users	% of Increase Decrease
1999-2000	61282	*	374195	*	440216	*	274731	*	205160	*
2000-2001	60999	-0.46	375654	0.39	397130	-9.79	246263	-10.36	200516	-2.26
2001-2002	68659	12.56	391062	4.10	390502	-1.67	228954	-7.03	192705	-3.90
2002-2003	73335	6.81	418017	6.89	423579	8.47	196984	-13.96	155850	-19.13
2003-2004	73372	0.05	430312	2.94	440924	4.09	213108	8.19	172616	10.76

2004-2005	72710	-0.90	417027	-3.09	400367	-9.20	194639	-8.67	153290	-11.20
2005-2006	71128	-2.18	380655	-8.72	396458	-0.99	203894	4.75	137538	-10.28
2006-2007	67315	5.36	357568	-6.07	359056	-10.42	141903	-30.40	128039	-6.91
2007-2008	63875	-5.11	353436	-1.16	353149	-1.67	151234	6.58	129515	1.15

Table-2 . 4

Percentage of Sterilisation by Sector

Year	Public	%	Private	%	Total
2000-01	2.41	64.09	1.35	35.9	3.76
2001-02	2.53	64.7	1.38	35.29	3.91
2002-03	2.81	67.22	1.37	32.77	4.18
2003-04	3.05	70.93	1.25	29.06	4.3
2005-06	*	63.1	*	36.9	*
2006-07	*	60.4	*	39.6	*
2007-08	*	61.5	*	38.5	*

In 2007-2008 out of the total sterilisation performed in the state 55% of sterilisation were done in the government institutions, 11% in voluntary organisations, 25% in the remaining in approved nursing homes, 4% in local bodies and 5% in unapproved nursing homes. Over the years, the utilisation of private sector has increased slightly from 36 to 39 percent for the period 2001 2008

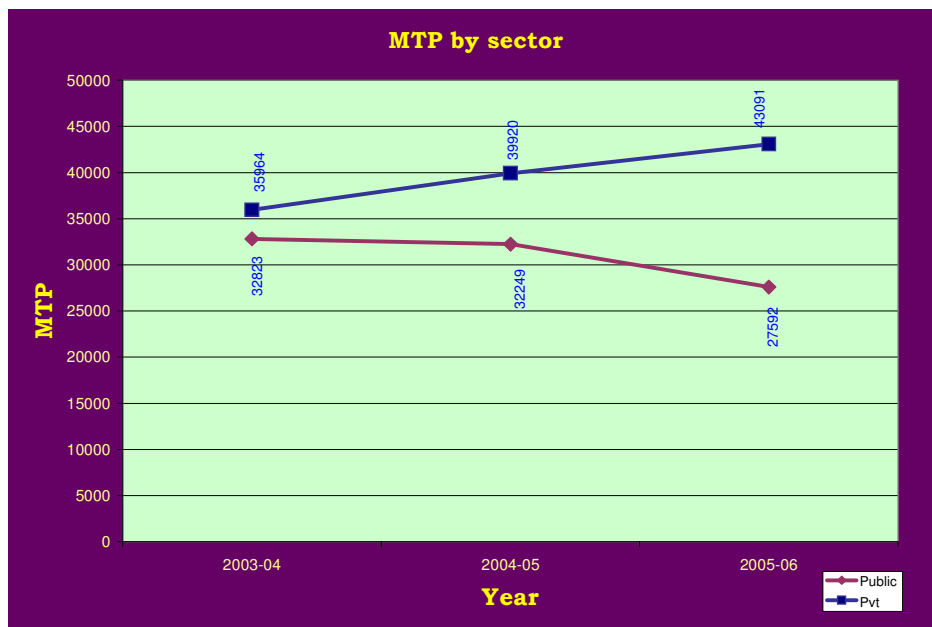
Table - 2.5**Number of MTP's in Tamil Nadu**

Year	No of Institutions Approved	No of MTP's	% of Increase Decrease	No of MTPs Per centre
1998-1999	907	56206	*	61.97
1999-2000	909	61282	8.28	67.42
2000-2001	994	60999	-0.46	61.37
2001-2002	1014	68659	11.16	67.71
2002-2003	1062	73335	6.38	69.05
2003-2004	1125	73372	0.05	65.22
2004-2005	1149	72710	-0.91	63.28
2005-2006	1238	71128	-2.22	57.45
2006-2007	*	67315	-5.66	*
2007-2008	*	63875	-5.39	*

The above provides number of approved institutions and induced abortions carried out in Tamil Nadu for the current decade (1998-2008). The number of approved facilities increased steadily in the state and by 2006 there were about 1238 MTP centres. However, the number of procedures carried out in the approved centres has increased till 2004 and then it declines every year. There were 63,875 MTP's performed in the year 2007-2008[44]. The average number of MTPs per facility ranged between 57-69.

Unlike for delivery care services, higher percentage of induced abortions were in the private sector and its share appears to increase over the years. The data on abortion by source was available only for five year period, even for the period we compiled the information from two different sources [39, 45]. In 2005-2006, more than 63 percent of abortions were provided in the private sector. A state level study on abortion in Tamil Nadu in the year 2004 also reported that private hospitals were highly used for abortion services [27] and majority of the abortion in rural areas were done by unqualified persons [46]. The average cost for an abortion in the private sector was Rs 1337 which was almost double as that in public institutions [27].

Graph - 2



2. 6 Other reproductive health services:

Policies and programmes

Family Health Clinics are being conducted in all the BEmONC centres three days a week. These clinics provide lab services for diagnosis, treatment of RTI/STI and infertility management and counselling services. The BEmONC centres have attempted to bring about a convergence of RCH and HIV programmes by including Voluntary Counselling and Testing Centres for HIV within the Family Health Clinics, with a professional counsellor and a lab technician.

Larger Impacts of the government programmes

In Tamil Nadu, the number of men and women who sought treatment for RTI/STI problems in the public sector has increased substantially over the years. Importantly higher number of men sought RTI/STI treatment. That is percentage of RTI/STI cases treated among men has increased substantially. The increase was more visible in the recent years (2005-2008). The establishment of family health clinic in BEmONC centres and efforts of Tamil Nadu state AIDS control society could have result the increase.

Table - 2.6**Number of RTI/STI treated in the Public Sector**

Year	Male	% of Increase Decrease	Female	% of Increase Decrease
1999-00	55076	*	343193	*
2000-01	45172	-21.93	334778	-2.51
2001-02	153455	70.56	836891	60.00
2002-03	51831	-196.07	363050	-130.52
2003-04	237455	78.17	835773	56.56
2004-05	78398	-202.88	429506	-94.59
2005-06	250804	68.74	801333	46.40
2006-07	98211	-155.37	406747	-97.01
2007-08	126850	22.58	435836	6.67

In a community based study in rural areas of Tamil Nadu reported both public and private sectors were equally preferred by women for reproductive morbidity. The same study found caste disparities in utilising public –private sector was wide. Women from SC/ST are more likely to use government providers/facilities and ‘other’ castes and MBCs more likely to use private providers or facilities. The household economic status also had a positive impact on seeking treatment from the private sector [28].

Conclusion:

Overall it is evident from the review that the state government has given great emphasis to improve maternal health care services in the public sector, consequently it has resulted in achieving universal utilisation of antenatal care and delivery care from health facilities. Most importantly women’s utilisation of public sector for maternal health care has increased significantly. But at the same time, not so much importance has been given either in the policy or service provision for improving access to abortion and other reproductive health services. So,

women have to depend more for private sector, in fact the private sector share for abortion, contraceptive use and other reproductive health care has started increasing in recent years.

CHAPTER-III

Pregnancy-related health services

The Government of Tamil Nadu has made substantial investments in strengthening the availability of maternal health services in public health facilities, and has also invested in increasing demand for institutional deliveries through the Dr. Muthulakshmi Reddy Maternity Benefit Scheme. There have also been interventions to improve reproductive health services.

In order to examine the extent to which improvements in maternal and reproductive health services have translated into increased use of these services by all sections of women, we carried out a household survey in selected villages across different districts of Tamil Nadu. Primary data was collected on the utilisation of pregnancy-related services and hospitalisation for other reproductive health needs; and distribution of utilisation by public and private health sectors. Data was also collected on total expenditure incurred for pregnancy-related services and hospitalisation for gynaecological morbidity, with a view to assessing whether increased availability of these services in the public sector has eased the economic burden on low-income groups.

This chapter reports on patterns and differentials in the utilisation of pregnancy-related services and in expenditures incurred thereof.

3.1 Methodology:

Study area and sample

We selected five of 32 districts in Tamil Nadu purposively for the field study. The selected districts are Cuddalore, Dharmapuri, Kancheepuram, Kanyakumari and Nagapattinam. Two of the districts namely Kancheepuram and Nagapattinam have socio-economic and health indicators close to the state averages, while Dharmapuri and Cuddalore districts have relatively poor indicators. Kanyakumari district has a better and state-average socio-economic and health indicators.

Table 3.1**Socio- Economic and Health Indicators of Five Districts selected for the study and Tamil Nadu**

Indicators	Districts					Tamil Nadu
	Kanniyakumari	Kancheepuram	Nagapattinam	Cuddalore	Dharmapuri	
Total Population* (in Millions) 2011	1.9	3.9	1.6	2.6	1.5	72.1
Sex ratio* (males/1000 Females) 2011	1010	985	1025	984	946	995
Literacy Rate* 2011	92.1	85.3	84.1	79	64.7	73.15
Human development India HDI\$ (2006)	0.763	0.778	0.738	0.709	0.656	0.736
Gender Development Index- GDI\$ (2006)	0.749	0.765	0.723	0.693	0.64	0.722
Percentage of population below poverty line	25.3	17.1	25.8	17.5	27	24
Percentage of women married aged 20-24 years and who married before 18 years#	9.4	28	17.6	25.7	43.2	24
Percentage of Institutional delivery#	98.9	94.7	98.4	92.3	92	94
Mean Number of children ever born#	1.9	2.1	2.5	2.2	2.4	2.2
Contraceptive prevalence#	73	64	54	57	63	61.1
Crude Birth Rate** 2007	17.16	15	11.29	16.25	18.9	16.1
Crude Death rate** 2007	6.9	6	6.4	5.3	5.8	6.5

* Census of India 2011, Tamil Nadu Provisional Population Data Sheet, Director of Census Operation, Chennai (23)

International Institute for Population Sciences (IIPS), 2010. District Level House Hold Survey (DLHS 3), 2007-08, India. Tamil Nadu: Mumbai: IIPS (36)

\$ State Planning Commission, Government of Tamil Nadu, Tenth five year plan document 2002-2007 (47)

** Statistical Hand book of Tamil Nadu, 2010, (48)

Since the 1990's the proportion of institutional deliveries has increased in all the five districts. As per the recent statistics available (2007-2008) more than 98 percent of births in these districts

took place in a health facility. However, the districts vary in the proportion of deliveries in the public sector. Kanyakumari district has the highest proportion of private sector deliveries (79 %) followed by Nagapattinam (38%), and Cuddalore (33.5%) while in Dharmapuri and Kancheepuram districts, only 24 and 21 percent of deliveries respectively took place in private health facilities [49-53].

In each district, PHCs were grouped into better performing and poorer performing PHCs in terms of patient load and services offered, and one from each of these (two per district) were selected randomly. Two villages from the catchment area of each PHC were selected for the study, one very close to the PHC and the other one far away from the PHC. Thus in total the study covered 20 villages across five districts.

In the selected villages we carried out door to door complete enumeration of all child deliveries up to one year prior to the date of survey and all cases of hospitalization, including for reproductive health conditions.

Based on the house listing, interviews were conducted with recently delivered women and persons hospitalized for reproductive health conditions. Oral consent was obtained from the study participants. Data was collected using a semi-structured interview format with open ended questions to capture the diverse experiences of respondents. In addition to this, the a few case studies documenting varying (good/not so good) experiences of women in utilising public and private health care facilities. Case study guidelines were also developed to gather data in uniform manner. Twelve field investigators selected from the respective districts and all having prior experience in collecting survey data and/or working as community workers in community-based organisations administered the interview schedules and documented women's experiences. The field data collection was done in the months of November – December 2008.

There were 8444 households covering a population of 34833 (17606 males and 17227 females) in the sample villages. A total of 526 deliveries were reported for the one year prior to the date of survey. Of these, 32 women were non-residents who had come to their maternal home for delivery. The final sample consisted of 494 women residents of the sample villages who had delivered a child within 12 months prior to the survey.

Background Characteristics of the women

Almost all the women (94.7 percent) were Hindus and only 5.3 percent belonged to other religions². About two fifth of the women (38 percent) belonged to Scheduled Caste/Scheduled Tribe (SC/ST)³. One third belonged to the castes classified as “Most Backward” (MBC), who belong to labouring castes just above the Scheduled castes in the caste hierarchy. The remaining 28 percent belonged to ‘other’ caste groups (Table 3.2). Fifty per cent of the women had more than 8 years of schooling and another 30% had 6-8 years of schooling. Only 8 percent of the respondents had no schooling.

Although all the study participants lived in rural areas only about 14 percent had some land. Most of the women (85 %) reported not working outside their homes because they had infants to care for. However, 10% worked as casual labourers despite having small children due to economic compulsions and only twenty three women (5 percent) were in regular employment or were traders. Nearly two third of the women’s husbands (65 percent) were wage labourers: 37 percent industrial wage labours and 28 percent agricultural workers. Only 16 percent of the respondents’ spouses were in salaried employment.

Ninety one percent (91%) of the study participants were below 29 years of age, with 53% aged below 25 years. The average age of the participants was 24.4 years. The mean number of pregnancies per women is 1.7. Ninety percent (90 %) of the women had two or fewer children living: 48 percent had one child and 42 percent had two children. The average number of surviving children to the study women was 1.65.

The average household size of the respondents was 4.8. A little more than half lived in nuclear families while the others lived in joint (44%) or extended (5%) families.

3.2 Patterns of utilisation of antenatal care:

Antenatal care is the systemic medical supervision of women during pregnancy. Its aim is to preserve the physiological aspect of pregnancy and labour and to prevent or detect, as early as possible, all that is pathological. Early diagnosis during pregnancy can prevent maternal ill-

² Sixteen were Christians and another 10 women belonged to Muslim community

³ Scheduled castes are members of ex-untouchable castes, who have suffered centuries of discrimination under the caste system. Scheduled tribes are member of indigenous ethnic groups.

health, injury, maternal mortality, foetal death, infant mortality and morbidity, and for this reason, the first trimester is the appropriate time for the first antenatal visit.

In addition to the timing of the first antenatal visit, the number visits is also an important determinant of the health of the mother and the outcome of the pregnancy. World Health Organization recommends that all pregnant women should have at least four antenatal visits (WHO 2006) and Government of India follows it that four visits are essential to have good maternal health (54) generally, antenatal care refers to pregnancy related health care services received from a doctor or nurse in the public or private sector. Antenatal care begins with 'history-taking' and is followed by a complete examination of the patient. The important components of ANC include,

- Urine test for albumin and sugar
- Weight measurement to check weight gain during pregnancy
- Haemoglobin test to assess the level of anaemia
- Check blood pressure to deduct high BP
- Abdominal examination to assess fetal growth
- Two doses of Tetanus Toxioid injection
- Provision of Iron and folic acid tablets (55)

Coverage, timing and number of visits

With the exception of only four women, all women in the study (99 percent) received some form of antenatal care. Three of the four women who didn't receive any pregnancy care belonged to socially and economically deprived scheduled tribes group who said that their "customs" prohibited the use of pregnancy care.

A large majority of the mothers (74 percent) had their first antenatal care visit at the appropriate time: in the first trimester of pregnancy. The remaining 26 percent had their first visit in the second trimester. The median month of first consultation was 3 months.

Of the 490 women who had some form of ANC, 70 percent had 4 or more antenatal care visits, i.e. the recommended number of visits or more. One fourth of the women had three visits and

only 20 women (4 percent) had one- two visits. The median number of visits per pregnancy was 4.

Components of antenatal care

In terms of components of antenatal care received by the women, tetanus toxoid vaccination, blood and urine tests and measurement of weights were done in almost all the pregnancies (vaccination 98%, blood and urine tests 97 %, weight 99.6%). Eighty-one percent of the mothers underwent ultra sonogram scanning during their most recent pregnancy, and of these 42 percent had tested more than one time. This is very high as compared to national average of 24 percent in 2005-2006 (54). India)). At the same time, about two third of the women did not have abdominal examination and in about 13 percent of the cases the previous pregnancy history was not asked.

Table 3.3.

Use of public versus the private sector

Overall a large majority of the women (68.4 percent) had all the antenatal check-up visits in the public sector and 19 percent accessed both public and private facilities. Only 13 percent had all the checkups at private hospitals/clinics. In subsequent analysis, we have treated women who accessed both public and private sectors as private facility users.

The number of antenatal visits varied substantially by source of the provider. While 85 percent of women who received antenatal care from a private doctor had four or more visits the comparable figure among public sector users was 67 percent. Among those who used both the public and private sector about 70 percent had the recommended number of visits.

When we examine source of antenatal care for each of the visits, we find that 73 percent of women accessed public facilities for their first visit, 83% for second and third antenatal visits and 78 percent for the fourth and subsequent visits. Thus, about 10% of the women judiciously combined public and private sector care. They accessed private hospitals/doctors for pregnancy confirmation checkups, visited public health facility for periodical check-ups, blood and urine tests and immunisation, and return to the private facilities for their final checkups because ultrasound and laboratory facilities are not available in most of the PHC's. The higher utilisation of public facilities for ANC could be for two reasons: higher cost for diagnostic tests in the

private sector, and the requirement that a woman has to register their pregnancy in a public health facility to avail the cash benefit of Rs.6000 available to all women delivering their first or second child in a public health facility.

Within public facilities, PHC is the most used (63%) for the first antenatal visit, followed by government district hospitals (27%) and taluk hospitals (7.8%) Very few women (2%) visited sub centres for antenatal care. Though PHC was the predominant source for the all the other visits. Its share gradually declined for the second (59%) and third ANC visits (47%). The shift was towards using sub-centres for the second visit and district hospitals for the third visit. The shift to district hospitals for the third visit was mainly to avail laboratory and ultrasound facilities which are not available in PHCs. **Table 3.4.**

Another important observation from this trend is that taluk hospitals which are supposed to have all the facilities and very close to the rural women were less accessed for ANC. During our interaction with women in the study we found that though taluk hospitals possess lab and scan facilities, they have shortage of human resources and so, tests are done on specific days of a week. This may be a reason for non-use of taluk hospitals for antenatal care.

Reasons for choice of provider

The main reasons given for choice of a public provider by women who used any public sector facility for ANC were good services (45%) and proximity (36%). Availability of facilities, and recommendation by friends and relatives were the other reasons for the choice.

Among users of private facility, better services (than public sector) was the most important reason for choice (52%). Recommendation by relatives and friends (20%), availability of advanced facilities (10 %). Easy accessibility of doctor and shorter waiting time (9%) and close proximity (9%) were other reasons mentioned.

PHCs were the most favourably viewed public health facilities. . Fifty per cent (50 %) of women who accessed PHC services mentioned good quality of care as a predominant reason for choice of PHC as their source of antenatal care, reversing evidence to date. Proximity was the next most important reason (41%), while other reasons constituted only 9 percent. Likewise,

proximity was the top most reason for selecting CHC, (40%) and only eight of the 28 women who accessed the CHC selected the source for good quality of services. Availability of all facilities is the major reason for choice of district hospitals (44%), and easily accessibility was the second-most important reason. Thus, it would appear that 1 women appreciated the quality of antenatal care in the PHCs.

3.3 Patterns of utilisation of delivery and related services:

Of the 494 deliveries that took place in the one year prior to the survey, almost all (98%) had taken place in a health facility and only 2 percent (10) were home deliveries. These findings are very close to the government statistics that 98 percent of births in the financial year 2007-2008 in Tamil Nadu were in a health facility [56].

Women who had home deliveries were socially and economically marginalised. All 10 of them were landless, and seven belonged to poor caste group (SC/ST). All except one were of second and higher parities. Three women did not have any antenatal care and nine out of 10 women had their previous deliveries at home.

It is important to note here that 12 women in the sample who had their previous deliveries at home made a shift to the PHC for delivery. Seven of them were SC/ST; and nine were landless. The introduction of 24X7 services at PHC and maternity benefit scheme appears to have encouraged this shift.

Public sector health facilities were the most widely used. Eighty two percent of mothers delivered their baby in public health facilities. The breakdown of these was as follows: 54% in government hospitals, 21 % in PHCs, 7.6% in CHCs and less than 1% (0.4%) in health sub-centres. Only 18 percent of the women delivered their baby in private hospitals.

Sixty nine percent (69 %) of the deliveries were attended by a doctor, while 30 percent were attended by nurses. Four home births and one institutional delivery were handled by *dais*. Sector-wise almost all the births in private facilities were assisted by doctors whereas in the public sector, a nurse attended 36 percent of the births.

Nature of the delivery

Sixty eight percent (68 %) of the deliveries were normal and without any complications. Eight percent had problems in the normal delivery: six percent had forceps assisted delivery and another 2 percent had problems like excessive bleeding and retained placenta. One fourth of the deliveries (24%) were caesarean sections. This was similar to the c-section rate (25%) reported by the NFHS-3 survey of Tamil Nadu (26).

As expected there is a noticeable difference in nature of the delivery by sector. More than half (51 %) of all deliveries in private hospitals were by c-section as compared to only 6 percent in public sector facilities. The districts which recorded higher proportion of private sector deliveries had highest caesarean section rates. One out of three women in Kanyakumari and Nagapattinam districts reported having caesarean section, whereas in Dharmapuri and Kancheepuram the rates were 23 and 24 percent respectively. Of the five districts selected Cuddalore recorded the lowest rate of c- section (14%) Results of regression analysis confirm that the place of delivery was a predictor of nature of delivery. The probability of c- section in private health facilities was 4.2 times that in government health facilities (Table 3.15). Whether this is indicative of commercialization of medical care, or is a result of higher number complicated cases being referred to private health facilities is an issue for further probing. Since government tertiary hospitals are usually the final referral destinations for all obstetric complications, it seems unlikely that private health facilities would get a far greater proportion of complicated cases than government health facilities, leaving commercialisation as the most plausible explanation.

Surgical sterilisation

Thirty eight percent of the women in the survey (188/494) underwent postpartum sterilisation. The mean age of the women was 25 years and the average number of children born to them was 2. Most of the women had sterilization in the same place that they delivered. A large majority (85%) of surgical sterilisations were done in government hospitals/maternity homes and only 15 percent were done in private hospitals.

Reasons for choice of place of delivery

Belying popular notions about the poor quality of care in public sector health facilities, three fourth of the women who delivered in public institutions said that they selected the facility because of good services and availability of modern facilities. Free treatment and proximity as

the reason were mentioned by only 38 percent of the government facility users. In contrast, 68 percent of users of private providers mentioned good treatment and humane and caring behaviour of providers, and 20 percent gave proximity as the reason.

In the following pages we present narratives by women of their experiences with public and private health care facilities (Boxes 1-3). One of these is a woman who had both her deliveries in the local PHC and was very happy with the services. The second woman compares the less than satisfactory experience she had in a government hospital for her first delivery with good quality of care received in the PHC during her second delivery. The third experience is of a woman who had all her deliveries at home and went to the government hospital for surgical sterilisation. Her dire poverty prevented her from coming to the hospital for a sterilisation after her third delivery. The main issue with government hospitals appears to be the large informal payments demanded by non-clinical staff. If the government is able to take stern action against such informal payments, it is possible that many more women will be happy to access public health facilities.

Box 1. Experiences of two PHC deliveries

My name is D..., I am 18 years old and I got married two and half years ago. My first child is one and half years old and my second child was born just 23 days ago. We belong to the Adi-Dravida community. I have studied till 9th standard. I take care of the household chores and I do not carry out any work outside my house. My husband's is a construction worker he goes to places like Coimbatore and Bangalore. He should be 23 years old and he has also studied till 9th standard. This house we stay in is our only property (mud house with thatched roof).

Both of my children were born in the Primary Health Centre in our village. As I conceived soon after the birth of my first child the nurse informed me that it is enough if I had an immunisation. So, I had the injection once, she gave me medicines but I did not take it regularly. I might have had 10 – 15 iron tablets but I did not like to have the medicines.

I would have gone 3 – 4 times for check-up. The nurse came home and took care of me. Compared to my first delivery the services in the health centre have improved and they take good care now. Earlier in the hospital in our village (PHC) deliveries would happen very rarely but now one or two deliveries happen per day. The nurse stays close to the hospital (PHC) and the doctor also stays in the next village.

On one Saturday night around 1 AM I felt the pain they made me walk to the health centre, which is half a kilometre from my place. By 3 PM they gave me an injection and by 8 O' clock in the morning I had a normal delivery. Half an hour after the child was born they asked me to breast feed my child. The staff in the PHC got me food in the afternoon, night and the next day. The food was also good, I felt as if the delivery had taken place at home. On Monday the doctor came and checked me and then asked me to go back home. I reached home by 12 Noon.

For the first delivery they asked Rs.100 – 200 and we gave the money but now they informed us not to give even a single rupee for sure. This should be appreciated; I did not spend even a single pie for the second delivery.

Before my delivery a neighbour 'akka' (sister) had her delivery in a private hospital in Dharmapuri and they spent Rs.15, 000. My family cannot afford to spend that much. If there are no government hospital where can poor girls like me go for delivery? They provided good care and if the same kind of care is provided in all the hospitals why will people go to private doctors?

Box 2. Experiences of delivery care in PHC and Government district hospital

The services in medical college hospital are very bad. When I went for my first delivery they asked money for this and that. They got Rs.300 to “show” the baby, Rs.200 to clean my underskirt and we paid Rs.10, Rs.20 for the person who carries us on the wheel table from the labour room to ward. This was nothing compared to the words of the nurse and ‘ayahas. They talk very bad, they even beat. In that hospital they conducted my delivery in an ‘open space’. The women who accompanied me for delivery were also present.

In the second delivery I got my labour pain around 12 o’ clock mid night. They took me to the VelliSanthai PHC in a rented car. On the way we saw our area nurse and we asked her to accompany us to the PHC. We spent Rs.100 on car hire charges. I had a normal delivery by 5 AM in the morning. They provided good care during delivery and they gave Rs.30 for food per day and gave Rs.90. We did not spend any money. On the 3rd day after delivery they arranged an ambulance and took me to Kolaichal government hospital for family planning operation. On the next day they did the operation. Even there we did not spend any money. They too provided good care over there. We spent money for food only. On the 7th day after the family planning operation they discharged me. I went to Kolaichal government hospital after a month during that time they gave me Rs.600 for the family planning operation.

Box 3. Poverty and informal charges pose barriers to surgical sterilisation

Our family is very poor. We do not even have a place to live in. My husband and I are wage worker and we don’t I do not know the age at which I got married. I have 4 boys and three girls. My eldest son should be 15-16 years old. The second child was 12 years. The remaining 5 children are less than 7 years old.

My last child was born 6 months ago. I had my delivery at home. All my children were born at home. My mother-in-law was with me and others were not present. The nurse asked me to come to Vallipuram PHC but I did not go. I had pain and delivered the child there was no time to go to the hospital.

Then after few days the area nurse took me for operation. I had my tubectomy operation in Tirukalukundram (CHC). I stayed there for 7 days. I spent Rs.1500. I have not yet repaid the debt. We spent Rs.1000 on travel and food. The nurse and ‘ayamma’ got Rs.500 from me. The care they provided was good. On the 7th day when I was coming home they gave me Rs.600 as government money.

3.4 Social determinants in utilisation of public and private sectors for maternal health care:

Pregnancy care

As seen earlier, the public sector plays a vital role in providing antenatal care services for women in this study. A large majority of them (68.4 percent) had all the antenatal check-up visits in the public sector. Utilisation of public sector is associated with a set of social and economic factors: caste, education and occupation of women. **Table 3.11.**

Regression analysis employed to find out the net effects of independent variables on source of antenatal care shows that caste and educational level of women alone determines choice of provider for antenatal care **(Table 3.12).** Women from the marginalized SC/ST communities predominantly used public health facilities. While comparing with SC/ST women, a woman from the “Most Backward Caste” category (which is immediately above SC/STs in the caste hierarchy) was 12 times more likely to have accessed private provider for antenatal care services. Similarly, the odds of accessing public provider gradually decreased with educational level of women. Mothers who had 8 or above years of schooling were 5.5 times less likely to use government facilities as compared with women with no schooling.

Delivery Care

Like for the pregnancy care, government facilities are predominantly used for delivery care. Of the social and economic factors; caste, education and land owning status showed significant association with utilisation of public health sector in the bivariate analysis. Of the demographic variables age of the women alone showed some association.

In regression analysis caste and age of the women alone emerged as the two determinants of accessing public versus private sectors **(Table 3.13 and 3.14).** As compared to SC/ST's, the deliveries of MBC and ‘other’ caste women were 6.3 and 17.4 times less likely to be in public institutions. Similarly, women aged over 25 years had 2.4 times lesser chances of using government facilities for delivery care as compared with young women below 25 years.

The finding clearly points out that rather than economic factor, caste and education based disparities in utilisation of maternal health care services are very important. Thus public sector

plays a vital role in providing the pregnancy and delivery care services for less educated and poor caste women in rural areas.

Surgical sterilisation

As was the case for antenatal and delivery care services, public facilities are also widely used for surgical sterilisation a large majority of sterilisation (85 percent) was done in government hospitals. In bi-variate analysis, source of sterilisation was associated with the following factors: caste, education, landowning status and age of the women Table 3.17. Regression analysis shows that caste, landowning status and age are significantly associated with choice of provider for surgical contraception. Women who belonged to 'other' (socially privileged) caste group were 21 times less likely to use a public sector as compared with SC/ST women. The odds of using private hospitals among women from 'Most Backward Castes' was 7.6 that for SC/ST women. Unlike delivery care services, in this case land owning status has an independent effect. Belonging to landowning households lead to higher utilisation of private hospitals (odds 4.9). Women aged above 25 years were 4.3 times more likely to use the private sector as compared to those below 25 years of age (Table -3.18).

Overall, for all the maternal health care services caste and education of women are the two important determinants that affect women's choice of a public or private sector facility for maternal health care services. Land owning status has an effect only on choice of provider for surgical sterilisation.

3.5 Expenditure on pregnancy-related health care:

Expenditure on antenatal care

A little more than one tenth of the women who had had antenatal care reported incurring no expenses. About forty percent incurred Rs.300 or less. Another 28 percent spent between Rs.300-1050 as total antenatal care expenses. One fifth of the women spent over Rs.1050. The average and median cost of antenatal care were Rs.822 and Rs.300 respectively.

As may be expected, there was a wide disparity in cost across public and private sector users. The median cost of private sector users was about 13 times more (Rs. 2750) than the public sector users (Rs 208). The median cost of pregnancy care for mothers who accessed both public

and private sources was Rs.793 which was about 5 times higher as compared with public sector users. Nearly three fourth of the public sector users spent Rs.450 or less while 94% of private facility users incurred Rs.1050 or more.

The median cost per antenatal visit to a public health facility was Rs. 50, and this was predominantly spent on transportation costs. Detailed cost break-downs per antenatal visit to a private health facility were obtained. The median cost of the first antenatal visit to a private clinic/doctor which involves simple lab tests and consultation fees alone was about Rs.520. The second and third visits included immunisation and ultra sonograms and the median cost increased to Rs. 750/-. The median costs per visit of medicines purchased and investigations done were Rs.200 and Rs.200-300 respectively. The median transport expenses per visit was Rs. 100/. Travel costs of accompanying persons and informal charges paid worked out to about Rs. 125 per visit.

Expenditure on delivery care

Table 3.19 provides information on out- of- pocket expenditure on delivery care. This includes expenditure on doctors' fees, drugs, food and accommodation, travel, tips and expenditure for the "bystander", the popular terminology for the person who accompanies a patient to the hospital. For home deliveries, expenditure towards the person who assisted the delivery and medicines and materials used were also taken into account.

Median cost per institutional delivery varied by the nature of the delivery and the source of care used. A normal delivery in a public facility cost only Rs 872/-. Within the public sector the cost differed much by nature of the facility accessed. Women who delivered in PHC spent the least (Rs. 500) and those delivered in taluk hospitals had incurred the highest expenditure (Rs. 1370). The cost per delivery for district hospitals was Rs. 1000/- The differential in cost within between PHC and other public facilities was mainly due low travel cost and minimum informal (under the table) charges in the PHC. On the other hand mothers who accessed taluk as well as district hospital had spent much higher sums on informal charges. For example women using PHC spent around Rs 100/- as tips to show the baby those using taluk and district hospitals had to pay between Rs 300 and 250/- as tips for the same. In addition to these they had to spent money for availing other essential services like cleaning the public hair, changing the napkins etc. The wide

cost differential between the facilities could be an important reason for poor women selecting PHCs for delivery.

There was again a huge difference in normal delivery care expenses between public and private sector facilities. The median cost per normal delivery in a private hospital was Rs. 5200/- which is more than 10 times high as compared with a PHC and 4- 5 times higher as compared to government taluk and district facility delivery.

The median cost of a c- section in the public sector was Rs 2000/- . The cost per c- section in PHC, CHC and district hospitals were Rs 1900, Rs. 2850 and Rs.2000 respectively. Unlike for normal delivery, for c- section the cost variation among the public facilities was not wide. But, there is considerable difference in median cost of c-section between public and private sector. A c- section in a private hospital costs around Rs 15,000 which was about 7.5 times more than that of a public facility (Rs 2000).

Within the public sector, women who used taluk hospitals for normal as well as caesarean incurred relatively higher expenditure as compared with those who delivered in district hospitals. One possible reason could be that food is supplied to the patients in the district hospitals and not in CHC, also women bought medicines outside the hospitals.

The cost variation between a normal and c- section delivery was relatively less in the public sector (about 2 times high) and much wider in the private hospitals. A woman who had c- section in a private hospital had spent three times more as compared with those who had a normal delivery in the same sector.

Conclusion:

The utilisation of pregnancy and delivery care services are universal. Ninety percent of the pregnancies women received three or more number of ANC visits and 98 percent of births were in a health facility. Public health facilities were predominantly used for maternal health care. Overall a large majority of the women (68.4 percent) had all the antenatal check-up visits in the public sector and 82 percent of women delivered the births in government health facility. Nature of the delivery significantly differed by source. More than half (51 %) of all deliveries in private hospitals were by c-section as compared to only 6 percent in public sector facilities. For all the maternal health care services caste and education of women are the two important social determinants that affect women's choice of a public or private sector facility for the services.

There were wide difference in out of pocket expenditure for maternal health care. The median cost of private sector users for ante natal care was about 13 times more (Rs. 2750) than the public sector users (Rs 208). Likewise, the median cost per normal delivery in a private hospital was Rs .5200/- which is more than 10 times high as compared with a PHC and 4- 5 times higher as compared to government taluk and district facility delivery. A c- section in a private hospital costs around Rs 15,000 which was about 7.5 times more than that of a public facility (Rs 2000).

CHAPTER-IV

Inpatient reproductive health services

Characteristics of respondents:

Among the 8444 households in which house-listing was carried out in the twenty sample villages across five districts of Tamil Nadu, 59 persons reported being hospitalised for reproductive health conditions. Of these, 9 were not available for interview at the time of the survey. Of the remaining 50, one was a man hospitalised for sexually transmitted infection. We report below on the 49 women who were hospitalised for reproductive health conditions.

Fifty per cent of the women were below 35 years of age, 22 % were between 36-45 years old and 28% were over 45 years old. The mean and median ages of the respondents were 38.6 and 36 years respectively. Exactly half of them (25/49) belonged to SC/ST groups, 15 belonged to MBC group and 10 persons belonged to “other” castes. More than 40% had no schooling and only one third had above 6 years of schooling. An overwhelming majority (88%) belonged to landless households. A little more than half (56%) were not working outside the home, 40% were daily wage labourers, and 4% were street vendors.

Table 4.1**Profile of the women Hospitalised for RH services**

Age	N	Percent
17-25	6	12.24
26-35	19	38.78
36-45	11	22.45
46 and above average	13	26.53
Caste		
SC/ST	25	50.02
MBC	15	30.61
Others	9	18.37
Education Qualification		
Did not have formal Schooling	20	40.82
1-5 Years of Schooling	11	22.45
6-8 Years of Schooling	9	18.37
Above 9 Years of Schooling	9	18.37
Respondent Occupation		
Agricultural Labourer	11	22.45
Other Waged Job	8	16.33
Taking Care of Cattle	2	4.08
House Hold Chores	26	53.06
Others	2	4.08
Total	49	100

Reasons for hospitalisation:

Of the 49 respondents, 41 underwent treatment for reproductive morbidity and the remaining 8 were women hospitalised for following miscarriage (6 women), for abortion (1) and surgical sterilisation (1) respectively. Overall, problems related to the uterus was the single most important cause of hospitalisation: 26 out of 49 women underwent major surgery for uterus removal. Prolonged excessive bleeding, severe abdominal pain, tumours in uterus and uterine prolapse were the main underlying conditions related to uterus removal. Reproductive tract and sexually transmitted infections were the second main cause of hospitalisation (Seven women).

Six other women were admitted for excessive bleeding. One woman each sought treatment for breast cancer and for infertility. Six women were admitted following miscarriages, one each to terminate an unwanted pregnancy, undergo surgical sterilisation.

Table 4.2

Source of Hospitalisation by Nature of the Problem

Reasons for Hospitalisation	Source		Total N
	Public /Provider	Private/ Provider	
Menstrual Problems	1	5	6
UTI/RTI/STI	4	3	7
Abortions	1	6	7
Hysterectomy	13	13	26
Others	3	-	3
Total	22	27	49

Women hospitalised for abortion, sterilisation and treatment for menstrual problems were below 30 years of age. The median age of the women who underwent hysterectomy operation was 48 years.

4. Patterns of utilisation of reproductive health services:

Women accessed multiple providers for their treatment; 26/49 women visited two or more providers. Overall, 23 women accessed a single provider (47%), another 16 consulted two providers (33%) and the remaining 10 women visited three providers (20 %). The average number of providers consulted by women was 1.6. The average number of providers consulted varied by nature of the problem. Women with a reproductive tract infection consulted on average two providers each, and women who underwent surgeries 1.8 providers each. Those admitted for menstrual problems and miscarriages/abortion had consulted 1.4 and 1.2 providers respectively.

Trends and reasons for using multiple providers

A number of interesting findings emerge on examining the pattern of health care utilisation for in-patient reproductive health care. About a half of the women (25 out of the 49) first contacted a public provider. Among them ten moved to private hospitals and two other made vertical movement within the public sector from CHC to district hospitals. Thus, only 13 women underwent treatment at the public health facility that they first contacted.

Table 4.3

Trends of using multiple providers for RH hospitalisation (In Numbers

Nature of the problem	Private		Public		Cross sector Movement		Total
	Single Provider	Multiple Provider	Single Provider	Multiple Provider	Public/ Private	Private/ Public	
Hysterectomy	3	6	7	2	5	3	26
Menstrual problem	3	0	1	0	0	2	6
RTI/STI	1	1	1	0	2	2	7
Abortions	3	0	3	0	1	0	7
Others	0	0	1	0	2	0	3
Total	10	7	13	2	10	7	49

Analysing the reasons for the move from public to private sector, we found quality of care and delayed treatment procedures to be the main reasons.

When I tell them that I am having bleeding they said it would be there for some time and it will be cured. So I discharged from the government hospital and went to a private one - HYS 10

I first went to government hospital and they asked me to stay one month for the operation. If I stay in the hospital there is no one at home to perform the household chores, so I moved to a private hospital and underwent surgery- HYS 2

We went to the Taluk hospital (CHC) the treatment was not good over there so we came back home after two days of treatment. Then we went to a private practitioner. RTI-3

The two women who made a vertical movement in the public sector did so because their problem was not resolved at the lower level.

First I went to a government hospital (CHC) but there was no cure, so I visited government district hospital and stayed there for eight days - HYS 18

24 out of the 49 women of the study first visited a private provider, among them seven moved to public facilities and another seven moved to other private providers. So, only ten women received treatment at the first private facility that they consulted. High cost of care in the private hospitals was the predominant reason for moving from private to public providers.

After three consultations the private doctor said that I have cysts in uterus I felt that the treatment would be expensive in private hospital and so I went to Government hospital.- HYS- 4

First, I consulted a doctor in private hospital. But I did not have enough money to undergo the treatment. Then, I went to the government taluk hospital and they removed my karupai (uterus). HYS 13

I first visited a private nursing home and the expenses were very high. We were unable to manage it, so we went to the Taluk hospital and stayed there for two days for treatment- ABN 4

The seven women who moved on to a second private provider did so because the problem was not resolved.

The private doctor gave me a reference letter and asked me to consult doctors in medical college hospital. I went to a private medical college hospital- HYS 1

Days passed by but there was no relief. Then we visited another private hospital and my uterus was removed- HYS 21

It may be noted that the shift from public to private facilities and vice versa was more for surgeries (hysterectomy and breast cancer) and RTI/STI problems than for other conditions.

4.4 Reasons for Selecting a Private or Public provider for Hospitalisation:

Private Hospitals

Good quality of care in the private hospitals and poor quality of care in the public facilities were the main reason for choosing a private provider. 18 out of 27 women who utilised private hospital services mentioned the reasons. Close proximity (One woman) and referred by doctor, friends and relatives (2 women) were the other reasons for their selection. Another six women reported that their problem didn't get cured in the public hospitals and consequently they visited a private provider.

The good quality of care for the private providers that the women mentioned varied from attitude of the providers to type of service provided like humane attitude of the doctors and nurses, quick and timely treatment, availability of all equipments/services etc.

Even though I spent money for treatment they provided me good care- HYS 4

I had treatment for irregular periods and they provided good care. MS- 3

Generally women weighed the pros and cons of using public and private hospitals and expressed that the poor quality of care in the public hospitals forced them to use private hospitals. The poor quality of care in the public sector that they mentioned varied from poor interpersonal relationship of the providers, longer duration of stay to avail the services and fear of using the services as a result of their previous bad experiences .A woman who underwent MTP and surgical sterilisation in a private hospital says.

In government hospital they won't respect patients and there is no proper care, so we dint go there. If I have had the operation in government I would receive Rs.1000 as incentive. But we need to undergo a lot of hardship - ABN6

Longer duration of stay in the public hospitals for diagnosis and treatment was also another important factor for selecting private providers. This was particularly so for surgeries.

If we go to the Government Hospital they would ask to stay in bed for one or two months and then perform the surgery, so I had my operation in a private hospital. HYS 3

Seven women had a previous bad experience with using the government hospitals and that was the reason for choosing a private hospitals,

Without any explanation the government doctor asked me to go home. On the very next day I was unable to bear my stomach pain I screamed a lot. Then I went to a private hospital and underwent the surgery. HYS -5

I had continuous bleeding like rainfall and doctors at CHC kept repeating tests. I felt like dying. So, at last I consulted a private gynaecologist and she removed my uterus. - HYS 8

Public Hospitals

Among government hospital users, lower costs and inability to bear the high out-of-pocket expenses in the private sector due to poverty, (14/22) were the prime reasons for choice of the facility). Two women each mentioned close proximity and referral by doctors and close relatives as their reason for choosing a public sector hospital. It is important to mention here that three

women mentioned good quality of care in the public facilities as the reason behind their selection of the facilities.

My husband is a fisherman and we don't get regular income. Taking in to our family situation, we went to taluk hospital for cleaning my uterus after miscarriage. ABN 2

As I know the treatment the cost at private is expensive and we couldn't afford. We went directly to Government hospital. HYS 7

Seven women first consulted a private doctor and undergone surgery and treatment in the public sector because of heavy out of pocket expenses in private hospitals and family poverty. They said that they were aware that the quality of care in public hospitals was no good, but that they did not have any alternatives.

First, I consulted a doctor in a private hospital. Doctor said that there are wounds in my uterus and if it is not treated there would be puss formation and it would endanger my life. She suggested the option of removing my uterus. But I did not have enough money to undergo the treatment there. I stayed with my brother for some time and came back home. As my problem got worse, I went to the government taluk hospital (CHC and they removed my karupai (uterus). HYS 13

I first visited a private nursing home with an impression that they will provide good care, but the expenses were very high. We were unable to manage the expenses So we went to the Taluk level hospital and stayed there for two days for treatment- ABN 4

A woman with HIV/ AIDS, in Dharmapuri district who had a bad experience in using a private hospital also viewed the quality of care in the public facilities to be good.

I had severe fever, my relatives took me to a private hospital, and they spent a lot of money for the treatment. They did blood tests and knew my problem (HIV) and they did not inform me. They referred me to neighbouring primary health centre and they did blood tests and took a look at my earlier reports. They only revealed I have HIV. Now, I am regularly visiting the PHC, they care well for me.- RTI, STI -7

4.5 Expenditures on Hospitalisation:

There is a heavy financial burden to households for hospitalisation of RH problems. There was a high out of pocket expenditure even for accessing public hospital. Though women who accessed government hospitals for miscarriages spent the least amount (Rs. 850), this is nearly equal to Monthly Per capita Consumption Expenditure (MPCE) of rural Tamil Nadu⁴. For a

⁴ According to the latest NSS estimates in (2007-08) Monthly Per Capita Consumer Expenditure (MPCE) of rural Tamil Nadu is Rs. 834.

hysterectomy women had to incurred 6 times of their MPCE (57). Those using private hospitals were much worse off.

For instance, a hysterectomy operation in the private hospital costs almost 5 times more than (Rs.25000) in the public sector (Rs.5000), and came to nearly two years' monthly per capita expenditure. Similarly for miscarriages a woman spends 5 times more at private hospitals (Rs. 3735) as compared with public facility (Rs. 750). For menstrual problems the median expenditure of hospitalisation was almost similar in both the sectors. (Rs.1750 for public and Rs. 2000 in the private). When we go in to the details of expenses we notice that in the private sector doctors' fees and medicines were the major expenses. Food and travel expenses came next, and lab charges and room rent were the other expenses. For public hospitals, users' food and travel costs were the prime expenses, and informal charges came third in order of magnitude. As expected women accessing single provides spent less than those who visited multiple places.

Table - 4.4

Median Expenditure by nature and type of provider (In Rupees)

Nature of the problem	Private		Public		Cross Sector move	
	Single provider	Multiple providers	Single provider	Multiple providers	Public/ Private	Private/ Public
Hysterectomy	25000	21500	9000	17500	11550	4500
Menstrual problem	1167	0	690	0	0	7295
RTI	0	10000	1000	0	410	3165
Abortions	4617	0	1940	0	10000	0
Others	0	0	1400	0	25000	0

Within the private sector, the expenditure for hospitalisation differs by nature of the facility. It is interesting to note women who underwent surgery in private nursing homes spent relatively more money as compared to those who used private medical colleges. Three women hospitalised in private medical colleges reported being charged reasonable amounts for the surgery. Rs 5000 for private medical colleges and Rs. 22400 for nursing homes.

First I went to a private hospital for treatment. I stayed there for three days. Taking into my financial situation the doctor gave me a reference letter and sent me to a private medical college hospital. They performed a surgery and removed my uterus. In total I stayed for 20 days and expenses would be around five thousand. HYS 1

Another woman from other district also says,

I underwent uterus removal operation in private medical college hospital and they collected only part of the amount from us (Half), but their quality is good. HYS 2

A woman had induced abortion and surgical sterilisation in a private hospital narrates her hospital expenses:

For the operation and stay for three days I paid Rs.500. Apart from that we paid Rs.500 for medicines and Rs.150 for blood and urine tests. Later to remove the stitches we paid Rs.200 as doctor fees. At the time of consultation [to remove the stitches] they gave medicines and tonic and we paid Rs.500 for the same. We went to the hospital by car from our place home. A single visit costs Rs.400 and we went twice and the travel amount came to Rs.1600. My mother and sister stayed with me in the hospital for three days. The expenses for coffee and food for three days was Rs.600 - OTH

The plight of a woman who suffered with breast cancer was different and due to her family financial crisis, she had to postpone critical treatment.

I had breast cancer and underwent surgery twice; one in public and another in private institute. I would have spent Rs.50,000 for the treatment. This year alone I had 12 injection each costing Rs.1000. They gave current shock [radiation] for 25 times. OTH-1

4.6 Source of Hospitalisation Expenses:

As the hospitalisation expenses are very high and it is a heavy and unexpected financial burden to the poor household, a large majority of the women (43 out of 49) borrowed money to meet the expenses. Predominantly, (31 of 49 women) they obtained loan from money lenders and also by mortgage of their jewels, vessels and house deed. The interest rate for the loan for every thousand rupees varied between Rs 30-100 per month (36% to 120% per annum) depending on the urgency and the type of money lender. It is important to mention here that all the private facility users and women hospitalised for surgeries in the public sector borrowed money to meet expenses.

I had a miscarriage and doctor did a D&C (Dilation and Curettage). For that I stayed in the private hospital for two days. The expenses were about Rs.5000. We didn't have such

a huge amount to meet the expenses so my husband obtained loan by pawning my jewelry (Gold Chain) - ABN-5

As I accessed private hospital for hysterectomy, the expenses were about Rs.23, 000/-. My younger brother had arranged a loan for it and I am still paying the interest.HYS-16

Women who accessed public health facilities are also reported the same pattern of source of health expenditure

I underwent surgery in public hospital and the medical expenses were very high. I had taken a loan from money lender for the treatment- HYS 12

Though I underwent treatment in public hospital, I spent Rs 15,000/-, I borrowed money and I still pay the interest for the same. HYS 22

A women admitted for infertility treatment narrated her mental agony and financial difficulties as below:

I underwent treatment at many private hospitals. Despite these, there is no improvement. As a result my husband frequently quarrels with me and there is no peace in my life. I have even pawned my 'thali' (Marriage Chain) to pay for treatment. OTH-2

Six (of 49) women borrowed money from self help groups to meet the expenditures. They have to repay amount in installments with an interest rate of about Rs 10-15 per month per thousand rupees borrowed: or 12%-18% per annum.

I spent around Rs. 20,000 for my uterus operation in the government district hospital. I stayed there for more than a month. The name is government hospital but they demanded money for everything. They even asked money to wash clothes (bed spread), change the napkins, clean the room, this and that. I took loan from our self help group and managed the expenditure. Now I am paying the interest alone, it may take years to complete the loan. HYS -15

Five women managed their hospitalisation expenses by borrowing money from their family friends and relatives, others. Luckily they only need to pay back the principal amount, not any interest for it.

I felt like killing myself. Looking at my condition my husband borrowed money from relatives and admitted me in G... Nursing Home in the town. HYS 4

My sons have borrowed money from their owner [Boss] for the expenses. My youngest son borrowed Rs.10,000 and my eldest son has borrowed Rs.80,000. My younger sister's husband too helped us financially. HYS 5

Six women including two who underwent hysterectomy and four others managed the expenses from their family savings and earnings.

I saved some money for my second daughter's wedding and I took that money for the treatment. Now I need to save money for a year or two so that I can make arrangements for my daughter's wedding. HYS 6

I was hospitalized for three days for RTI problems, though it is a government hospital and we need to spent for food and travel expenses, those expenses were heavy burden to my poor family. Doctor asked to come for follow-up visits once in 15 days but I was unable to go. RTI STI- 4

Another woman who lost her spouse in AIDS and, is currently taking treatment for HIV received support from a local NGO and also used social security payments from government towards hospitalization expenses

I am having two children and my father in law is very arrogant and he had beaten me many times. I managed my hospitalization expenses from pension benefit received from government and a part of my expenses was met out by a social service organization in Dharmapuri. But I worried about my children's future.- RTI,STI-6

Conclusion:

For most of the reproductive health conditions requiring hospitalisation, women consulted more than one provider: local private doctor and or local PHC was the first contact point for many women. Then based on the preliminary diagnosis and treatment provided, they visited either taluk or district hospitals or private hospitals depending on the family's economic situation and other considerations. Overall the quality of care in the public hospitals was poor and the waiting time long, forcing many women to seek private health care even when they could far from afford

it. The women who made this choice said that “*money could be earned back but not life*”, and hence they accessed private hospitals. Those unable to even borrow money for health expenditure had no choice but to use public hospitals despite the poor quality of services. It is imperative to strengthen the quality of care in the CHC and district hospitals and availability of facilities and services in the PHC's.

There was a wide cost difference between public and private hospitals. All the same, out of pocket expenditure on hospitalisation for reproductive health conditions was a heavy financial burden to the households and irrespective of the sector. Almost all women who underwent surgeries borrowed money from different sources to meet the expenses. There are several issues to consider here. One is the high proportion of hysterectomies. It is important to probe into whether all these were essential surgeries. Recent media reports about unnecessary hysterectomies in private hospitals in Rajasthan raise the possibility of some or many of these being unnecessary procedures (58). The second issue is the high cost of care in public hospitals. Informal payments in public hospitals are becoming a major burden for women from low-income groups and a formidable barrier to accessing appropriate care in a timely manner. This is an issue that merits immediate attention and action.

Thirdly, there is need to regulate and rationalise costs of in-patient reproductive health services (and all other services as well) in private sector health facilities. For women who need surgical interventions and other forms of inpatient care, in addition to making these more widely available in public hospitals without too long a waiting period, specific provisions need to be made in the state government's health insurance scheme for live saving surgeries for surgeries related to reproductive health conditions carried out in empanelled private health facilities.

CHAPTER-V

Summary and Discussion

This case study aims to explore the extent to which government's commitment to improving public sector health facilities has translated into access to maternal and other reproductive health services for women from the most marginalised sections of society. The main objective of the study is to understand the current pattern in utilisation of public and private facilities

for reproductive health services and explore role of social determinants like caste, education, economic status and health system factors in people choice of a provider. The case study included a review of government's policies and secondary data and primary data collected from five districts of Tamil Nadu, covering 494 women who had had a child birth within a year preceding the survey and 49 women hospitalised for reproductive health conditions during that year.

The policy review showed that Tamil Nadu has long history of innovations in the health sector. The state has good infrastructure facilities in the public health care system as compared with the other states in India. The government has also introduced many policy initiatives towards promoting public health care. As a result, Tamil Nadu has made significant progress in promoting institutional delivery. The state has almost reached the stage of universal coverage by pregnancy and delivery care services. In 2007-2008, more than 98 percent of deliveries in Tamil Nadu were in a health facility.

Despite the increasing number of private clinics and mega hospital in the state, the utilisation of private hospitals for delivery care has not increased during the current decade. Three fifths of the hospital deliveries in the state in 2008 were in public institutions. Importantly the government's recent policy initiatives like introduction of 24X7 care delivery services in the PHC, establishment of BEmONC and CEmONC centres together with maternity benefit scheme has yielded good results. The proportion of PHC deliveries to the total public sector delivery has increased in the recent years. Overall, the increase in PHC deliveries has contributed to a direct effect on declining home and private sector deliveries. These statistics also indicates that the women accessing district hospitals for delivery care started decline considerable. In fact it is good sign that the specialised services for other RH care could be provided through districts hospitals.

Unlike pregnancy and delivery care services, for abortion and other RH services, there is not much emphasis given either in the policy or in the service provision. Consequently, the utilisation of private hospitals for these services is high over the years. In fact it share has increased over the years. As per the recent statistics available, the utilisation of private sector for surgical sterilisation has also increased slightly from 36 to 39 percent for the period 2001 2008.

The field survey confirmed this overall pattern and also provided insights into the differentials in patterns of utilisation and costs for maternal health care. The utilisation of pregnancy care was almost universal in the sample. Three fourth of the mothers had their first antenatal care visit in the first trimester of pregnancy. A large majority of the women had four or more antenatal care visits which is essential for safe motherhood Public health facilities were predominantly accessed for pregnancy as well as delivery care. Of the 494 deliveries that took place in the last one year, almost all (98%) were institutional deliveries and four fifths of the mothers delivered their baby in public health facilities. There is no doubt that public sector plays a massive role in providing pregnancy and delivery care services.

Within the public sector, PHCs and district hospitals were highly used for both pregnancy and delivery care. Although CHCs are close to the rural people as compared to district hospitals and equipped to provide pregnancy tests, handle emergencies, these were not widely used by women for pregnancy and delivery care. During our interaction, we were told that there is a shortage of human resources in CHCs and diagnostic services are provided on specific days of a week. This could be a reason for the low-utilisation of CHCs, but the under-utilisation of this resource calls for further probing.

While exploring the reasons of women's choice of public sector health facilities for maternal health care, we found belying popular notion, better quality of care and availability of modern facilities were the top most reason for selecting government facilities. Introduction of 24X7 delivery care services, up-gradation of PHC's introduction of BEMONC, and CEMONC centres have changed the notion of public health facilities being of poor quality.

Another important finding of the study is that though three fourth of the women in the sample had vaginal births, the rate of c- section was very high in the private sector; every second women who delivered in the private hospital had c-section. This suggests the possibility of unnecessary c-sections with commercial motives, and merits further probing.

Of the social economic factors, caste and educational level of women were important determinants of use of a public or private provider for maternal health care. Women from SC/ST communities and women with no schooling had several times as likely to use a public health facility as compared to women from castes higher-up in the hierarchy and better educated

women. But there was no association between household economic status and choice of provider.

There was a wide cost difference in accessing public and private sector for maternal health care. The median cost of private sector users for ante natal care was about 13 times more (Rs. 2750) than the public sector users (Rs 208). Likewise, the median cost per normal delivery in a private hospital was Rs .5200/- which is more than 10 times high as compared with a PHC and 4- 5 times higher as compared to government taluk and district facility delivery. A c- section in a private hospital costs around Rs. 15,000 which was about 7.5 times more than that of a public facility (Rs. 2000).

Patterns of care-seeking for reproductive health conditions were in direct contrast to that for pregnancy and delivery care. Overall, women accessed multiple providers for treatment of a reproductive health condition. Those who underwent hysterectomy (26 of 49 women) consulted at least two providers on average and those with a reproductive tract infection close to two providers (1.8). About half of the women (25/49) first contacted a public provider but 10 moved to a private provider because of poor quality of care and delay in receiving treatment Likewise, 24 out of the 49 women hospitalised first visited a private provider, seven of whom moved to public sector facilities because the costs were unaffordable. Overall good quality of care in the private hospitals and poor quality of care in the public facilities were the main reason for choosing a private provider. The good quality of care in the private facilities that the women mentioned varied from attitude of the providers to type of service provided like good humane attitude of the doctors and nurses, quick and timely treatment, availability of all equipments/services etc. Generally women weighted the pros and cons of using public and private hospitals and expressed that the poor quality of care in the public hospitals forced them to use private hospitals. The poor quality of care in the public sector that they mentioned varied from poor humane relationship of the providers, longer duration of stay to avail the services and fear as a result of their previous bad experiences were mentioned.

There is a heavy financial burden to households for hospitalisation for reproductive health conditions. The cost was high even in public hospitals, although the costs in private facilities were considerably higher. A hysterectomy operation in the private hospital cost almost 5 times

more than (Rs.25000) in the public sector (Rs.5000). Similarly for a D&C the cost was 5 times more at private hospitals (Rs 3750) as compared to a public facility (Rs. 750).

A large majority of the women (43 out of 49) borrowed money to meet the cost of hospitalisation. The vast majority (31 of 43) obtained loans from money lenders at impossibly usurious interest rates of between 36% and 120% per annum.

To conclude, there is a tremendous improvement in the state's public health care services especially in terms improved accessibility and availability with quality of antenatal and delivery care services. However, it is unfortunate that very little attention is given to improving availability of and access to other RH services. This forces rural poor women to utilise private facilities and incur heavy debts. The exclusive focus on one component of RH has led to increasing dependence on the private sector for all other components of reproductive health care, with great financial burden and poor health outcomes to rural poor women.

Based on the key findings of this study, we make the following policy recommendations:

- a) Government policy initiative is an important determinant in altering the public and private mix in utilisation of reproductive health services. Recent initiatives to improve accessibility and availability of delivery care services in the public facilities has increased their utilisation. Statistics show that the number of women accessing antenatal and deliveries in PHCs and CHCs has increased significantly. Women expressed a preference for services in the PHC particularly the homely atmosphere in the centres (probably because they are smaller and less intimidating than a district hospital) and better quality of services. Given such a situation the public secondary and tertiary care hospitals can concentrate on providing other RH services, easing women's financial burden.
- b) Both the public and the private health sector in the state needs to be brought within the ambit of quality assurance mechanisms and standard treatment protocols. There is indication of unnecessary c-sections in the private sector: every second women who delivered in the private hospitals had c- section and a large number of women have undergone hysterectomy. The public sector, while performing relatively well in terms

of pregnancy and delivery care, falls short in terms of timely and quality care for other reproductive health conditions.

- c) The private sector in the state needs to be regulated and costs of care need to be standardised. Charges for hospitalisation for reproductive health conditions are exorbitant in private nursing homes and hospitals imposing a great financial burden on rural poor women. Further, State Insurance Schemes that cover procedures carried out in empanelled private hospitals should include surgeries for reproductive health conditions among conditions covered.

Cost of inpatient reproductive health care in public hospitals also needs to be reduced, for example by providing food and drugs and diagnostic services free of cost to those below poverty line, and ensuring insurance coverage for those above poverty line for any paid services. In addition, stern action needs to be taken against informal payments which increases the cost of care considerably but remains invisible.

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P. Balasubramanian

Table-3.2

Background characteristics of Women

Religion	
Hindu	468 (94.7)
Non Hindu	26 (5.3)
Caste	
SC/ST	187 (37.9)
MBC	168 (34.0)
Others	139 (28.1)
Years of Schooling	
No Schooling	39 (8)
1-5 Years of schooling	75 (15)
6-8 Years of schooling	142 (29)
9-12 Years of schooling	196 (40)
Degree and above	42 (9)
Respondent's Occupation	
Household work	422 (85.43)
Wage labourers	49 (9.92)
Salaried/ Small business	23 (4.66)

Husband's Occupation	
Agricultural Labour	136 (27.5)
Other wage Labour	184 (37.2)
Salaried	81 (16.4)
Business/Small Vender	63 (12.8)
Others	30 (6.1)
Family Type	
Nuclear family	302 (61.13)
Joint family/Extended family	192 (38.87)
Land Owning Status	
Land less	427 (86.44)
Land owned	67 (13.56)
Household size total	
<=3	110 (22.27)
4-5	255 (51.62)
6 and above	129 (26.11)
Current age	
< =19 years	27 (5.47)
20-24	234 (47.37)
25-29	187 (37.85)

30 and above	46 (9.31)
Total Number of pregnancies	
1	214 (43.32)
2	210 (42.51)
3 and above	70 (14.17)
Number of Surviving children	
1	236 (47.77)
2	206 (41.70)
3	51 (10.32)
Total	493*(100)
Total 494 and *One woman has no child	

Figure in brackets denote Percentage

Table 3.3

Differential in components of ANC

Component of ANC	Proportion who not received the care					
	Public		Private		Total	
	%	N	%	N	%	N
Previous history of pregnancies	11.94	40	14.19	22	12.65	62
Weight	0.30	1	0.65	1	0.41	2
Blood Test	1.49	5	0.65	1	1.22	6
Urine Test	2.69	9	1.94	3	2.45	12
Immunization	0.90	3	4.52	7	2.04	10
Scan/Ultrasound	25.07	84	7.10	11	19.39	95
Physical check up	38.81	130	43.23	67	40.20	197
Total	100.00	335	100.00	155	100.00	490

Table 3.4

Differential in utilisation of public, private sectors for ANC

ANC								
Source	Visit 1		Visit 2		Visit 3		Visit 4	
	N	%	N	%	N	%	N	%
Private	136	27.53	82	16.77	88	18.76	71	22.40
Public	358	72.47	407	83.23	381	81.24	246	77.60
Total	494	100.00	489	100.00	469	100.00	317	100.00
Type of Public Facility								
District Hospitals	97	27.09	108	26.54	159	41.73	92	37.40
CHC	28	7.82	34	8.35	29	7.61	14	5.69
PHC	224	62.57	240	58.97	179	46.98	137	55.69
Sub centre	9	2.51	25	6.14	14	3.67	3	1.22
Total	358	100.00	407	100.00	381	100.00	246	100.00

Table-3.5

Correlates of Background variables with timing of first ANC visit

Variables	ANC at first trimester	Total-N
Caste *		
SC/ST	126 (68.9)	183
MBC	139 (82.7)	168
Others	98 (70.5)	139
Family type**		
Nuclear family	241 (80.6)	299
Joint/Extended family	122 (63.9)	191
Year of Schooling		
Illiterate	25 (67.6)	37
Primary (1-5 yrs)	57 (77)	74
Middle (6-8 yrs)	111 (78.7)	141
Secondary and above (9 and above)	170 (71.4)	238
Respondent Occupation**		
Un remunerated	323 (76.9)	420
Remunerated	40 (57.1)	70

Land Owning Status		
Land less	312 (73.8)	423
Land owned	51 (76.1)	67
Current age		
<=25	187 (71.9)	260
25 and above	176 (76.5)	230
Birth order		
1	160 (75.1)	213
2 and above	203 (73.3)	277
Total	363(74.1)	490

* P<0.05, ** P<0.001

Figure in brackets denote percentage

Table-3.6

Association of Independent variables with timing of ANC

Variables	N	Odds ration 95% CI
Caste*		
SC/ST(<i>Ref</i>)	183	
MBC	168	0.53(0.31-0.90)
Others	139	0.99(0.60-1.64)
Respondent Occupation*		
Un remunerated(<i>Ref</i>)	420	
Remunerated	70	2.21(1.27-3.85)
Family type **		
Nuclear family(<i>Ref</i>)	299	
Joint/Extended family	191	2.40(1.58-3.66)
-2 Log likelihood	525.770	

* P<0.05, ** P<0.001

Table-3.7

Correlates of Background variables with source of
First ANC care

Variables	Public facility users	Total-N
Caste **		
SC/ST	170 (92.9)	183
MBC	96 (57.1)	168
Others	92 (66.2)	139
Family type		
Nuclear family	212 (70.9)	299
Joint/Extended family	146 (76.4)	191
Education **		
Illiterate	36 (97.3)	37
Primary (1-5 yrs)	57 (77)	74
Middle (6-8 yrs)	108 (76.6)	141
Secondary and above (9 and above)	157 (66)	238
Respondent Occupation		
Un remunerated		

Remunerated	302 (71.9)	420
	56 (80)	70
Land Owning Status		
Land less	313 (74)	423
Land owned	45 (67.2)	67
Current age		
<=25	198 (76.2)	260
25 and above	160 (69.6)	230
Birth order		
1	156 (73.2)	213
2 and above	202 (72.9)	277
Total	358 (73.1)	490

*P<0.05, ** P<0.001

Figure in brackets denote percentage

Table-3.8

Association of independent variables with Source of first ANC

Variables	N	Odds ratio 95% CI
Education *		
Illiterate(<i>Ref</i>)		
Primary (1-5 yrs)	37	
Middle (6-8 yrs)	74	10.85(1.35-87.51)
Secondary and above	141	11.01(1.42-85.36)
(9 and above)	238	18.97(2.50-144.12)
Caste **		
SC/ST(<i>Ref</i>)	183	
MBC	168	10.06(5.25-19.28)
Others	139	6.38(3.26-12.49)
-2 Log likelihood	479.755	

*P<0.05, ** P<0.001

Table-3.9

Correlates of background variables with number of ANC visits

Variables	4 and above ANC visit	Total-N
Caste **		
SC/ST	117 (63.93)	183
MBC	101 (60.12)	168
Others	124 (89.21)	139
Years of Schooling*		
Illiterate	15 (40.54)	37
Primary (1-5 yrs)	51 (68.92)	74
Middle (6-8 yrs)	99 (70.21)	141
Secondary and above (9 and above)	177 (74.37)	238
Respondent occupation		
Remunerated	52 (74.29)	70
Unremunerated	290 (69.05)	420
Family type		
Nuclear family	208 (69.57)	299
Joint/Extended family	134 (70.16)	191

Land Owning Status*		
Land less	288 (68.09)	423
Land owned	54 (80.60)	67
Current age		
<= 25	178 (68.46)	260
25 and above	164 (71.30)	230
Birth order		
1	141 (66.20)	213
2 & above	201 (72.56)	277
Type of the Provider**		
Public	223 (66.57)	335
Private	54 (85.71)	63
Public & Private *	65 (70.65)	92
Total	342 (69.80)	490
* Few visits in the public and other in the private facility		

*P<0.05, ** P<0.001

Figure in brackets denote percentage

Table-3.10

Association of independent variables with number of
ANC visits

Variables	N	Odds ratio 95% CI
Education*		
Illiterate(<i>Ref</i>)	37	
Primary (1-5 yrs)	74	2.83(1.18-6.80)
Middle (6-8 yrs)	141	3.49(1.57-7.76)
Secondary and above (9 and above)	238	3.67(1.70-7.94)
Caste **		
SC/ST(<i>Ref</i>)	183	
MBC	168	0.64(0.39-1.05)
Others	139	3.76(1.98-7.13)
Type of provider		
Public(<i>Ref</i>)	335	
Private	63	2.07(0.91-4.70)
Public & Private	92	1.57(0.88-2.81)
Land Owning Status		
	423	
Land less(<i>Ref</i>)	67	1.56(0.80-3.08)

Land owned		
-2 Log likelihood	538.918	

*P<0.05, ** P<0.001

Table-3.11

Correlates of background variables with source of ANC care (Total visits)

Variables	Public Facility users	Total-N
Caste **		
SC/ST	167 (91.26)	183
MBC	79 (47.02)	168
Others	89 (64.03)	139
Family type		
Nuclear family	201 (67.2)	299
Joint/Extended family	134 (70.2)	191
Education *		
Illiterate	33 (89.2)	37
Primary (1-5 yrs)	55 (74.3)	74
Middle (6-8 yrs)	100 (70.9)	141
Secondary and above (9 and above)	147 (61.8)	238
Respondent Occupation*		

Un remunerated	280 (66.7)	420
Remunerated	55 (78.6)	70
Land Owning Status		
Land less	296 (70)	423
Land owned	39 (58.2)	67
Current age		
<=25	185 (71.2)	260
25 and above	150 (65.2)	230
Birth order		
1	145 (68.1)	213
2 and above	190 (68.6)	277
Total	335 (68.37)	490

*P<0.05, ** P<0.001

Figure in brackets denote percentage

Table-3.12
 Association of Independent variables with source of ANC care
 (Total visits)

Variables	N	Odds ratio 95% CI
Education *		
Illiterate(<i>Ref</i>)		
Primary (1-5 yrs)	37	
Middle (6-8 yrs)	74	2.97(0.87-10.11)
Secondary and above (9 and above)	141	3.49(1.09-11.14)
	238	5.46(1.77-16.86)
Caste **		
SC/ST(<i>Ref</i>)	183	
MBC	168	12.40(6.67-23.07)
Others	139	5.77(3.07-10.84)
Respondent Occupation		
Un remunerated(<i>Ref</i>)	420	
Remunerated	70	1.18(0.58-2.37)
-2 Log likelihood	508.4245	

*P<0.05, ** P<0.001

Table-3.13
Correlates of background variables with source of delivery

Variables	Public Facility Users	Total-N
Caste **		
SC/ST	174 (96.1)	181
MBC	132 (80)	165
Others	78 (56.5)	138
Family type		
Nuclear family	239 (81.3)	294
Joint/Extended family	145 (76.3)	190
Education **		
Illiterate	36 (100)	36
Primary (1-5 yrs)	61 (82.4)	74
Middle (6-8 yrs)	116 (82.9)	140
Secondary and above (9 and above)	171 (73.1)	234
Respondent Occupation		
Un remunerated	328 (79)	415
Remunerated	56 (81.2)	69

Land Owning Status*		
Land less	338 (81.1)	417
Land owned	46 (68.7)	67
Current age **		
<=25	223 (86.1)	259
25 and above	161 (71.6)	225
Birth order		
1	163 (76.5)	213
2 and above	221 (81.5)	271
Total	384 (79.3)	484

* P<0.05, ** P<0.001

Figure in brackets denote percentage

Table- 3.14

Association of independent variables with source of delivery

Variables	N	Odds ratio 95% CI
Education		
Illiterate(<i>Ref</i>)		
Primary (1-5 yrs)	36	
Middle (6-8 yrs)	74	279042197.1
Secondary and above	140	355090004.5
(9 and above)	234	598448865.4
Caste **		
SC/ST(<i>Ref</i>)	181	
MBC	165	6.28(2.66-14.85)
Others	138	17.42(7.49-40.5)
Land Owning Status		
Land less (<i>Ref</i>)	417	
Land owned	67	1.66(0.86-3.22)
Current age*		
<=25(<i>Ref</i>)	259	
25 and above	225	2.39(1.43-3.99)

-2 Log likelihood	379.5136	
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* P<0.05, ** P<0.001

Table-3.15

Correlates of background variables by caesarean section

Variables	C-Section	Total-N
Caste **		
SC/ST	29 (16)	181
MBC	37 (22.4)	165
Others	49 (35.5)	138
Family		
Nuclear family	70 (23.8)	294
Joint/Extended family	45 (23.7)	190
Year of schooling		
Illiterate		
Primary (1-5 yrs)	6 (16.7)	36
Middle (6-8 yrs)	15 (20.3)	74
Secondary and above (9 and above)	32 (22.9)	140
	62 (26.5)	234
Respondent Occupation		
Un remunerated	100 (24.1)	415
Remunerated	15 (21.7)	69
Land Owning Status*		

Land less	90 (21.6)	417
Land owned	25 (37.3)	67
Current age *		
<=25	49 (18.9)	259
25 and above	66 (29.3)	225
Place of delivery**		
Public	64 (16.67)	384
Private	51 (51)	100
Birth order*		
1	60 (28.2)	259
2 and above	55 (20.3)	225
Total	115 (23.8)	484

* P<0.05, ** P<0.001

Figure in brackets denote percentage

Table-3.16

Association of Independent variables with Type of delivery

Variables	N	Odds ratio 95% CI
Caste		
SC/ST(<i>Ref</i>)	181	
MBC	165	1.15(0.65-2.06)
Others	138	1.43(0.78-2.63)
Current age		
<=25(<i>Ref</i>)	259	
25 and above	225	1.60(0.99-2.58)
Land Owning Status*		
Land less(<i>Ref</i>)	417	
Land owned	67	1.86(1.03-3.36)
Place of delivery**		
Public(<i>Ref</i>)	384	
Private	100	3.91(2.30-6.66)
Birth order*		
1(<i>Ref</i>)	213	
	271	0.59(0.37-0.95)

2 and above		
-2 Log likelihood	471.942	

* P<0.05, ** P<0.001

Table-3.17

Correlates of background variables with source of contraceptive operation

Variables	Public Facility Users	Total-N
Caste **		
SC/ST	77 (97.47)	79
MBC	51 (86.44)	59
Others	32 (64)	50
Family type		
Nuclear family	113 (84.96)	133
Joint/Extended family	47 (85.45)	55
Education *		
Illiterate	21 (100)	21
Primary (1-5 yrs)	26 (96.30)	27
Middle (6-8 yrs)	50 (83.33)	60
Secondary and above (9 and above)	63 (78.75)	80
Respondent Occupation		
Un remunerated	136 (85)	160
Remunerated	24 (85.71)	28

Land Owning Status*		
Land less	148 (87.57)	169
Land owned	12 (63.16)	19
Current age*		
<=25	75 (92.59)	81
25 and above	85 (79.44)	107
Birth order		
1	26 (86.67)	30
2 and above	134 (84.81)	158
Total	160 (85.11)	188

* P<0.05, ** P<0.001

Figure in brackets denote percentage

Table-3.18

Association of Independent variables with source of contraceptive operation

Variables	N	Odds ratio 95% CI
Education		
Illiterate (<i>Ref</i>)		
Primary (1-5 yrs)	21	
Middle (6-8 yrs)	27	68960193.16
Secondary and above (9 and above)	60	437765983.7
	80	482881580.1
Caste *		
SC/ST(<i>Ref</i>)	79	
MBC	59	7.69(1.43-41.44)
Others	50	21.06(4.19-05.92)
Land Owning Status*		
Land less(<i>Ref</i>)	169	
Land owned	19	4.86(1.28-18.52)
Current age *		
	81	
<=25(<i>Ref</i>)	107	4.27(1.33-13.65)

25 and above		
-2 Log likelihood	108.38031	

* P<0.05, ** P<0.001

Table-3.19

Table: Median Expenditure on Institutional delivery
(in Rs.)

No	Source	Normal Delivery	C-Section
1	Public	872	2000
a	PHC	500	1900
b	CHC	1370	2850
c	District Hospital	1000	2000
2	Private	5200	15000