QUALITY OF CARE IN FAMILY PLANNING SERVICES IN INDIA: AN ANALYSIS OF DATA FROM NATIONAL FAMILY HEALTH SURVEY-2

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CERTIFICATE

I, Amit Sachan, certify that the dissertation entitled **"Quality of Care in Family Planning Services in India: An Analysis of Data from National Family Health Survey-2"** for the degree of **Master of Philosophy** is my bonafide work and may be placed before the examiners for evaluation.

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Dedicated
To
My Late Grand Father
And
My Parents

Though last yet most important, I am grateful to my parents, whose invaluable support and encouragement throughout has helped me to complete this work. Their unselfish sacrifices and well wishes have provided strength at the most crucial point of my life and it is because of them that I have reached this level.

<div align="right">Amit Sachan</div>

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Chapter I

Introduction

During the last fifty years the Indian family planning programme has grown manifold. A review of the financial outlays for this programme indicates steep rise in expenditure in successive five year plan periods. In the first five year plan it was around Rs. 1.4 million, while in third five year plan it reached around Rs. 250 millions and in recently completed ninth five year plan it was about 145 billion. Percentage of Couple effectively protected increased form 0.2 percent in second five year plan to 48.3 percent in ninth five year plan (Ministry of Health and Family Welfare, 2000).

Over the period, physical infrastructure and manpower in family planning programme have considerably been strengthened. Though the very size of Indian family planning programme and the extent to which it has penetrated in to the countryside constitute a remarkable organizational accomplishment, the programme as a whole has not yet reached its goal of reducing overall fertility rate in the country to desired level. While some of the states are performing relatively well like, Goa, Kerala, Tamil Nadu and Andhra Pradesh but in other states like, Rajasthan, Uttar Pradesh, Bihar and Madhya Pradesh birth rates are relatively high (Registrar General of India, 2002:2).

A number of studies have mentioned several shortcomings in the Indian family planning programme both at the level of client and workers. Apart from the factors related to the service users such as psychological, cultural and economic, some other programme related factors are also responsible for the poor performance of Indian family planning programme. The set of causes responsible for poor performance of Indian family planning programme are: accessibility, administrative arrangement, motivation and morale, current strategies, home visit by health and family planning workers, quality of services, inadequacy of knowledge and training, management intervention, information, education and communication (IEC) components and state budgetary resources.

Many studies have tried to evaluate the Indian family planning programme by taking into account all the factors mentioned above. The last decade has seen considerable interest in identifying the critical features that make family planning

services effective in meeting the demands of the people. Among the different features which have been recognized recently, a significant feature of family planning programme is quality of services. Though the potential significance of quality of family planning services has been recognized for some time, but it has not been taken as seriously as it should be in developing countries. More than two decade ago, Cleland (1973:44) noted that a "range of structural factors also influence the decision to adopt family planning methods. These include knowledge of location of clinics and other supply sources, their proximity, the reputation of family planning personnel... and the suitability of framework and clinic procedure." It includes quality of services also, because without providing good quality of services, one can not expect clinic procedure and reputation of family planning personnel to improve.

The quality movement in family planning services is young, and its methods of assessment are still underdeveloped. Even there is no consensus about the definition of quality of care. The quality movement in health and family planning services is broad, diverse and changing, because its approach of assessment is not still clear. The simplest definition of quality is inspired by the work of W. Edward Deming, a pioneer of the quality movement in industry. In its most basic sense, providing good quality means "doing the right things in a right mode" (Blesemenfeld, 1993). In the field of health care and family planning this term projects a sense of offering a range of services that are safe and effective and can satisfy client's needs and wants. Therefore, for an efficient family planning programme, assuring good quality of services is an ethical obligation of health care providers. Quality of services is important both for its intrinsic value and for its instrumental value. In the family planning programme, high quality services have added benefits of contributing to higher continuation rates and consequently declining fertility rates over time. Now research has begun to show the practical benefits of quality improvement to the family planning clients.

W.H.O has defined the quality of care as, "*Quality of health care consists of the proper performance (according to standard) of interventions that are known to be safe, that are affordable to the society in question, and that have the ability to produce an impact on mortality, morbidity, disability and malnutrition.*" (Roemer, et al., 1988) Good quality care makes contraception safer and more effective. Poor quality of family

planning services can be the cause of infections, injuries and in rare cases even death. Poor quality of services also can lead to incorrect, inconsistent or discontinued contraception use and thus to unwanted pregnancies (Cotton et al., 1992, Koenig et al., 1997 and Blanc et al., 2002). Good quality of family planning services are safe and effective because they: offer a range of methods that the programme has the human, technical and financial resources to deliver safely, fully informed clients about methods including possible side effects, screen clients for medical eligibility, help clients to choose methods for themselves that go well with their individual state of affairs, teach clients how to use their methods properly and support them when they encounter problems or decide to swap any other methods (Bruce, 1990, Koenig et al., 1997, Diaz et al., 1999).

Good quality services attract clients and keep them satisfied by offering them the services, supplies, information and by enabling them to meet their reproductive goals (WHO, 1996). Contrary to this, poor medical and family planning services dissatisfies patients and discourages them for seeking care and returning to family planning clinics for the services. Several studies supported the fact that status of quality of care influences the contraceptive prevalence rate and the contraceptive discontinuation rates. (Blanc, 2002; Pariant, 1991 and Vinay, 1993) For example, Koenig (1997) found in his study of Bangladesh that good quality of care was associated with a 72 percent greater likelihood of continued use of any method of contraception.

Providers derive greater personnel and professional satisfaction from their jobs when they can offer good quality care and can feel their work is valuable (WHO, 1998).Giving providers the authority to solve the problems and improve services, as many quality improvement methods do, raise morale (Lynam, et al., 1993, Robinovitz, et al., 1994, Murray, et al., 1993). For example, projects that empowered health care workers to develop their own solutions to local problems reduced worker's absenteeism in Uganda (Omaswa, et al. 1997). Contrary to this, when health personnel feel that conditions prevent them from offering good quality care, they may become discouraged and they may put most of their effort into other jobs (Van Bergen, 1995). Health centers with good quality services attract and retain more clients when compared to bad one. Logically users will prefer to move towards those centers which are known for their

quality services. Therefore, by improving the quality, the program can develop better image and can retain competitiveness.

Health and family planning programs are working on the premise that every person has a fundamental right to get health care, for this reason governmental healthcare programs should try to ensure the universal access to health care services. Here accessibility does not mean mere location of service centers, within reasonable distance, but it should be good enough with respect to quality of services so that it can attract clients. Thus, it is very clear that there is a link between accessibility and quality of care. Good quality services can attract people from greater distance. Once the status of quality of care improves accessibility automatically starts increasing. Several studies have documented the impact of quality of care on performance of family planning programs (Bruce, 1990, Snow and Chain, 1991, Cotton, et al., 1992, Murray et al., 1993, Robinovitz et al., 1994, Van Bergen, 1995, Koenig et al., 1997 and Blanc et al., 2002).

Quality of Care in the Indian Family planning programme:

As discussed earlier that India's family planning programme is one of the oldest and most ambitious efforts among the developing countries to regulate the prevailing high fertility. The programme was not as successful as expected. The criticisms of India's family planning programme are well known; For instance, Banerjee's 1986:31-32 findings about the Indian family planning programme are "The family planning programme ultimately presented an image which was just the opposite of what was intended. Instead of projecting an image of movement which respected the dignity of individual, democratic of approach and offering a free choice of methods and improved health services, the image in rural area is that of an organization which used coercion and other kind of pressure tactics and offered bribes to entice people to accept vasectomy or tubectomy."

A main reason for the above mentioned image of family planning programme was that the quality dimension has been ignored in the family planning programme. In order to understand the different dimension of quality of care in Indian family planning

programme, we analyze the information given in the National Family Health Survey (NFHS 1998-99).

According to the data compiled by the NFHS-2, about 90 percent of currently married women in India know about the modern contraceptive methods. Even BIMARU(Bihar, Madhya Pradesh, Rajasthan, Uttar Pradesh) states, which are recognized as backward show a high knowledge of modern contraceptive methods among the currently married women (table 1.1). On the other hand figures about the contraceptive use (contraceptive prevalence rate) show a disappointing situation, which puts a question mark on the performance of the Indian family planning programme. Contraceptive prevalence rate is 42.8 percent in India in 1998-99 which reflects the performance of Indian family planning programme even after the fifty years. Contraceptive prevalence rate is below the national average in Rajasthan (40.3 percent), Madhya Pradesh (44.3 percent), Uttar Pradesh (28.1 percent), Bihar (24.5 percent), Orissa (46.8 percent) and all the North Eastern states except Sikkim (53.8 percent) and Mizoram (57.7 percent). South Indian states i.e. Andhra Pradesh (59.6 percent), Karnataka (58.3 percent), Kerala (63.7 percent), and Tamil Nadu (52.1 percent) show a relatively high contraceptive prevalence rate compared to national average. There is a big gap between knowledge of contraception and the adoption of contraception in all the states of India. Various studies have tried to explain this gap by taking into account background characteristics of the users and programme factors as well. It is found that quality of family planning services is an important determinant of contraceptive prevalence (Levine et al., 1992 and Ramarao, et al., 2003).

Table 1.2 shows that 87.0 percent ever married women in India did not get any home visit of family planning or health workers during the last 12 months. Except in the some states as West Bengal (82.0 percent), Andhra Pradesh (83.0 percent), Karnataka (83.0 percent), Goa (82.0 percent), Kerala (82.0 percent), Maharastra (76.6 percent), Tamil Nadu (74.0 percent), Gujarat (67.0 percent) and Mizoram (69.0 percent), the rest of the states are showing higher proportion of ever married women who are not visited by the family planning workers during the last 12 months. Several empirical studies have also supported NFHS data. For example, in rural Gujarat, two studies found that 96 percent and 73 percent of women interviewed reported not having received an outreach

visit by a female health worker in preceding six months (ICMR, 1988; Visaria, 1999). Studies of north Indian states have generally reported much lower level of outreach visits (Khan et al., 1999, Mishra et al., 1976). It is clear from the data (table 1.2) that BIMARU states are still not able to get sufficient attention of family planning workers.

Table 1.1 Knowledge and Use of Modern Contraceptive Methods among the currently married women in India.

States	Knowledge of modern contraceptive methods*	Current user of modern methods*
Andhra Pradesh	98.9	58.9
Arunanchal Pradesh	98.1	32.8
Assam	98.3	26.6
Bihar	99.2	22.4
Delhi	99.7	56.3
Goa	99.7	35.9
Gujarat	98.3	53.3
Haryana	99.8	53.2
Himachal Pradesh	100.0	60.8
Jammu& Kashmir	98.8	41.7
Karnataka	99.3	56.5
Kerala	99.7	56.1
Madhya Pradesh	97.8	42.6
Meghalaya	87.9	15.5
Maharastra	99.4	59.9
Manipur	94.9	25.9
Mizoram	97.8	57.1
Nagaland	87.5	24.2
Orissa	98.3	40.3
Punjab	100.0	53.8
Rajasthan	98.7	38.1
Sikkim	99.4	41.4
Tamilnadu	99.9	50.3
Utter Pradesh	98.3	22.0
West Bengal	99.4	47.3
India	98.9	42.8

* Percentage of currently married women.
Source: NFHS (1998-99) IIPS, Mumbai

Table 1.2 shows that Indian family planning programme could not remove the distance between clients and the family planning clinics by improving the out reach visitation rate of family planning workers.

Mean waiting time spent by the clients for treatment is also an important factor, which can affect the client's contraceptive behavior. It can be treated as the indicator for accessing the quality of family planning services. Table 1.2 shows average waiting time for treatment in family planning clinics, which is approximately half an hour in India. Some of the states show very minimal time like, Delhi (15 minutes), Himachal Pradesh (15 minutes), Punjab (15 minutes), Rajasthan (9.5 minutes), Gujarat (13 minutes) and Maharastra (15 minutes). On the other hand in rest of the states clients have to spend around 20 to 30 minutes for getting treatment. In Meghalaya people have to spend around one hour, which is too much for a person who does not have enough spare time. An empirical study of four states by Roy and Verma (1999) substantiate the above findings. He found in exit interviews with female patients at government clinics in four states that patients have to wait at least 15 to 20 minutes and some times more than one hour for getting the treatment. Another study by Levine, et al., (1992) stresses those economic constraints which underlie the concern about waiting time. A statement made by the client in family planning clinic is like that "We are sitting there (at the government clinic) and there our earning is being lost. If we have government job than it is o.k., we can sit there and the government will any way give up money. But we are working people; we have to think about our work and our earnings" Levine, et al., (1992):256. The statement reveal the fact that attending family planning services at government clinic is time taking process and every body is not in the position to bear it. Therefore, long waiting time is another constraint in the performance of family planning programme in India.

Hygienic condition and sanitary arrangements are the essential part of a health clinic, in the absence of which users would try to avoid family planning services utilization. Table 1.2 shows that only 67 percent ever married women are satisfied with the cleanness of service facility in India. In some states like, Delhi, Haryana, Punjab, Bihar, Gujarat, and Maharastra and in four south Indian states the situation is comparatively better than the rest of the states.

During the visit of family planning workers very less percentage of women discussed family planning matters with the workers. In India, only 14.5 percentage of women discussed family planning matters with the worker. Jammu and Kashmir (8.0 percent), Mizoram (7.0 percent) and Karnataka (6.4 percent) are extreme cases where below 10 percent women discussed the family planning matters. BIMARUO (Bihar, Madhya Pradesh, Rajasthan Uttar Pradesh and Orissa) states are showing about one fourth of the women who received at least one visit, are discussing family planning matters with family planning workers. Therefore it becomes clear that a very small proportion of women use government health and family planning clinics for consultation for family planning.

During the discussion with family planning workers often side effects are not clearly pointed out as well as other relevant information about the contraceptive are not given to the client. During the time of sterilization 78 percent women were not been told about the side effects of sterilization by family planning workers in India. BIMARUO states are worse in situation, about 85 to 90 percent women have not been told the possible side effects of sterilization during the time of operation.

This lack of information prevails not only in the case of sterilization but also in the time of acceptance of methods other than sterilization. Table 1.3 shows that 70 to 80 percent women who are using nonpermanent methods were also not told the potential possible side effects and even after this situation women are not getting follow up by the family planning workers. Data indicates that these family planning workers completely ignore the patients if he/ she are getting other contraceptive method than sterilization. It appears that around 60.0 percent women, who are using non permanent methods, are not getting follow up. At the state level Haryana (34.0 percent), Punjab (30.0 percent), West Bengal (13.0 percent) Gujarat (28.0 percent) and Kerala (26 percent) women who adopted nonpermanent methods are getting follow up by the family planning workers.

Therefore all these indicators of quality of care in family planning services reflect the poor quality services provision of Indian family planning programme. Universal knowledge, but low use of contraception, long waiting time, insufficient home visit, lack of information during the contraceptive acceptance, insufficient follow up put a question mark over the quality of care in Indian Family planning programme.

Table 1.2 Quality of Care Indicators by State.

States	Percent with no home visit*	Median waiting time**	Percentage who rated facility as very clean**	Percentage who discussed family planning during the visit***
Andhra Pradesh	82.6	29.4	68.2	14
Arunanchal Pradesh	98.3	29.2	19.1	20.9
Assam	96.3	29.7	50	11
Bihar	97.6	29.1	66.4	20.8
Delhi	98.8	14.9	62.2	23.1
Goa	82.4	29.3	79.6	17.9
Gujarat	66.3	13	90	14.2
Haryana	98.2	14.6	67.9	17.4
Himachal Pradesh	96.3	14.6	59.4	17.8
Jammu& Kashmir	99	29.4	56.8	8
Karnataka	82.8	29.4	70.2	6.4
Kerala	82	29.8	88.1	12.2
Madhya Pradesh	91.1	19.4	57.1	26.5
Meghalaya	94.9	59.3	78.5	23.3
Maharastra	76.6	14.9	83.2	10.2
Manipur	96.3	29.1	25.4	18.5
Mizoram	69	29.8	55.9	6.9
Nagaland	98.8	30	34	32.4
Orissa	91	19.2	46.8	12.2
Punjab	98.4	14.4	64.4	27.3
Rajasthan	88.2	9.5	39.3	22
Sikkim	95.6	29.4	38.1	33.9
Tamilnadu	74	29.7	79.4	15.2
Utter Pradesh	96.8	24.9	51.3	25.4
West Bengal	81.9	29.8	54.9	14.2
India	87	29.1	67.1	14.5

* Percentage of ever married women.

** Percentage of women who have visited facility in last 12 months.

*** Percentage of ever married women who received at least one visit.

Source: NFHS (1998-99) IIPS, Mumbai

Selection of the States:

In the selection of the states two things have been taken into consideration. First there is a north-south divide in terms of demographic performance in India. Dyson and Moore (1983) depicted it very clearly. They tried to explain it by developing a sociological model of different gender relations inherent in north and south Indian culture. With this consideration of north and south divide, in the present study two north Indian and two south Indian states have been analyzed.

Second, the present study has considered only those individuals who are using modern contraceptive methods. It does not mean that traditional contraceptive users do not require good quality of services. But it is true that quality of family planning services becomes more important when a client is using modern contraceptive method. Traditional contraceptives do not need effective intervention of family planning worker as in the case of modern methods. Proportion of modern contraceptive users has been taken into account in the process of selection of the states in the present study. As given in the table 1.1 in north India Himachal Pradesh has highest percentage of modern contraceptive users (60.8%), while Uttar Pradesh has the lowest percentage of modern contraceptive users (22.1%). In the same way in south India Tamil Nadu and Andhra Pradesh have highest (59.9%) and lowest (52.1%) percentage of modern contraceptive users respectively. Therefore it becomes logical to understand the relationship between background characteristics of the client and quality of family planning services in better performing and poor performing states from north and south India. That is, in our study we analyzed data for Himachal Pradesh and Uttar Pradesh in north India and for Andhra Pradesh and Tamil Nadu in south India.

Objectives of the Study:

The objectives of the study are:

1. To examine the factors that influence quality of care in family planning services in four Indian states of Himachal Pradesh, Uttar Pradesh, Andhra Pradesh, and Tamil Nadu.

2. To investigate differences in the factors influencing quality of care in family planning services in the states having higher modern contraceptive users as well as lower modern contraceptive users.

Table 1.3 Quality of Care Indicators for Contraceptive Users by State.

States	Percentage told about side effects with method**		Received follow up***	
	Sterilization	Other modern methods	Sterilization	Other modern methods
Andhra Pradesh	13.2	16.7	80.7	55.9
Arunanchal Pradesh	31	34.2	79.9	84.2
Assam	10.6	17.1	91.1	74.3
Bihar	15.8	16	78.3	65.5
Delhi	27.8	26.7	67.9	54.8
Goa	16.5	16.5	83	26.5
Gujarat	9.5	9.9	78.5	27.7
Haryana	61.9	40	99.8	33.7
Himachal Pradesh	35.8	23	97.8	25.2
Jammu& Kashmir	7.8	12.7	88.4	54.5
Karnataka	35.9	47.3	83.8	62.3
Kerala	9.2	14.9	91.1	26.3
Madhya Pradesh	11.3	18.8	82	44.7
Meghalaya	16.4	25.3	94.3	86.1
Maharastra	20.6	27.8	74.6	50.7
Manipur	41	47.4	63.8	36.5
Mizoram	47.6	49.8	73.8	61.1
Nagaland	18.5	15.9	58	45.6
Orissa	35.7	28.9	62.9	34.3
Punjab	55.6	30.9	99.4	29.6
Rajasthan	13.1	14.2	73.6	49.2
Sikkim	23.8	29.5	95.2	55.4
Tamilnadu	54.8	43.7	73.3	50.4
Utter Pradesh	15.5	11.3	54.3	41.4
West Bengal	10.1	9.9	38.8	12.6
India	21.9	20.6	74.6	39.9

** By a health and FP worker at the time of accepting the current method.

** After accepting the current method.

Source: NFHS (1998-99) IIPS, Mumbai

Organization of the chapters:

This dissertation is organized into five chapters. The next chapter reviews the earlier research done by various scholars on the different aspects of quality of care in family planning services. Based on literature survey, the third chapter develops a conceptual framework to analyze the influence of various socio-economic and demographic factors on quality of family planning services. On the basis of conceptual framework developed in third chapter, the fourth chapter analyzes quality of family planning services in the four states by using statistical techniques. The concluding chapter summaries the findings of the study and suggests policy implications to upgrade the quality of care in Indian family planning programme.

Literature Review

Chapter Two

Chapter II

Literature Review

The quality movement in family planning services is not very old. It became the pivot point of concern, especially in the developing countries, after the International Conference on Population and Development (ICPD) in Cairo in 1994, when this conference called for more attention to the quality of care in family planning services as well as client perspective to access the quality of care. Prior to this conference some attempt had been made to define the quality of care and its various components. In India the issues have become increasingly prominent because, despite more than five decades of efforts, the Indian family planning programme remains characterized by modest achievement and unfulfilled promise. Although recognizing that fertility behavior is shaped by a range of demand and supply factors; researchers, policy makers and observers have begun to agree that the programme itself its philosophy, priorities and implementation of services must be accorded a primary explanatory role for the limited success of the programme to date (Conley and Camp 1992, Measham and Heaver 1996).

Several recent studies have tried to evaluate the quality of care in family planning services in India as well as in other countries. In this chapter, an attempt has been made to put together the various studies and their findings. The chapter summaries various studies under the two sections, in the first section there are six heads, which have been recognized as essential dimensions of quality of care by Bruce (1990). In the second section, studies have been summarized according to the background characteristics of the client, which affect the quality of care in family planning services.

Pioneer scholars, in this aspect of family planning, Donabedian (1983) and Bruce (1990) recognized six major dimensions of quality in family planning services as *choice of methods, information given to the client ,technical competence ,interpersonal relationship, mechanism to encourage continuity (follow up services) ,appropriate constellation of services* . Basically these are the main elements by which one can access the quality of care in family planning programme. On the other hand some characteristics of the client also affect the quality status of the family planning services like, age of the women, place of residence, caste and religion of the women, working status, standard of

living, women exposure to mass media and inter spousal communication. Various studies have been summarized below according to the scheme mentioned above.

Section-I

Choice of Methods:

The central principle of family planning programme is that, clients should be able to choose contraceptive methods voluntarily from the full range of methods available. And the provision of the contraceptives should take place with the provision of full information about the contraceptive methods, because those women who wish to space their birth obviously need different methods from those who wish to stop bearing children altogether. Women who desire to have children in future would be clearly attracted to spacing methods rather than terminal methods. Similarly, choice of methods is necessary because every woman has her own needs corresponding to the socioeconomic profile; therefore it becomes necessary to scan women's history before offering her a method of contraception. Almost all studies in India have found that clients generally received limited information from providers in terms of alternative contraceptive methods.

A study conducted by Pettigrew (1992) in rural area of Punjab reveals that the mode of family planning (tubectomy) favored by the district authorities, is rejected and the prescribed method created havoc among the most of the village women. As a consequence the contraceptive prevalence rate is very low despite strong will to control the family size in rural India. In another study in Uttar Pradesh, Levine (1992) mentioned that the villagers' aspirations with the family planning workers is that they should provide range of contraceptive methods with accurate information about the advantages and disadvantages of alternative methods as well as they should offer effective methods having no complications.

In Maharashtra more than 60 percent of respondents in an interview reported that, they were not told about spacing methods during the visit of a nurse or midwife (Murthy, 1999). Another study (Ravindran, 1998) has found the same situation with option limited to female sterilization and, to a lesser extent, the IUD insertion. All women covered by the household survey knew of sterilization, both male and female. All have heard about the mini-laprotomy (tubectomy) and laparoscopic sterilization, however, this was the

only method known to most. Among 1307 married women covered by the survey, less than 5 percent knew about the IUD, only one knew about the pill. Knowledge of availability of abortion services was more widespread, 85 percent of women knew of medical termination of pregnancies available in the health facilities, while all knew either a traditional abortionist or trained nurses/midwives offering services outside the health facility

A study by Indian Council of Medical Research noted the emphasis on sterilization with lesser stress upon the IUDs, and nearly none on either oral contraceptives or condoms (ICMR, 1991). An earlier three states ICMR (1983) study, found over emphasis on tubectomy for their clients. Family planning workers placed little emphasis on IUDs, except in Kerala, where 30 percent of providers reported that they also emphasized this method. Some of the studies refuted the hypothesis that, this preponderance of IUD is due to the biasness of the providers. Studies conducted in Nigeria consistently find that, while oral contraceptives (OCs) are the most popular fertility control method on a national level, IUD is the method most frequently selected by women who obtain contraception from a family planning center. The possibility that this phenomenon reflects family planning provider bias in favor of the IUD was investigated in a survey of 2000 women seeking contraceptive services at the Family Planning Clinic of University College Hospital in Ibadan, Nigeria, in 1989-90 (Konie, et al., 1998). The mean age of acceptors was 31.5 years; mean parity was 4.4, and 63.2 percent of these women sought contraception to delay or postpone pregnancy. Clients were offered a choice of the standard range of barrier and hormonal methods as well as sterilization. The four most frequently selected methods were IUDs (66.2 percent), OCs (10.4 percent), injectables (7.9 percent), and sterilization (5.8 percent). IUDs were a popular choice among women who had not obtained their husbands' support for attending the center. Only 9.1percent of IUD acceptors did so, on the advice of family planning center staff. Information from the mass media (television and radio) and friends were most influential. Family planning workers provide most of the material on contraception for the mass media and many clients who are satisfied IUD users refer their friends to the clinic. Therefore it appears that not only provider's biasness but also some other factors determines the preponderance of the IUD as well as sterilization method.

In a study by Operation Research Group (ORG Report, 1989) in two districts of Tamil Nadu, found that in Salem district 87 percent of sterilization acceptors as against only 24 percent in Nilgiri had accepted sterilization method, because they do not want any more children. The main reasons for adopting this method were lack of awareness about the other contraceptive methods (Nilgiri 25 percent and Salem 29 percent), perceived adverse effects of pill and IUDs (Nilgiri 84 percent and Salem25 percent) and doubt about the reliability of other methods (Nilgiri 23 percent and Salem36 percent). A careful look at these figures clearly suggest that at the time of adoption of family planning methods a high percentage of couples, especially in rural Salem district, were either unaware of the other methods or had doubts about the reliability of the other modern methods. Even in future these people (72 percent in Nilgiri and 74 percent in Salem district) report they will use sterilization rather than other modern contraceptive methods.

Almost all studies have found domination of female sterilization; most of them clearly indicated that the male sterilization is a rarely offered as an option (Bhatia 1999, Roy and Verma 1999, Khan, et. al., 1999b). From the perspective of the providers, shortages and erratic supplies of temporary contraceptive methods often make it unrealistic to offer a wide choice of method to the client. In Uttar Pradesh, for example, IUDs were reported to be available normally at only 50 percent of the health centers visited, one third of such centers reported that oral contraceptives were not regularly supplied. (Khan, et al., 1999a). In the same study Khan reported that 68 percent of respondents who were visited by worker, insisted that they should adopt a specific method, and in 71percent of these cases, the methods they stressed were female sterilization.

A study conducted by Roy and Verma (1999) in four Indian states, reveal that clinic staff strongly emphasized sterilization, especially in south Indian states of Tamil Nadu and Karnataka, where 58 percent and 56 percent of respondents, respectively reported that, this method was always stressed. Interestingly, about half of the respondents in these two states reported that clinical staff also always recommended spacing methods of family planning; indicating that at least some efforts were made to provide choice to the client. With respected to the outreach visit, 21 percent in Karnataka

and 37 percent respondents in West Bengal reported that the nurse/midwife emphasized sterilization alone, slightly smaller but sufficient proportion of respondents reported that the nurse /midwife discussed both sterilization and spacing methods (Roy And Verma, 1999)

In a study in Madhya Pradesh (Singh, et al., 1988) researchers have found that female sterilization is stressed by health workers in comparison to the other contraceptive methods. Actually this overemphasis comes in response to intense government pressure for providers to achieve family planning targets. Another study (Barge and Chandra 1999) in the same state reveals that the ANMs concentrated on sterilization in the past because not only do they receive a direct cash reward for each acceptance but also because of constant pressure at the PHC level to achieve their targets.

Several studies reveal another fact that public sector providers have granted access to induced abortion on the condition that they have to undergo sterilization or they have to adopt a long term contraceptive method (Gupte et al., 1997; Ganatra et al., 1998; Khan et al., 1999b; Ravindran 1999). Women have to under go sterilization or IUD insertion immediately after the child birth without their knowledge or consent (Ravindran 1993 and 1999; Von hollen 1998). But it is very difficult to measure the extent of such type of practices because some women willingly adopt sterilization or IUD insertion after the childbirth. Therefore in Indian family planning programme, limited choice of method, exclusively to female sterilization and intrauterine device, makes it unpopular among the people. It seems to be a main hurdle in the success of Indian family planning programme.

Information given to the clients:

An important measure of the quality of family planning services is the provision of information to contraceptive users, about method choice, efficiency of the methods, potential side effects of various methods, information about the warning sign of serious health risk associated with methods and knowledge about, what to do if problem occurs. A common perception among clients is that family planning workers are not telling them all the facts. In Indonesia, for example, clients commonly believe that they could get truth about the side effects only from the friends and relatives and that, midwife would discuss only advantage of a method (Population Report, Indonesia, 1996).

Several studies tried to evaluate the family planning programme by taking into account the type of information given to the clients by the service providers and how much family planning users are aware about the methods that they are using. Evidence from the different studies suggest that the information given by the providers to the clients are not adequate, they are not properly told about the merits and demerits of different contraceptive methods as well as have not been told about the way by which they can tackle the problems if they face it during the use of contraception.

In the study in Uttar Pradesh, it is found that about three fourth of the respondents were informed about the advantage of methods, which they are using, and about 10 percent respondents were not told about the either merits or demerits of the method of contraceptives. For example, only 22 percent women were told about the tubectomy, its merits and demerits, while the advantage of methods were mentioned in 71 percent of the cases, and 10 percent of the women were not told about the merits and demits (Khan et al., 1999a). Similar shortcomings in information offered to the clients were observed in study from Orissa and Bihar (Khan et al., 1990 and 1994). In another study by Roy and Verma (1999) in four Indian states reveal that in two northern states Bihar and West Bengal, almost 60 percent of respondent women reported that ANM rarely discussed about the side effects of the contraceptive methods, while in southern states about 56 percent interviewed women reported that ANM always discussed about the side effects of the contraceptive methods. During the exit interviews in West Bengal and Tamil Nadu, 50 percent family planning acceptors reported that ANM discussed how to use methods and how the method works. The way of dealing with possible side effects were not told to the women except in Karnataka, where 78 percent of interviewed women were told about the way of dealing with side effects complications (Roy and Verma 1999). A focus group study reveals that clients frequently received limited information on side effects. Respondents believe that workers deliberately withheld such information so as not to discourage acceptance of methods (Levine et al 1992).This demerit of Indian family planning programme comes out not only during the clients' interaction, but also during the time of interview with the service providers (Roy and Verma 1999).

A study of nurse/midwife in Uttar Pradesh found that, although they were knowledgeable about different methods in terms of how they work and their side effects,

they conveyed little information to the clients, while clients were asked to return if they had problems, but potential problems were not described to them (Khan et al., 1999b). The extent to which information is provided to the clients in sterilization camps appears to be not better and possibly worse, than in other contexts. Studies in a wide range of settings documented the almost complete absence of preoperative and postoperative counseling (Ramachandran et al.1995; Mavalankar and Sharma 1999 and Ramachandran and Barge 1999). These studies suggest that a revolution in information about contraceptive methods, its function and potential side effects is needed. No doubt many of the contraceptive methods may have some side effects, but once the user is well informed about the way of tackling the complications, one can take enough precautions to avoid these side effects. But in the absence of the information, user may suffer with these complications and this experience will make the perception horrible towards the particular contraceptive method. Once such perception is setup in the mind of individual, it dose not take time to spread over whole community. A study conducted by ORG (Baroda group) in two districts of Tamil Nadu revealed that 31 percent respondents in Nilgiri district against 58 percent in Salem district were of the opinion that family planning methods have some disadvantages including harmful to health. The study (ORG, Baroda) got some typical response of the respondents on the disadvantages of the family planning methods as given below:

"None of the family planning methods are free from the problems, in case of tubectomy, after operation, women become fat and suffer from stomach pain. They also suffer from etching in the hands and legs. These difficulties generally start two months after the tubectomy operation. After three years sterilized women get more bleeding during their menstruation cycle. They will also suffer from breathing, while climbing up and down the hills. Pills will cause ulcer in the stomach, if pills are continued for a longer period. It may also cause high blood pressure, in case of loop; women will suffer from white discharge" (ORG Report, 1987:23). Lack of proper information and as a result no precautions during and after the acceptance of contraceptive device, makes the condition very critical, and generate negative perceptions about the family planning. These very perceptions are the major hindrances in the promotion of family planning attitude in India.

Interpersonal relations

Interaction that takes place in a clinic is an important element in the overall quality of care provided in a family planning programme. Clients want to be treated with respect and friendliness. Clients interpret courtesy, confidentiality, and privacy as signs, that providers are treating them as equal. For example, when a doctor apologized to a roomful of waiting women, for a delay and explained its cause, it reversed the clients' perception about the clinic. Interpersonal relation is the personal dimension of services. Several qualitative and quantitative studies have tried to access the nature of interpersonal dynamics of relation between service providers and clients.

A qualitative study (Ravindran 1999) in Tamil Nadu presents a horrible picture of client-provider relationship. Client have to face chilly words, even some times abusive language by the staff, nurses and doctor as well. The study reveals an open corruption prevailing among the family planning staff; they are not ready to even touch the patient without paying them money for that particular work.

Complaints are very frequent about the nurses and other helping staff. Doctors are not ready to listen to such complaints, have no time for women, and treated them as if they were ignorant and incapable of making decisions. It is clear that clients have to pay money for availing the services, which is supposed to be free. And even the compensation for the accepting sterilization is barely adequate even to meet the transportation cost, let alone the demand of staff (Ravindran 1999). In another study by Roy and Verma (1999) in the four Indian states, when the questions were asked about the behavior of the staff and privacy of the clients during the health clinic visit, they found mix of responses from the clients. In Tamil Nadu and Karnataka, 60 to 80 percent women reported cordial behavior of staff and got enough privacy during the visit. In Bihar and West Bengal, however, approval rating was lower and dissatisfaction was greater. Only about one half women in Bihar and 59 percent women in West Bengal stated that doctor and staff was always cordial; between12 and 19 percent women believed the staff was rarely cordial, rarely provided adequate privacy.

A similar picture emerges in a separate study (Khan et. al., 1994) in Bihar, in which a majority of women respondents expressed negative views about their experience with government out reach workers on a range of subjects (dependability, sympathy for

clients need and responsiveness to question). A minority of respondents rated providers favorably on these topics. In a study in rural Maharashtra (Murthy 1999), respondents expressed satisfaction whether providers and staff were attentive, and whether respondent's questions were answered satisfactorily. Though private services received consistently higher rating than public sector services on each of these dimensions.

Studies which evaluated family planning services within sterilization camp, supported the fact that clients are treated with minimal respect or sympathy. Clients do not get adequate privacy and nurses and doctors are found to be intolerant of the complaints from sterilization patients and respond to them impatiently and harshly (Ramachandran and Barge 1999; Ramanathan et al., 1995 and Mavalankar and Sharma 1999).

Mechanism to encourage continuity:

Clients follow up presents an important component of high quality services, especially when method complications and associated reproductive morbidity is high in developing countries including India. Most studies in India pointed out absence of clients follow up and depicted it as a major cause of failure of Indian family planning programme. NFHS (IIPS, 1995) found that only 15 percent of IUD and oral contraceptive users, and 30 percent of sterilization acceptors, reported having received home follow up visit from health workers after acceptance. In a case study by Ramanathan (1995) in kerala it is found that only seven out of twenty two cases observed at PHC were given a fixed time for revisiting the centre. An ICMR (1982-83) three states study has found that among women experiencing problems after going through sterilization, only a minority (30 percent to 40 percent) reported receiving follow up visits from government staff to assist in solving the problems (ICMR 1986). These levels of follow up are similar to those reported on a separate study conducted in Uttar Pradesh and Gujarat (Khan and Gupta, 1998). Similar low levels of follow up ranging from 11 percent in Bihar to a high of 34 percent in Kerala were found in a subsequent study by ICMR (1988). In a study in Gujarat by Shariff and Visaria (1991), great dissatisfaction was observed due to lake of follow up services, and demand for money whenever they visit the clients after the adoption of contraceptive method. Another study observed that villages not connected

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with the main roads are badly affected and hence do not provide sufficient follow up services (Verma and Roy 1999; Dharmaligam 1995; ICMR 1991; Pettigrew 1984).

Technical competence:

Technical competence of a family planning worker represents adequate knowledge about the family planning methods excellent skill to understand the needs and psychology of the client. This element of quality of services also indicates provider's complete and accurate knowledge of methods, procedures and reproductive health care as well as acceptable clinical practice of family planning and reproductive health services delivery. Verma and Roy (1999) found nurse/midwives knowledge of family planning and service delivery vary considerably. A relatively high proportion had accurate knowledge of maximum gestation period at which a client can safely obtain an induced abortion (more than 93 percent in Karnataka and Tamil Nadu and more than 70 percent in West Bengal). Knowledge of basic procedure, such as tubectomy was lower, and the proportion of workers who knew when the fertile period occurs during the menstruation cycle was even lower, ranging from 89 percent of workers in West Bengal to 56 percent in Bihar to 86 percent in Tamil Nadu. In Gujarat, Visaria (1999) found the prevalence of inaccurate information among a substantial proportion of nurse/midwives. The inadequate knowledge among service providers shows less technical competence.

Appropriate constellation of the services:

An appropriate constellation of family welfare services include the availability of doctors and medicine, equipment, and supplies; convenient clinic hours and reasonable waiting time of seeing medical or paramedical staff; accessible location of services; and adequate facilities. An in depth study of PHC in Madhya Pradesh revealed that generally only one out of four doctors assigned to the centre was on duty, and that on average, this physician spent only two out of a mandated five hours providing services (Singh and Kumar, 1988). Studies conducted in Kerala and Madhya Pradesh found that only half of the primary health centers observed had an in house physician (Ramanathan1995; Murthy 1999). A four states IIPS study underscores doctor's presence varies greatly by state. In Bihar, only 30 percent of respondents reported that a doctor is available in a government facility when needed, whereas roughly two thirds of the respondents reported physicians'

availability in Karnataka and Tamil Nadu (Roy and Verma 1999). Working hours of the clinic is also a reason for great dissatisfaction (Levine et al, 1992).

Section-II

Socio-economic and Demographic Variables:

One of the more revolutionary innovations of the modern world has been the development of safe, reliable and effective means of contraceptives. The very fact that human control over the reproductive process is increasingly encouraged indicates that birth planning is not an alien concept to many populations. Several crucial factors influence the degree to which contraceptive regulation is prevalent in any given area. Knowledge, availability, quality of service and use of family planning methods are major components of a behavioral process by which fertility reduction may be effected. Therefore it is an established fact that quality of service influences the performance of family planning operation. Secondly, quality of service is not absolute in itself; it is also affected by the socio-economic and cultural characteristics of the users. Therefore in the second section of the present chapter, some literature has been reviewed to support the study.

Caste, religion, age of the women, exposure to mass media ,working status of the women, standard of living, place of residence, educational level of the women, inter-spousal communication are the background characteristics which influenced the quality of care and are being included in the present study.

Caste:

Indian society has a very rigid caste system. Caste system is a predetermined social hierarchy. This social hierarchy is firm enough to be a hindrance in the performance of family planning programme, especially in rural areas where population is still very conventional and bears the thinking of caste, untouchablity, ignorance and rigidity against the innovation.

An ANM is the main functionary in the rural areas as she represents sub health centre and covers rural population for delivery of mother and family planning services. Caste system comes across as obstacle when high caste ANM does not want to visit scheduled caste population as well as a scheduled caste ANM is not acceptable to higher

caste community for family planning assistance. Such findings have been found in a base line survey sponsored by Family Planning Association of India, in the Tonk district of Rajasthan (CORT, 1997). In such situations mechanism to encourage continuity and interpersonal relationship with the service provider collapse, which are the major component for the good quality of care. Another study by R.S Goyal (1993) support the fact that scheduled caste community is been ignored by the health guide in the process of service provision. Negative responses for several questions to SC community leaders during the study proved that family planning machinery is biased in their jobs of service provision for the different social strata of the society (Goyal, 1993). This biasness towards the particular community may lead to lack of information about family planning methods as well as may affect the method choice of the clients.

Religion:

Religion is an important social characteristic, which influences demographic behavior. The value system of a religion influences the attitude towards family size and its composition as well as use of contraception. Religion does not seem to be effective to all elements of quality of care except one, which is choice of methods. The higher adoption of contraceptive among Hindus than Muslims is well documented in a number of studies (IIPS, 1995; Jolly 1978; Kanitikar and Murthy 1983: Sharif 1995). These studies also mentioned the religious prohibition on the use of contraceptive in case of Muslims and Catholic Christians. A study (Ramesh et. al., 1996) on the NFHS-1 found that Muslims are generally inclined towards the traditional methods compared to Hindus, and among the modern contraceptive methods only pills and condoms are preferred, while Hindus prefer female sterilization among the modern contraceptives.

Age:

Age is an important demographic variable which affects the choice of contraceptive method, need of information about the family planning methods, frequency of follow up visits. Young women generally use non terminal methods while older women use terminal methods. With increasing age needs of the contraceptive change. Since there is good range of spacing methods so younger women need more information and options compared to older women, so that they can choose a method according to their need and convenience.

Place of residence:

Place of residence is an important variable which influences the quality of service. It becomes more important for India, when 70 percent of Indian population is rural and distinct from urban population in terms of their socio-economic characteristics. These characteristics as well as persistence of lack of infrastructure and equipments in rural health facilities come across as hurdle in the provision of good quality services. Studies conducted in Kerala and Maharashtra found that only half of PHCs observed had an in house physician (Ramachandran 1995; Murthy 1999). Another study suggested that programme staff make selective decisions about providing contraceptive choice and information.Visaria and Visaria (1992),in their study in Gujarat ,found that " it almost appears as through family planning planners decided in advanced what is best for individual couples"(p.129). These choices may be affected by location and socio-economic characteristics of the clients. The study by Murthy (1999) in rural Maharashtra, for example, reveals that women living in remote areas as well as less educated women are significantly less likely than others to have been informed about spacing methods and side effects of contraceptives. Not only choice and information to the clients is affected by the location of residence, but also follow up visits by the family planning workers to the client's house. A study in Uttar Pradesh by Blaikie (1995) and another study by Murthy (1999) in rural Maharashtra found that there is a greater tendency for workers to visit communities and households that were connected to the main roads. It is noteworthy here that in India, a large number of villages are not connected with the main roads. Murthy (1999) analyzed in their study that coverage of antenatal and family planning services received by women living in remote villages remained significantly lower even after controlling the education. In an earlier study in Uttar Pradesh by Rao (1977)found that due to lack of staff and heavy pressure on limited staff neither interpersonal relations are cordial nor staff is able to spend enough time with the clients.

So in rural India, all the elements of quality of care are influenced badly, resulting in poor quality of services and poor performance of Indian family planning programmes.

Educational level:

Several studies have found that educational level of the women also determines the quality of family planning services. Murthy (1999) found in her study that illiterate

women are less likely to visit by FP worker, likely to spend less time with service provider as well as less likely to discuss about the side effects and alternative spacing contraceptive methods than literate women. It becomes worse when illiterate women get only one good source (FP worker) for getting information about the contraceptive and their merits and demerits. A study found that although providers were knowledgeable about the different methods in terms of how they work and their side effects, but they conveyed little information to their clients, because they think that illiterate women can not understand the technicality of the method (Khan et al., 1999b). Not only this, poor and illiterate women often face harsh and derogatory treatment, when seeking family planning services within public sector clinics (Gupta 1993; Natraj 1994; Ganatra et al.,1998 and Levine et al.,1992).

Standard of living:

The standard of living of the household is a good indicator of the economic condition of the respondent. Women with a high standard of living recorded higher use of contraceptives and lower unmet need as they are motivated to control their fertility and have better information and access to services, while women with low standard of living can access only public sectors' family planning services. Murthy (1999) found that poor women are less likely to get a visit of family planning worker and less likely to discuss spacing methods and their side effects than women with higher standard of living. The Indian government initiated economic incentives to promote permanent contraceptive use. This initiation influenced the poor women and made their choice limited to the sterilization and IUD insertion. Target approach in family planning also affected the poor, because they were the easily accessible clients for predetermined contraceptive provision and may be helpful in completing the target put by the government authorities (Saraswati, et al., 1988). Women with low standard of living are generally less informed about the methods and ill-treated by family planning workers as well as they often are compelled to follow the decision of family planning worker rather than their own decision (Gupta 1998; Natraj 1994; Ganatra et al., 1998).

Working status:

A woman who is working is considered to enjoy a better status in her society than non-working woman. Along with economic independence, she will have better exposure

and contacts outside her household resulting in her being able to gather information about contraceptives from a variety of sources. Work also increases women's motivation to control fertility and increase the opportunity cost of getting pregnant and having unplanned children. No study describes how working status of women may directly affect the elements of quality of services, but working woman can be expected to enjoy better quality of services than not working women.

Exposure to mass media:

Rutherford and Mishra (1997) have found that media exposure of the women increases the tendency to use contraception significantly. Based on the NFHS (1992-93), they found that contraceptive use increases by 16 percent points when women have a general media exposure. There is lack of evidences to show the impact of media exposure of the clients on the quality of services. On the basis of available literature (Shariff, 1995; Ramesh, et al., 1996; Jolly, 1978) it can be said only that women with exposure to media have good information about the contraceptive, as well as higher tendency of using contraception.

Spousal communication:

Spousal communication is an important variable which influences the contraceptive use among the couples (Bhusan 1977; Salway 1994; Rao et al., 1995; Mc Couley 1994). Literature does not clearly indicate direct relationship between spousal communication and quality of family planning services. An analysis by Bamikale, (2000) found that spousal communication and place of residence (Rural/Urban) are related as well as related with education level of the client and working status of women.

The above review of literature shows that there are different elements of quality of care that can be influenced by background characteristics of women. In the next chapter, based on the review of literature a conceptual framework for the analyzing the quality of care in family planning services is developed. This conceptual framework forms the basis for the multivariate analysis in chapter IV. The next chapter also presents the methodology that has been used for analyzing quality of care.

A Conceptual Framework for Analysis of quality of care in family planning services

Chapter three

Chapter III

A Conceptual Framework for Analysing Quality of Family Planning Services

In this chapter we have developed a conceptual framework, on the basis of which statistical analyses will be carried out. The literature review provides enough information for developing a conceptual framework, especially the work of Bruce (1990). Bruce identified six basic elements of the quality of care, and these elements are easily assessable by using appropriate variables for each element of the quality of service. Figure 3.1 shows the conceptual framework used in the analysis of quality of services. There are two sets of variables. The first set of variables is service variables. These service variables are the six major dimensions of the quality of care, identified by the Bruce in her framework for quality of care. These six dimensions are: choice of the method, information to the client, interpersonal relation between the client and service provider, mechanism to encourage continuity, appropriate constellation of the services and technical competence. Quality of the family planning services can be measured by assessing the performance of these six dimensions at the time of provision of FP services in the clinic or out side of the clinic.

The second set of variables is the background characteristics of the client of family planning services. In the present study these variables are denoted as the predictor variables. This set of variables is again categorized into four categories as demographic variables, social variables, economic variables and other variables. Demographic variables are age of the women, place of residence, and educational level of the women. Social variables are religion of the woman, caste of the woman. Economic variables include working status of the women and standard of living of the household which the woman belongs to and other variables are exposure to mass media and spousal communication.

These four sets of independent variables influence the quality of family planning services through service variables. The nature of the relationship between the service variables

Figure 3.1 A conceptual framework for analysis of Quality of Care.

BACKGROUND VARIABLES   **SERVICE VARIABLES**   **DEPENDENT VARIABLE**

DEMOGRAPHIC VARIABLES

➢ AGE OF WOMAN
➢ PLACE OF RESIDENCE
➢ EDUCATION

SOCIAL VARIABLES

➢ RELIGION
➢ CASTE

ECONOMIC VARIABLES

➢ WORKING STATUS
➢ STANDARD OF LIVING

OTHER VARIABLES

➢ EXPOSURE TO MASS MEDIA
➢ INTERSPOUSAL
   COMMUNICATION

➢ CHOICE OF
   CONTRACEPTIVE METHOD

➢ INFORMATION TO CLIENTS

➢ INTERPERSONAL
   RELATIONSHIP

➢ MECHANISM TO
   ENCOURAGE CONTINUITY

➢ TECHNICAL COMPETENCE

➢ APPROPRIATE
   CONSTELLATION OF
   SERVICES

**QUALITY
OF
FAMILY
PLANNING
SERVICES**

and predictor variables is described below. This will be helpful in formulation of hypotheses for the study.

Demographic Variables:

Age of the Woman:

Though there is lack of literature on this matter, but it is clear that age of the woman affects her choice and need of contraceptive method. Younger women generally intended to use spacing methods. Younger women should know about the merits and demerits of all the spacing methods, so that they can choose the appropriate method according to their needs. Though older women may also use spacing methods instead of going for terminal method, but comparatively, it seems that older women prefer terminal methods than the younger women. Secondly, as mentioned in the literature review knowledge about the contraception is less among the younger women than older women. Therefore the age of the woman may have some influence over the quality of family planning services.

Place of Residence:

As seen in the second chapter, place of residence determines the provision of information to the woman, interpersonal relationship with the client and follow up visits (Visaria and Visaria, 1992; Ramachandran, 1995; Murthy, 1999). It is a well established that rural women are given insufficient information, limited choice and do not have good interpersonal relations with the service providers. This may be because of unskilled and insufficient staff at rural PHC, which has neither sufficient knowledge about the methods nor capability to bear extra work pressure. Some of the studies supported this fact that, rural family planning clinic neither have sufficient physical infrastructure and equipments nor manual infrastructure to tackle the large population in rural areas (Roy and Verma, 1999; Visaria, 1999). Therefore, urban women are enjoying better quality of care than the rural women.

Educational level:

An educated woman enjoys better status in society and also in her family. Female schooling is considered as one of the key determinants of her autonomy in reproductive decisions. Improved social status from education increases the women's ability to

communicate about reproductive matters and participate in reproductive decisions. When a woman enjoys better status then she is more able to bring up and discuss family planning and sexual relation with her partner.

More educated women are better informed and more able to gather information from newspapers and other media and are usually more expressive. As suggested in literature review a less educate woman usually do not get proper information about merits and demerits of the methods, do not receive sufficient follow up after adopting method, and often face insensitive and derogatory treatment when seeking family planning services. Therefore, educational status of the women determines whether a woman gets good quality of care or not.

Social Variables:

Religion:

Religion and its relationship with the quality of care is unclear. We have not come across any literature about such relationship. But in the subject of population, religion does play an important role and differences in religion between the client and provider can determine the quality of care in family planning services. Secondly as mentioned in the literature socio-economic and demographic profile is substantially different across the religions and these differences make religion important to determine the quality of care in family planning. It will be interesting to see whether religion of the woman affects the quality of care in family planning services or not.

Caste/Tribe:

In the socio-economic hierarchy, the scheduled castes and scheduled tribes are found to be the most disadvantaged section of the society. They are mostly settled in rural and other inaccessible areas. Landless and exclusive dependence on daily wage labour are characteristics of the scheduled caste and scheduled tribe population. These factors result in lesser knowledge about contraceptive methods, lower motivation to control fertility and lesser access to family planning services. Apart from this as shown in chapter two that scheduled caste and scheduled tribe people have been ignored in the distribution of family planning services by health guide or family planning workers. This lower

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section of the society suffers from poor quality of family planning services compared to those who belong from high caste community.

Economic Variables:

Working Status:

A woman working out side the home can be considered as having better status in her society, having better touch with out side world and comparatively better informed with family planning methods. In such cases it is quite expected that women will understand family planning methods and will evaluate the method according to her needs and then only she will adopt the method. Working status of the woman can affect the different elements of the quality of services.

Standard of Living:

Standard of living is an important indicator which affects the acceptance of contraceptive method. Standard of living also determines the source of receiving of family planning services. Various studies indicate that women with low standard of living are generally adopting sterilization and IUD insertion, because these methods give them some economic incentives. Women with low standard of living, generally get fewer follow up visits. Therefore, standard of living of a woman may affect the provision of quality family planning services in the clinic or in the home.

Other Variables:

Exposure to mass media:

Exposure to mass media, particularly to family planning messages, has a favorable effect on the knowledge of contraceptive. Certainly a woman, who has enough knowledge of contraception, would be capable to discuss about the different methods and can select the method according to her need. She would not be in the group of women who accept the family planning worker's choice to control her fertility without going through the necessary discussion about the method. Choice of method and information about the methods may be affected by the exposure status of women to the media.

Inter spousal communication:

Spousal communication is an important factor which affects the family planning decisions. Communication enables husband and wives to know each other's attitude towards the family planning and contraceptive use. It allows them to voice their concerns about reproductive health issues, such as the number of children they would like to have, their timing, contraceptive use etc. Though it appears that spousal communication does not play a direct role in determination of quality of family planning services, but as the literature review described that there is a good association between the spousal communication and adoption of contraception (Bhusan, 1997). Therefore it becomes necessary to see whether quality of care varies with the presence or absence of spousal communication or not.

Hypotheses:

Based on the relationship between the variables explained above, the following hypotheses have been framed which will be empirically tested.

1. Family planning workers are more inclined to provide quality services to younger women than the older women.

2. Clients from rural areas are not provided quality services in comparison to the clients from urban areas.

3. Higher educated women receive relatively good quality services than the illiterate women. In case of educated women information exchange between the client and provider is better and family planning workers are more sensitive about the need of an educated woman than an illiterate woman.

4. Women who work away from the house are more privileged in terms of obtaining information about alternative method and side effects of the method than the not working women.

5. Women exposed to mass media receive relatively better quality services than women not exposed to mass media. Especially information aspect of quality of service is better for the exposed women than not exposed women.

6. Information aspect of the quality of service is better for the women who communicate with their partner than the women having no communication with their partner.

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Data Base:

The data used in the present study are obtained from the National Family Health Survey (NFHS-2)1998-1999, which was conducted by the International Institute of Population Sciences, Mumbai. The principle objective of NFHS-2 is to provide state and national estimates of fertility, the practice of family planning, infant and child mortality, maternal and child health, utilization of health services provided to mothers and children, quality of health and family welfare services, women's reproductive health problem and domestic violence and includes information on the status of the women, education and the standard of living. It also gives measurement of the nutritional status of the women. The NFHS-2 survey covered the representative sample of 90303 eligible women age 15 to 49 from 25 states (including Delhi) that comprises more than 99 percent of India's population. The data collection was carried out in two phases, starting in November 1998 and March 1999. In this study, information was used from the section of women's questionnaire-respondents background, health and immunization and status of women. The considered states in the study are Himachal Pradesh, Uttar Pradesh, Andhra Pradesh and Tamil Nadu. In the present study only those women have been taken into accounts that are using modern contraceptive methods.

Definition of the Service Variables:

Choice of the method:

Choice of method simply means provision of a good range of methods. So that a woman can choose the method according to her need, which is determined by the age, intention of use, lactation status and health profile of the women. Over the years researches has supported the proposition that providing a choice of method is important, because individual or a couple pass through different stages in their reproductive life cycle, and their needs and values change with the time. They may delay child bearing, space pregnancies, and finally terminate child bearing. Therefore it is essential to provide sufficient alternatives of fertility control for eligible couples.

Information to the client:

Information about the method is necessary so that a client can choose and use the method with satisfaction and technical competence. Some basic information on how method works, how to use it, what are the potential side effects of it, and how to tackle these side effects, is helpful to the client. Information to the client is affected by the background characteristics of the client as discussed above.

Interpersonal relationship:

Interpersonal relationship is also an important dimension of the quality services. Good interpersonal relationship may sustain the continuity of the client, while bad interpersonal relationship may break the continuity of the client. These relationships are strongly influenced by the programme mission and ideology, management style, resource allocation, the ratio of worker to client and supervisory structure. On the other side these relations also vary with the client's background characteristics. The literature also supports the fact that rural and low standard of living women are being treated harshly by the family planning worker. Therefore it is necessary to see interpersonal relation between FP workers and women with reference to their background characteristics.

Mechanism to Encourage continuity:

Contraceptive methods may create some complications during their use and to remove these complications and to develop the confidence of the client it is essential to ensure a fearless atmosphere for the client. It can be done only by making regular follow up visits to the clients. Frequency of the follow up visits is influenced by the programme factors as well as by the factors related to the clients. Poor infrastructure, inadequate staff, and several other programme factors may affect the follow up visits. As we have seen in the second chapter the frequency of the follow up visits vary with the various background characteristics of the client. Therefore it becomes essential to see the variation in follow up visits with the background characteristics of the client.

Appropriate Constellation of the Services:

An appropriate constellation of family welfare services includes the availability of doctors and medicine, equipment, and supplies, convenient clinic hours and reasonable waiting time of seeing medical or paramedical staff, accessible location of services, and adequate facilities.

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Technical Competence of the Services:

Technical competence of a family planning clinic means efficient infrastructure and adequate physical and manual resources in the clinic, so that the provision of services can run smoothly. This element of quality of services also indicates provider's complete and accurate knowledge of methods, procedures and reproductive health care as well as acceptable clinical practice of family planning and reproductive health services delivery.

Measurement of the Service Variables:

Since the information about the service variables is not available directly from the NFHS-2 database. We have used some variables, which are proxy to service variables. In present study these proxy variables are used as dependent variable or response variable.

Table 3.1 List of service variables and their corresponding variables available in NFHS.

Service variable	NFHS variable
➤ Choice of contraceptive method	• Method discussed with alternative
➤ Information to the client	• Discussed family planning during the contact with FP worker • Told about the side effects
➤ Interpersonal relation	• Talked nicely during the contact
➤ Mechanism to encourage continuity	• Follow up services for the current method
➤ Appropriate constellation of the services	• Quality of care
➤ Technical competence	• No variable

For the services variables we are interested in the study (table 3.1). We have selected some variables as close as possible to represent the service variables that have been discussed above.

In the study, for the assessment of choice of contraceptive method, a new variable *Method discussed with alternative* has been used. Categories for this variable have been given in the table 3.2. In the survey a question has been asked to current contraceptive users that 'what methods have you have discussed for regulating your fertility during the contact with health worker in the family planning clinic or any where in last two months or ever before?' In response to this question there are many women who mentioned more than one method for their pregnancy control. So it is considered in the present study that, if a woman discusses more than one method with the family planning worker, this indicates woman has information about the choice of method.

For the assessment of second quality dimension, two variables are used to assess whether women get information about the family planning by the health worker or not. The first variable indicates that family planning worker is discussing family planning issues or not with the women. Information of the issues discussed during the contact with the health worker is available in both situations i.e. during the visit of women to the clinic as well as during the visit of FP worker to the women's home. In this study both the situations have been clubbed together and the present variable has been derived as 'are family planning worker discussing family planning issues with the woman during the home or clinic visit'. The variable indicates that information about the side effects of the current method is given to women or not. Respective categories used in the study for these two variables are given in the table 3.2.

For the third quality dimension of the family planning services, we have chosen *Talked nicely during the contact with family planning worker* as a variable in the study. It indicates that clients (women) have been talked to nicely or not in family planning clinic or at the home by the family planning worker. Categories used for this variable are given in the table 3.2.

For the fourth quality dimension we have chosen *Received follow up visit for current method* as a variable. The variable indicates whether women are getting follow up

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visits for current method or not. Here follow up visits include home visit by the worker as well as clinic visit by the woman. Table 3.2 shows the categories used for this variable.

In present study, a variable *Quality of care during the operation* (sterilization or IUD insertion) has been taken as a parameter for the appropriateness of the services. This variable is used to represent the totality of service provided. This variable has some limitations. The question on quality of care has been asked to only those who had sterilization or IUD insertion, but the over all quality of care in our study refers to all the women who are using any modern contraceptive methods. Unfortunately due to data limitation this information is not available for women who are not using sterilization or IUD. So we use it as a proxy variable for the appropriateness of the family planning services. Actually this variable tells that how was the quality of care during the sterilization operation or during the IUD insertion in the clinic.

In case of last dimension of quality of care in family planning services technical competence, we are not able to consider it in present study; The reason is that there is no appropriate variable available in the data source which can assess the technical competence of the family planning services. Therefore this variable has been excluded in present study.

3.6 Methodology:

The study uses the following statistical techniques to empirically analyze the relationship between the predictor and response variables.

First, the Karl Pearson bivariate correlation analysis has been carried out among the predictor variables to understand the nature of relationship between them. The Karl Pearson coefficient of correlation '□' between two variable x and y calculated as:

$$\rho_{X,Y} = \frac{\sum X \cdot Y - \frac{\sum X \cdot \sum Y}{N}}{\sqrt{\left\{ \left[N \sum X^2 - \left(\frac{\sum X}{N} \right)^2 \right] \right\} \cdot \left\{ N \sum Y^2 - \left(\frac{\sum Y}{N} \right)^2 \right\}}}$$

The value of '□' ranges between -1 and+1. The value of 1 indicates perfect correlation between the two variables-so that nearer the absolute value is to 1, the stronger the relationship. The sign of the coefficient r indicates the direction of the relationship.

Table 3.2 shows the list and coding scheme of response and predictor variables selected for the study.

Variable	Code	Categories
Response variable/quality variable 1. Method discussed with alternative 2. Discussed family planning during the contact 3. Told about the side effects 4. Talked nicely during the contact 5. Follow up services for the current method 6. Quality of care	0 1 0 1 0 1 0 1 0 1 0 1	No Yes No Yes No Yes No Yes No Yes No Yes
Predictor variable		
Demographic variable		
Age of the women	0 1 2	15-29 30-39 40+
Place of residence	0 1	Rural Urban
Level of education	0 1 2	Illiterate Middle school complete High school complete and above
Social variable		
Religion	0 1 2	Hindu Muslim Others[1]
Caste	0 1	SC and ST Others[2]
Economic variable		
Work status	0 1	Not working Working
Standard of living[3]	0 1 2	Low Moderate High
Other variable		
Exposure to mass media	0 1	Not exposed to any media Exposed to any media
Inter-spousal communication	0 1	Not discussed Discussed

[1] Others include Sikhs, Christian, Buddhists / neo Buddhists and others.
[2] Others include other backward classes and others.
[3] Adopted from Roy and Jayachandran, 1995.

A multivariate logistic regression analysis has been used to examine the relationship between each of the predictor variables and the response variable. This is done since the response variable is dichotomous and not normally distributed. In a logistic regression analysis, the relationship between the response variable and the predictor variable is better understood, as the influences of other variable are controlled. The linear probability model has not been used in this situation due to the following limitations;

1. The estimated probability van assumes impossible values.

2. The linearity assumptions is seriously violated, according to which, the expected value of the dependent variable (Y) at any given value of predictor variables (X) falls on the regression line. But this is not possible for parts of the line for which P<0 or P>1.in these regions, the observed points re either above the line or all below the line.

3. The homoscedasticity assumption is seriously violated .the variance of the dependent variable (Y) tends to be much higher in the middle range of the predictor variable (X) than at the two extremes, where the values of Y are either mostly zeros or mostly ones. In such a situation the equal variance assumption is untenable.

4. Since linearity and homoscedasticity assumptions are seriously violated, the usual procedures for hypothesis testing are invalid.

5. The fit of the line (R^2) to be very poor, for the set of two values of the dependent variable (Y) tend not to cluster closely about the regression line.

In a logit regression model, a sigmoid curve is used to fit the observed point . Since the tails of the sigmoid curve level off before reaching P=0 or P=1, the impossible values of P (P<0 and P>1) observed in a probit model are avoided .The basic form of logistic function is

$$P = \frac{1}{1 + e^{-z}} \qquad (1)$$

Where, P is the estimated probability, z is the predictor variable and e is the base of natural logarithm (e=2.7183). The predictor variable has the largest effect on P when P =0.5 and P becomes smaller in absolute magnitude as P approaches 0 or 1.

The quantity $\dfrac{P}{1-P}$ is called the odds and the quantity $\log\left[\dfrac{P}{1-P}\right]$ is called the

Logit of P. Simplifying equation (1) we get

$$\log z = \frac{P}{1-P} \qquad (2)$$

$$\text{or logit P} = z \qquad (3)$$

The multivariate logistic function involving K predictor variable $(X_1, X_2, X_3 \ldots\ldots X_k)$ is given by

$$P = \frac{1}{1 + e^{-(b_0 + b_1 X_1 + b_2 X_2 + \ldots + b_k X_k)}} \qquad (4)$$

$$\text{and logit P} = b_0 + b_1 x_1 + b_2 x_2 + \ldots\ldots\ldots + b_k x_k \qquad (5)$$

The coefficient B1 represents the additive effect of 1 unit change in predictor variable x1 on the log odds of the dependent variable

The quantity e^{bi} is called the odds-ratio that represents the multiplicative effect on one unity change in the predictor variable X_i on the odds of child health care. The odds ratio is more readily understandable than 'b' as a measure of effect.

On the basis of above mentioned conceptual framework and the methodology the results of statistical analysis have been presented to understand the influence of socio-economic and demographic factors on quality of family planning services in next chapter.

Socio-Economic and Demographic Factors Influencing the Quality of Care in Family Planning Services in India: A Comparative Study of Himachal Pradesh, Uttar Pradesh, Andhra Pradesh and Tamil Nadu

Chapter Four

Chapter IV

Socio-Economic and Demographic Factors Influencing the Quality of Care in Family Planning Services in India: A Comparative Study of Himachal Pradesh, Uttar Pradesh, Andhra Pradesh and Tamil Nadu

In this chapter, the influence of various socio-economic and demographic factors on the quality of care has been examined. The study has included four Indian states as discussed in the first chapter. In this chapter a systematic comparative analysis has been presented. Firstly, univariate analysis of the distribution of service variables (response variable) has been given for the four Indian states, so that it can present a broad idea about the status of quality of care in family planning services. It is followed by bivariate analysis for the response and predictor variables. Then correlation between the response and predictor variables is worked out. Finally, logistic regression analysis has been presented to understand the influence of each predictor variable on response variables.

4.1 Distributions of the quality of care indicators according to the states:

Table 4.1 shows that in all the states except Himachal Pradesh less than 20 percent of the women have discussed about the alternative methods during the acceptance of current method. Here it is supposed that if a woman is discussing about the alternative method, that means she has a choice in contraceptive methods. Uttar Pradesh is most backward in terms of provision of choice of methods: only 11.3 percent women have choice of contraceptive.

The second variable relates to the discussion issues with the FP workers. A family planning worker is the most important source of information about the family planning methods, so it becomes necessary to know whether a women talked family planning matters or any other issues with the FP worker. In table 4.1 it is clear that family planning worker discussed about the family planning methods with very less percentage (less than 10 percent) of women, in all the states. In most of the cases women discussed health issues rather than family planning issues with family planning worker. This data shows that FP worker is not becoming the main source of the information about the family planning.

A prospective family planning method user should be provided full knowledge about the method and especially information about the side effects of the method is necessary so that user can take appropriate measures to tackle them. Table 4.1 shows that in Tamil Nadu, around half of the current contraceptive users are getting information about the side effects, while rest of the states are relatively poor in terms of provision of information on side effects.

Good interpersonal relations between client and service provider are also an important aspect of quality services. In table 4.1, it is clear that in Uttar Pradesh, more than 50 percent women are not satisfied by the talking to a family planning worker, while in rest of the states, it is satisfactory. Himachal Pradesh and Tamil Nadu show a high proportion of women, whose response is positive as for as talking nicely is concerned.

Follow up visits by a family planning worker maintains the continuity of the contraceptive users. Follow up visits make sure that in case of problem with the method, user can communicate with family planning worker. In the table 4.1, all the states are show a good proportion of women getting follow up visits of FP worker. Tamil Nadu is rather surprisingly poor in terms of provision of follow up services.

Women's views about the quality of care during the operation or IUD insertion are positive in all the states. It seems from the table 4.1 that all the states are providing good quality services in the family planning clinics but actually this is the perception of women who do not know exactly what should there be in good quality services. Women's perception should be taken as the crude perception. When a researcher uses the term 'quality of care', he/she uses it with the consideration of all the essential elements discussed in the third chapter.

Table 4.1 Percentage distribution of quality of care indicators according to the states

State	No. of cases	Positive response	Percentage
Method discussed with alternative			
Himachal Pradesh	1764	919	52.1
Uttar Pradesh	2094	236	11.3
Andhra Pradesh	2180	277	12.7
Tamil Nadu	2208	315	14.3
Discuss family planning during the contact			
Himachal Pradesh	1764	51	2.9
Uttar Pradesh	2094	108	5.9
Andhra Pradesh	2180	75	3.4
Tamil Nadu	2208	99	4.5
Told about the side effects			
Himachal Pradesh	1764	590	33.4
Uttar Pradesh	2094	311	14.9
Andhra Pradesh	2180	286	13.1
Tamil Nadu	2208	1051	47.6
Talked nicely during the contact			
Himachal Pradesh	1764	1649	93.5
Uttar Pradesh	2094	978	46.7
Andhra Pradesh	2180	1567	71.9
Tamil Nadu	2208	1902	86.1
Follow up visit for current method			
Himachal Pradesh	1764	1471	83.4
Uttar Pradesh	2094	1506	93.4
Andhra Pradesh	2180	1743	80
Tamil Nadu	2207	1638	74.2
Quality of care			
Himachal Pradesh	1506	1476	97.9
Uttar Pradesh	1612	1506	93.4
Andhra Pradesh	2132	1963	92.1
Tamil Nadu	2119	1997	94.2

Source: IIPS, 2000.

4.2 Percentage Distribution of the Elements of the Quality of Care by the Predictor Variables:

This section presents bivariate analysis between each of the response variables, i.e., method discussed with alternative, family planning discussion with FP worker, side effect information, talking behavior of the worker, receiving of follow up services, quality of

care during the operation, with the predictor variables. Predictor variables are divided into demographic, social, economic, and others category. Among the predictor variables, demographic category includes current age of the woman, place of the residence and educational level. Religion and caste of the women are included in social category and working status of the woman, standards of living are included in economic category. Exposure to mass media and spousal communication are included in other category.

4.2.1 Demographic Variables

4.2.1a   Age of Woman:

Table 4.2 shows that in all the states, a family planning worker discussed alternative methods with women in younger age group rather than the women in the older age group. While Himachal Pradesh shows distinct picture that higher percentage (54 percent) of women in higher age category are being discussed alternative method than the women in younger age group (48.7 percent) by the family planning worker. There are affair uniformity in percentage of women who are getting information about the alternative method irrespective of their age category in the Himachal Pradesh.

Figure 4.1: Percentage distribution of women who are discussing FP matters with the family planning worker according to their age.
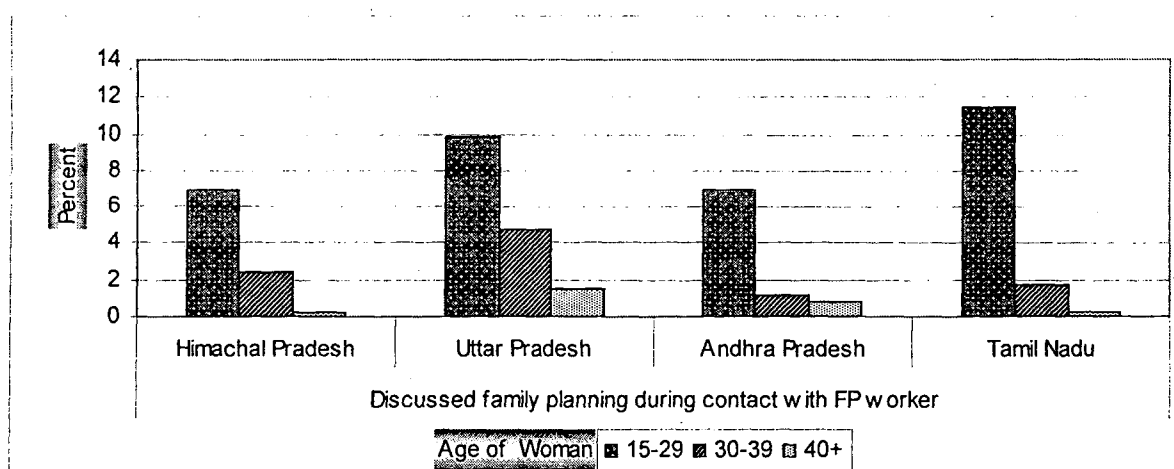
From figure 4.1 it is evident that FP worker discussed family planning matters with higher percentage of younger women than the older women. In all the states, percentage

of women who have discussed family planning matters with the FP worker decreases sharply in higher age category. Women in higher reproductive age groups are less likely to get information about the family planning from the workers. Chi square value is also significant for all the states.

There is an increasing trend in the percentage of women, who are getting information about the side effects of the method with the increase of their age. Only Andhra Pradesh is showing a decreasing trend in the percentage with the increase of age of the women. The variation in the percentage of the women is small in all the states.

Figure 4.2: Percentage distribution of women who has been talked nicely by the family planning worker according to their age.
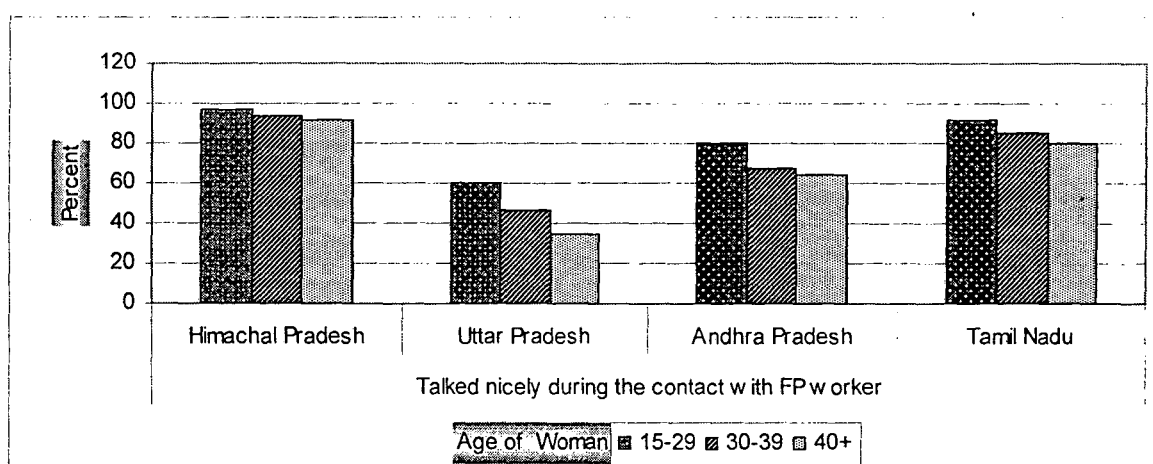
It is clear in the figure 4.2 that the talking behavior of the service provider varies with the age of the client. Less percentage of women in higher age category report good talking behavior of the FP worker than the women from younger age group. This percentage varies significantly with the age of women in Uttar Pradesh, Andhra Pradesh and Tamil Nadu, while Himachal Pradesh shows less variation. The chi-square value is also significant.

There is mixed result in the table 4.2 in which distribution of those women, who are getting follow up visits by the family planning worker has been given with their age group. In Himachal Pradesh and Tamil Nadu, percentage of women who are getting follow up visits by the family planning worker, increases with their age group. Higher percentage of older women is being visited by the family planning worker than the younger women

Table 4.2 Percentage distribution of response variables by the age of woman.

Age of woman	Himachal Pradesh		Uttar Pradesh		Andhra Pradesh		Tamil Nadu	
	Percent	No. of cases	Percent	No. of cases	Percent	No. of cases	Percent	No. of cases
Method discussed with alternatives								
15-29	48.7	446	13.2	539	13.9	870	17.8	713
30-39	52.8	803	11.5	959	12.4	834	13.5	956
40+	54	515	9.3	593	11.1	476	10.9	539
Chi.squ.(sig)	3.01 (0.22)		4.34 (0.11)		2.28 (0.31)		12.65 (0.00)	
Discussed family planning during contact with FP worker								
15-29	7	446	9.8	539	7	870	11.5	713
30-39	2.4	803	4.8	959	1.2	834	1.7	956
40+	0.2	515	1.5	593	0.8	476	0.2	539
Chi.squ.(sig)	40.3 (0.00)		40.31 (0.00)		55.69 (0.00)		122.85 (0.00)	
Told about side effect								
15-29	29.4	446	13.6	539	13.3	870	47.1	713
30-39	35	803	15.3	959	12.8	834	47.7	956
40+	34.6	515	15.6	593	13.2	476	48.1	539
Chi.squ.(sig)	4.47 (0.10)		1.03 (0.59)		.10 (0.95)		.11 (0.94)	
Talked nicely during the contact with FP worker								
15-29	96.6	446	60	539	80.3	870	92.1	713
30-39	93.2	803	46.4	959	67.4	834	85.1	956
40+	91.3	515	35.2	593	63.9	476	80	539
Chi.squ.(sig)	11.59 (0.00)		70.06 (0.00)		53.43 (0.00)		39.56 (0.00)	
Follow up for current method								
15-29	70.6	446	51.5	539	81.7	870	72.9	713
30-39	85.2	803	54.9	959	78.1	834	73.9	956
40+	91.7	515	51	593	80	476	76.4	539
Chi.squ.(sig)	79.67 (0.00)		3.52 (0.17)		3.57 (0.16)		2.04 (0.97)	
Quality of care								
15-29	99.4	321	95.5	314	91.5	843	94.4	662
30-39	96.8	698	92.4	746	91.8	815	94.2	926
40+	98.4	487	93.7	552	93.7	475	94.2	531
Chi.squ.(sig)	7.56 (0.02)		3.70 (0.15)		2.22 (0.32)		0.05 (0.97)	

Source: IIPS, 2000.

In Uttar Pradesh and Andhra Pradesh, the percentage of women who reported follow up visits is higher and lower in the age category of 30-39, than the other age category in respective states. But in all the states, percentage of women reported follow up visits for current contraceptive shows little change with age of women except in Himachal Pradesh. In Himachal Pradesh it appears that women in older age group report better follow up than the women in younger age group.

There is no significant difference in the percentage of women in different age groups, who report good quality of care during the sterilization or IUD insertion in family planning clinics. In Himachal Pradesh and Uttar Pradesh less percentage of women in age group 30-39, are reporting good quality of care than the women of younger and older age group.

4.2.1b Place of Residence:

As discussed in chapter two and three that 'Place of residence' plays a significant role in provision of good quality services. Table 4.3 shows the distribution of different quality/service variables by the place of residence. 'Method discussed with alternative' is a variable which shows whether a client has choice or not. It is evident from the data that there is no significant difference in choice availability by the place of residence except in the case of Uttar Pradesh, where almost two times more urban women than the rural women are getting information about alternative methods. In Himachal Pradesh and Tamil Nadu also, more urban women have choice than the rural women but this difference is not considerable and even in case of Andhra Pradesh the proportion of rural women is higher than urban women who are getting information about alternative methods. From the data it can be seen that place of residence influences the information about choice of method but not significantly.

Figure 4.3 Percentage distribution of women who have been told about the alternative method and side effects of the method by their place of residence
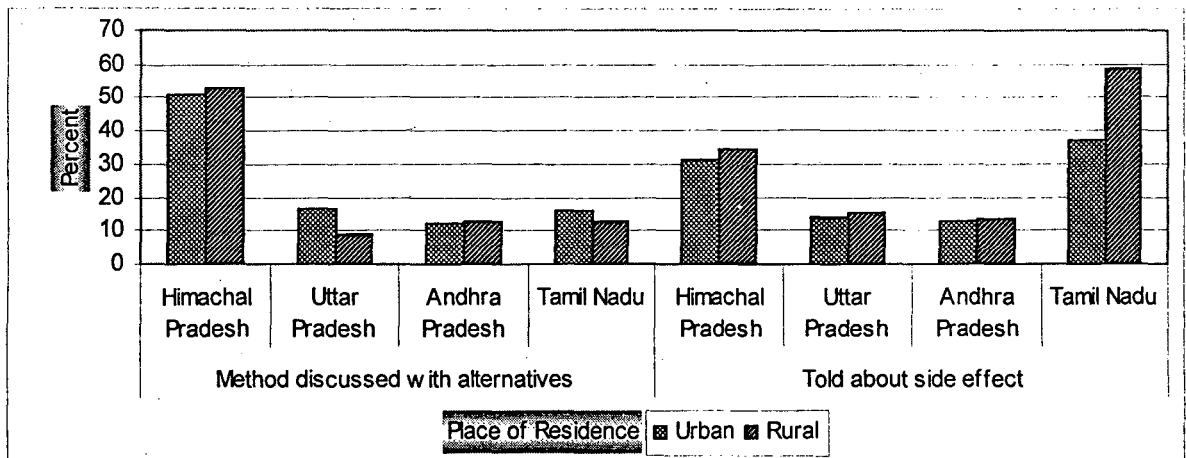
The next quality of care variable considered is 'Discussed family planning with the FP worker' tells whether the client obtained information on family planning or not, during the contact with family planning worker (at home or at the facility). Table 4.3 shows that only in Himachal Pradesh and Tamil Nadu more urban women reported discussion of family planning during the contact with family planning worker than the rural women, while in Uttar Pradesh and Andhra Pradesh it is vice versa. From this table, it is difficult to make any statement without further statistical analysis.

As mentioned in the literature review that in family planning clinics provision of information and services is selective on the basis of location of residence of the client as well as client's socio-economic characteristics. Figure 4.3 shows that more rural women have been told about the side effects of the current contraceptive method than the urban women. All the states are showing similar trend but the difference is not very much. Only in Tamil Nadu this difference is around 20 percent. From the table 4.3 it can be said that the rural women appear to be privileged in terms of getting information on side effects of family planning method.

Figure 4.4 Percentage distribution of women who have been talked nicely and have been provided good quality care in the clinic by their place of residence
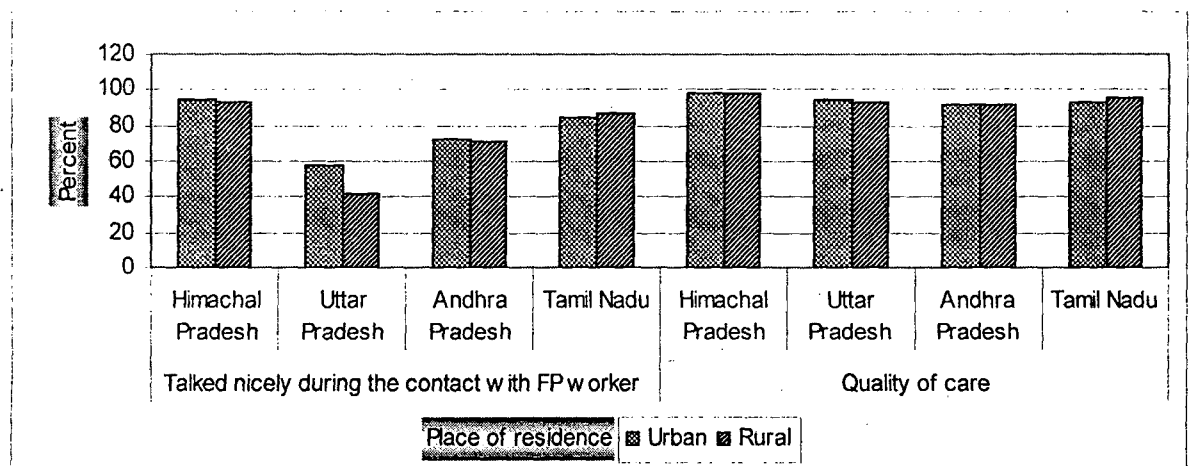
The variable 'Talked nicely during the contact with the family planning worker' measures the interpersonal behavioral aspect of the quality of care. Table 4.3 shows that more urban women are communicated in a nice manner by the service provider than the rural women. Only in Tamil Nadu, rural women have privilege over urban women in terms of talking manner of the family planning worker. The difference in the proportion of rural and

urban women, who have been talked nicely by the family planning worker, is not much except in the case of Uttar Pradesh where the difference is almost 15 percent in the favour of urban women. The data given in the table suffers from small sample size for rural area for the states of Uttar Pradesh, Himachal Pradesh, and Andhra Pradesh. So the result should be interpreted carefully. It more or less gives an indication that in urban areas interpersonal relation between the client and service provider is better than rural areas. Uttar Pradesh shows significant variation (significant at 0 percent level of significance) in percentage of rural and urban women in terms of getting information on alternative methods and nice talking behavior of the worker

Table 4.3 Percentage distribution of different response/service variables by the place of residence

Place of residence	Himachal Pradesh		Uttar Pradesh		Andhra Pradesh		Tamil Nadu	
	Percent	No. of cases	Percent	No. of cases	Percent	No. of cases	Percent	No. of cases
Method discussed with alternatives								
Urban	50.7	509	16.6	649	12.3	610	15.7	1110
Rural	52.7	1255	8.9	1442	12.9	1570	12.8	1098
Chi.squ.(sig)	0.57 (0.45)		29.94 (0.00)		0.12 (0.71)		3.62 (0.05)	
Discussed family planning during contact with FP worker								
Urban	3.9	509	4.8	649	2.5	610	5	1110
Rural	2.5	1255	5.3	1442	3.8	1570	3.9	1098
Chi.squ.(sig)	2.74 (0.09)		0.29 (0.59)		2.45 (0.11)		1.64 (0.20)	
Told about side effect								
Urban	31.2	509	14.1	649	12.5	610	36.7	1110
Rural	34.3	1255	15.3	1442	13.4	1570	58.7	1098
Chi.squ.(sig)	1.56 (0.21)		0.51 (0.47)		0.32 (0.56)		106.9 (0.00)	
Talked nicely during the contact with FP worker								
Urban	94.5	509	57.7	649	72.6	610	84.8	1110
Rural	93.1	1255	41.8	1442	71.6	1570	87.5	1098
Chi.squ.(sig)	1.21 (0.27)		45.71 (0.00)		0.23 (0.63)		3.49 (0.06)	
Follow up for current method								
Urban	67.2	509	54.7	649	79.3	610	75.7	1110
Rural	90	1255	54.6	1442	80.2	1570	72.8	1098
Chi.squ.(sig)	135.54 (0.00)		0.005 (0.94)		0.19 (0.65)		2.40 (0.12)	
Quality of care								
Urban	98.3	355	94.6	386	92	578	93.3	1043
Rural	97.7	1151	93.1	1226	92.12	1554	95.2	1076
Chi.squ.(sig)	0.42 (0.51)		1.06 (0.30)		0.001(0.99)		3.44 (0.06)	

Source: IIPS, 2000.

In the table 4.3 the distribution of the women, who are getting follow up visits for current method by their place of residence, is also given. In Himachal Pradesh and Andhra Pradesh, more rural women are getting follow up visit than the urban women while in Uttar Pradesh and Tamil Nadu urban women are privileged in terms of follow up visits. The difference in the percentage of rural and urban women who reported follow up visits, is large only in case of Himachal Pradesh. So, it is difficult to judge any trend about other states.

'How was the quality of care?' question has been asked to only those women who went through sterilization or had IUD insertion. Table 4.3 shows mixed responses in all the four states. In north India i.e., in Himachal Pradesh and Uttar Pradesh more urban women are being provided good quality services than the rural women, though the difference is not large. While in south Indian states, more rural women are getting good quality services than the urban women; here again the difference is not very much. Therefore, it can be said that in south India, quality of services is better in rural clinics than in the urban clinics relative to north Indian states where the situation is vice versa.

4.2.1c Educational level:

Education of the woman can be helpful in improving the knowledge about the different methods of family planning and thus she can discuss with the family planning worker in more articulate way than an illiterate woman.

Table 4.4 shows that with the increase of education level of the women, percentage of women who are given information about the alternative methods is increasing. But the effect of increasing educational level is not same in all the states. In Uttar Pradesh, Andhra Pradesh and Tamil Nadu proportion of women with choice of methods increases to almost 100 percent from illiterate to high school completed. Chi-square value is also significant in these states.

In Himachal Pradesh it seems that with change in educational level, percentage of women who have information on side effects does not change much. In case of Tamil Nadu proportion of women who reported discussion on alternative methods increases significantly with the educational level from illiterate to middle school completed, while in Uttar Pradesh and Andhra Pradesh the increase is observed from middle school completed to high school

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completed and above. Thus, educational level has some influence over information attainment about method choice.

Figure 4.5 Percentage distribution of the women who discussed family planning issues with FP worker by their educational status.
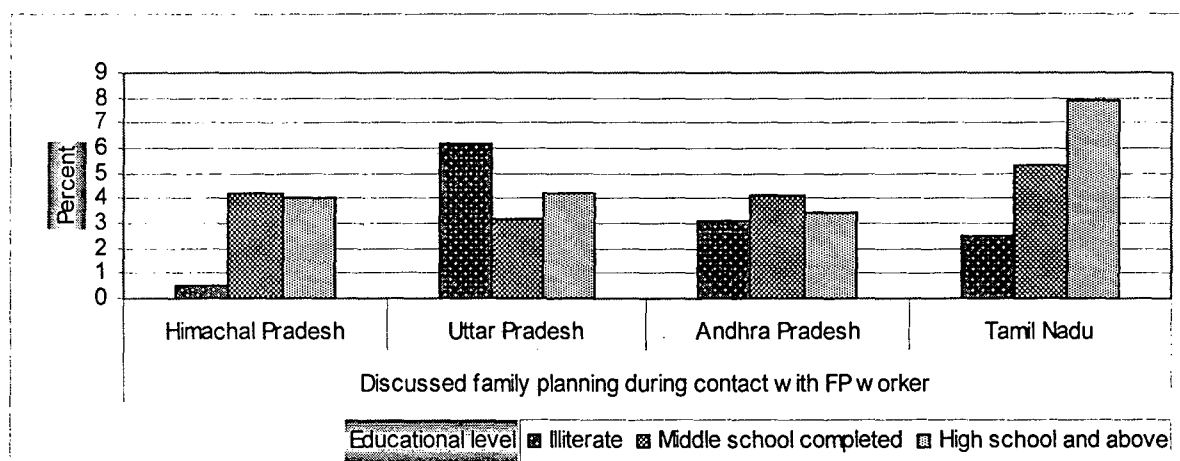
The relationship between educational level of the woman and tendency of FP worker to discuss family planning during the contact is shown in figure 4.5. As educational level of the women increases the proportion of women who have discussed family planning with the health worker increases. In Himachal Pradesh and Tamil Nadu there is positive relationship between the two. But in case of Uttar Pradesh there is U-shaped relationship.

Figure 4.6 Percentage distribution of women who have been told about the alternative method and side effects of the method by their educational status.
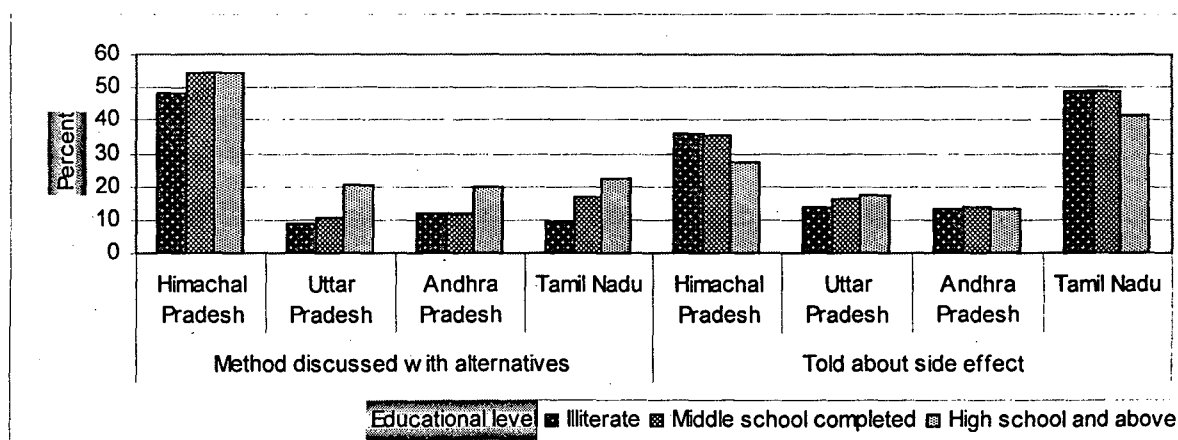
In Himachal Pradesh, higher percentage of illiterate women have reported obtaining information on the side effects than the women in higher educational category, while this trend is reverse in case of Uttar Pradesh i.e., women from higher educational category are more privileged than illiterate women in terms of getting information about the side effects of the contraceptive. The south Indian states are following the trend of Himachal Pradesh; the variation in the percentage of women in different educational category is very small.

Educational level of the client influences the talking behavior of the service providers. As table 4.4 shows, with the increasing level of education of the client talking behavior of the provider seems to be good. Though in Uttar Pradesh and Andhra Pradesh this variation is little sharper than the other states but the differences among the different education levels are not much. Himachal Pradesh and Tamil Nadu show a high proportion of women who have been talked nicely by the family planning worker, irrespective of women's educational status, though high educational status makes it better. On the other hand, Uttar Pradesh and Andhra Pradesh are relatively poor in terms of provider's talking behavior. Especially in Uttar Pradesh almost 50 percent of the women, irrespective of their educational status are unsatisfied with the talking behavior of the family planning worker.

Distribution of follow up visit by the educational status of women is also given in the table 4.4. There is a diverse trend in follow up visits by the family planning worker in different states. In north India i.e., in Himachal Pradesh and Uttar Pradesh, there is a decreasing trend in the percentage of women who are getting follow up visit with their increasing education level. The difference is sharper in the Himachal Pradesh than the Uttar Pradesh. On the other hand in the south Indian states i.e., Andhra Pradesh and Tamil Nadu, higher percentage of illiterate women are getting follow up visit than the highly educated women, but this difference is not very sharp. The data shows that, there is much variation in follow up visits in different educational category in Himachal Pradesh, while in other states there is not much variation in follow up visits according to the educational category.

Higher percentage of women in the high education category is getting good quality of care than women in lower education category during the sterilization or IUD insertion in the family planning clinic. This increase in the percentage of women with their educational level is not much. Actually in all the states a very high percentage of women in

different educational category reported good quality of care during the sterilization or IUD insertion in the family planning clinic. Such a high percentage which does not vary with educational level suggesting that those who are opting for sterilization or IUD may be a different group, and here a distinction has not been made whether source of the service is government clinic or private clinic.

Table 4.4 Percentage distribution of different response/service variables by their educational level.

Educational level	HimachalPradesh		Uttar Pradesh		AndhraPradesh		Tamil Nadu	
	Percent	No. of cases	Percent	No. of cases	Percent	No. of cases	Percent	No. of cases
Method discussed with alternatives								
Illiterate	48	610	8.9	1236	11.9	1336	9.1	977
Mid. sch. compl.	54.3	709	10.4	473	11.7	507	16.8	853
High sch. and ab.	54.2	445	20.2	382	19.8	237	22	378
Chi.squ.(sig)	6.17 (0.46)		37.45 (0.00)		12.18 (0.00)		43.87 (0.00)	
Discussed family planning during contact with FP worker								
Illiterate	0.5	610	6.2	1236	3.1	1336	2.5	977
Mid. sch. compl.	4.2	709	3.2	473	4.1	507	5.3	853
High sch. and ab.	4	445	4.2	382	3.4	237	7.9	378
Chi.squ.(sig)	19.15 (0.00)		7.37 (0.02)		1.19 (0.55)		21.14 (0.00)	
Told about side effect								
Illiterate	36.1	610	13.8	1236	12.9	1336	48.8	977
Mid. sch. compl.	35.1	709	16.1	473	13.8	507	48.9	853
High sch. and ab.	27.2	445	17.2	382	12.7	237	41.5	378
Chi.squ.(sig)	10.59 (0.00)		3.30 (0.19)		0.39 (0.823)		6.72 (0.03)	
Talked nicely during the contact with FP worker								
Illiterate	90.5	610	43.6	1236	70	1336	85.5	977
Mid. sch. compl.	95.3	709	49.9	473	74	507	86.6	853
High sch. and ab.	94.6	445	52.9	382	77.2	237	86.8	378
Chi.squ.(sig)	13.91 (0.00)		12.64 (0.00)		7.03 (0.03)		0.67 (0.71)	
Follow up for current method								
Illiterate	92.6	610	56.6	1236	78.7	1336	73.8	977
Mid. sch. compl.	91.3	709	53.3	473	82.4	507	74.5	853
High sch. and ab.	58.2	445	52.9	382	80.6	237	74.6	378
Chi.squ.(sig)	273.03 (0.00)		1.29 (0.52)		3.49 (0.17)		0.16 (0.50)	
Quality of care								
Illiterate	97.5	590	92.8	1060	91.1	1339	93.7	962
Mid. sch. compl.	98.3	651	93.7	349	93.2	592	94.5	819
High sch. and ab.	97.7	265	96.1	203	94.8	211	95.3	339
Chi.squ.(sig)	1.11 (0.573)		2.94 (0.22)		4.89 (0.08)		1.63 (0.50)	

Source: IIPS, 2000.

4.2.2 Social variables

4.2.2a Religion:

From the literature review it is evident, family planning workers generally emphasize sterilization and IUD insertion without considering the client's needs. And second, Muslims are more inclined to use traditional methods and also among the modern method pills and condoms are preferred. These preferences can lead Muslim women to demand alternative methods other than the usually prescribed methods (sterilization and IUD). Perhaps for this reason in figure 4.7 it is clear that Muslim women are more attentive than the Hindu women for the discussion of alternative methods. The difference between the proportion of Hindu and Muslim women who report discussion about the alternative method is much only in Himachal Pradesh and Andhra Pradesh. But in Uttar Pradesh and Tamil Nadu there is little difference in the percentage of women from different religions. Other religions are not showing any clear influence on the choice of methods. In Himachal Pradesh more than 50 percent women are discussing about the alternative methods irrespective of their religion, otherwise in rest of the states it is less than 20 percent. On the basis of this table we can say that Muslims women would like more information about the side effects than the Hindu women.

Figure 4.7 Percentage distribution of women who have been told about the alternative method and side effects of the method by their religion.
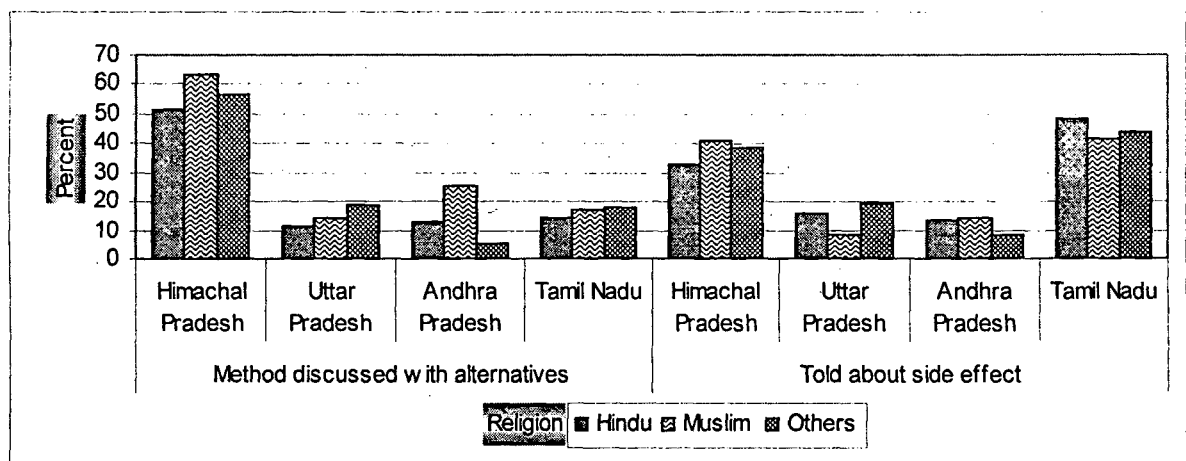
Table 4.5 shows that, in Uttar Pradesh and Tamil Nadu, family planning workers discuss family planning issues with higher percentage of Muslim women than the Hindu

women. While in Andhra Pradesh and Himachal Pradesh the situation is vice versa. It indicates that there are some other factors which are determining the tendency of health workers of discussion of family planning during the contact with women. In the context of Indian society, it may be a determining factor that women generally shy away from the discussion of family planning matters. The proportion of other religion women is higher than Hindus and Muslims separately who reported discussion on family planning with FP worker in all the four states. It appears from the table that non Hindu and non Muslim women are more interested in discussing family planning with the worker.

It is evident from the figure 4.7 that in north Indian states less percentage of Hindu women have been told about the side effects of the current method, than the women from other religions (Jains, Buddhist, Sikh, Christian). In the south Indian states higher percentage of Hindu women are getting information about the side effects of the methods than the women from other religions. Himachal Pradesh and Andhra Pradesh show comparatively high percentage of Muslims have been informed about the side effects of method than the Hindu, while in case of Uttar Pradesh it is vice versa. It is difficult to say about the direction of the influence of the religion on the provision of information on side effects.

Table 4.5 shows that there is not much difference among the religions in terms of talking manner of the service provider with the client. In case of Himachal Pradesh, more than 90 percent women have been talked to nicely irrespective of their religion. Rest of the three states shows that high proportion of Muslim women than the women from Hindus and other religions enjoy good interpersonal relationship with the service provider. Inter religion proportional difference, in terms of nice talking behavior of the FP worker, is high in Uttar Pradesh, while in other states it is insignificant. Therefore, there is no significant relationship between interpersonal relation with service provider and religion of the client.

Figure 4.8 Percentage distribution of women who are getting follow up visits by their religion.
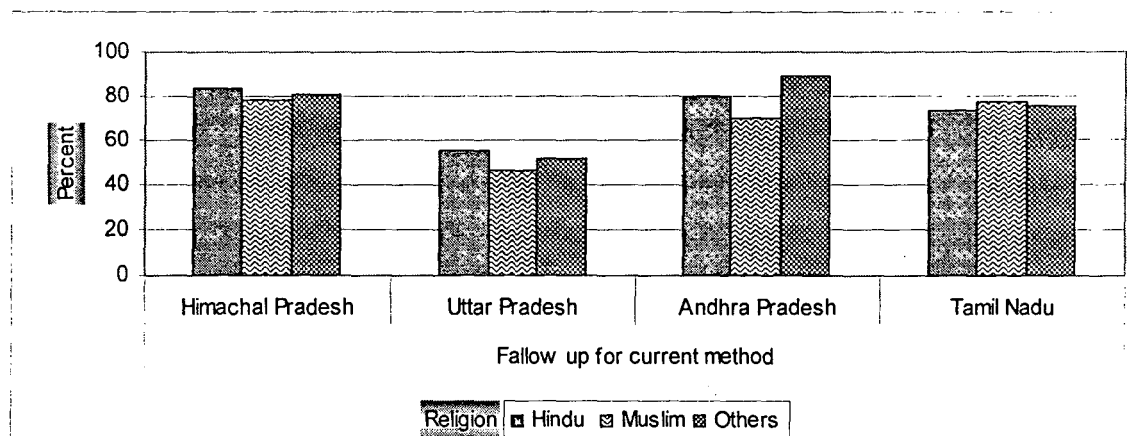
Table 4.5 shows again north-south divide in case of follow up visits by the religion of the client. More percentage of Hindu women are getting follow up visits than the other religion women (Jains, Buddhist, Sikh, Christian) in case of Himachal Pradesh and Uttar Pradesh, while in Andhra Pradesh and Tamil Nadu it is vice versa. Less Muslim women in terms of percentage are getting follow up visit for current method than the Hindu women, in all the states except in Tamil Nadu. In case of Tamil Nadu percentage of Muslim women is higher than the Hindu women as well as other religious women who are reporting follow up visits. The reason behind this difference in follow up visit among Hindus and Muslim women may be that more Hindus prefer sterilization and IUD insertion than the Muslim women, and generally a follow up visit take places in the case of sterilization and the IUD insertion (IIPS, 2000).

Assessment of quality of care by the women from different religions is given in table 4.5. In Himachal Pradesh and Andhra Pradesh, less percentage of Hindu women than the other religion (Jains, Buddhist, Sikh, Christian) women are getting good quality of care in family planning clinics. While in case of Uttar Pradesh and Tamil Nadu more Hindu women reported positive response about quality of care in family planning clinics than the other religion women. Lesser percentage of Muslims than Hindus are getting good quality of care in all the states except in Andhra Pradesh. In Andhra Pradesh 93.3 percent of Muslim women compared with the 91.8 percent of Hindu women and 95.6 percent of other religion women, are getting good quality of care.

Table 4.5. Percentage distribution of different response/service variables by their religion.

Religion	Himachal Pradesh		Uttar Pradesh		Andhra Pradesh		Tamil Nadu	
	Percent	No. of cases	Percent	No. of cases	Percent	No. of cases	Percent	No. of cases
Method discussed with alternatives								
Hindu	51.6	1648	10.8	1845	12.4	1953	13.9	1960
Muslim	63	54	14.4	209	25.4	114	16.8	137
Others	56.5	62	18.9	37	5.3	113	18	111
Chi.squ.(sig)	3.20 (0.20)		4.57 (0.10)		22.41 (0.00)		2.23 (0.32)	
Discussed family planning during contact with FP worker								
Hindu	2.9	1648	4.7	1845	3.3	1953	4.1	1960
Muslim	1.9	54	9.1	209	1.8	114	7.3	137
Others	3.2	62	5.4	37	8	113	7.2	111
	0.23 (0.88)		7.37 (0.02)		8.09 (0.01)		5.02 (0.08)	
Told about side effect								
Hindu	33	1648	15.6	1845	13.2	1953	48.2	1960
Muslim	40.7	54	8.1	209	14	114	41.6	137
Others	38.7	62	19.4	37	8	113	44.1	111
	2.20 (0.33)		8.84 (0.01)		2.82 (0.24)		2.80 (0.24)	
Talked nicely during the contact with FP worker								
Hindu	93.5	1648	45.1	1845	72	1953	85.9	1960
Muslim	92.6	54	63.2	209	74.6	114	89.8	137
Others	93.5	62	35.1	37	67.3	113	85.6	111
	0.07 (0.96)		26.6 (0.00)		1.61 (0.44)		1.63 (0.44)	
Follow up for current method								
Hindu	83.7	1648	55.6	1845	80	1953	73.9	1960
Muslim	77.8	54	46.4	209	70.2	114	77.2	137
Others	80.6	62	51.4	37	89.4	113	75.7	111
	1.66 (0.43)		6.55 (0.03)		13.06 (0.00)		0.84 (0.65)	
Quality of care								
Hindu	97.9	1411	93.6	1511	91.8	1915	94.5	1895
Muslim	95.2	42	90.5	74	93.3	104	93.5	123
Others	98.1	53	92.6	27	95.6	113	90.1	101
	1.45 (0.48)		1.09 (0.57)		2.29 (0.31)		3.57 (0.16)	

Source: IIPS, 2000.

4.2.2b *Caste/Tribe:*

Figure 4.10 shows that choice of method does not vary much with the caste status. In case of Uttar Pradesh caste is most effective than in other states considered in present study. Only seven percent SC/STs are getting information about the alternative method

against the twelve percent of other community. This is because in north India caste system is very dominant. Though in rest of the states there is no significant variation with the caste, but lesser proportion of SC/STs are getting choice of contraceptive method than the other communities. In Andhra Pradesh SC/STs are enjoying more privileges than other communities in terms of choice of method. All the states except Himachal Pradesh are showing small proportions of women are getting information about the alternative method irrespective of their caste status.

Figure 4.9 shows that family planning workers are more likely to discuss family planning matters during the contact with the SC/STs than the other communities. While in case of Tamil Nadu proportion of other community women are more than SC/STs women who indulge in the discussion of family planning with FP worker. But the differences are not much in all the states. All the states are showing very less proportion of women (below 8 percent) who are discussing or getting information about family planning from FP worker, irrespective of their caste status. The tendency of family planning worker to discuss about the family planning does not vary much with the caste in all the states.

Figure 4.9 Percentage distribution of women who have discussed family planning with FP worker and told about side effects of the method by their caste.
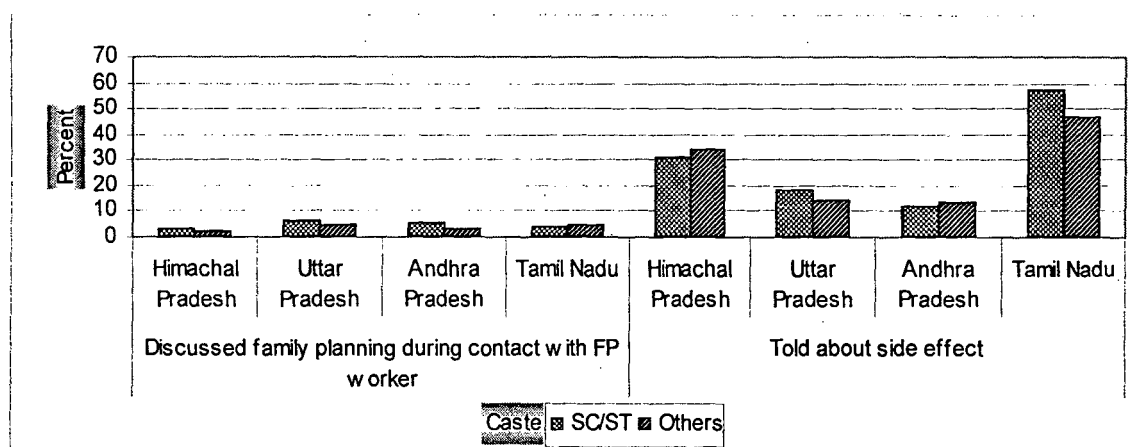
Caste can also influence the quality of family planning services. Figure 4.9 shows that in Himachal and Andhra Pradesh less percentage of SC/STs are getting information' about the side effects for the current method compared to other community women. In Uttar Pradesh and Tamil Nadu higher percentage of SC/STs women are receiving information

about the side effects for the current method than the other community women. Therefore, with these contradictory results it is difficult to clearly mention the relationship.

Figure 4.10 Percentage distribution of women who have been told about the alternative method by their caste.
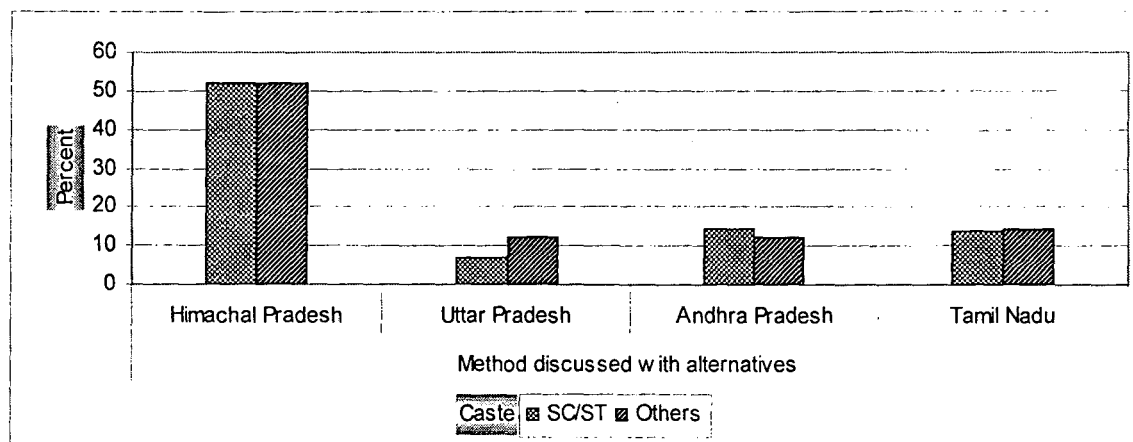
In table 4.6 all the states are showing similar results without having much difference in the response of SC/STs women and other community women except Andhra Pradesh. In Andhra Pradesh, proportional difference is slightly more and is in favour of SC/ST women, who are enjoying good talking behavior of FP workers. Even in Andhra Pradesh relationship seems to be rather weak. Uttar Pradesh has similar trend with rest of the two states i.e., higher percentage of other community than SC/STs women reported good talking behavior of the family planning worker but the difference is much with comparison to rest of the two states. Probably it is due to the rigid caste system in Uttar Pradesh.

Table 4.6 shows relationship between follow up visit and caste status of the women. Except Tamil Nadu, in all the states a higher percentage of SC/STs women reported follow up visits for the current method, than the other community women. In north Indian states, the differences between SC/ST women and other women for follow up visits are sharper than the southern states.

Table 4.6. Percentage distribution of different response/service variables by their caste.

Caste	Himachal Pradesh		Uttar Pradesh		Andhra Pradesh		Tamil Nadu	
	Percent	No. of cases	Percent	No. of cases	Percent	No. of cases	Percent	No. of cases
Method discussed with alternatives								
SC/ST	51.8	398	7	372	14.3	455	13.6	486
Others	52.2	1366	12.2	1719	12.3	1721	14.5	1722
Chi.squ.(sig)	0.02 (0.87)		8.34 (0.00)		1.25 (0.26)		0.24 (0.62)	
Discussed family planning during contact with FP worker								
SC/ST	3.5	398	6.4	372	5.9	455	3.7	486
Others	2.7	1366	4.9	1719	2.8	1721	4.7	1722
Chi.squ.(sig)	0.17 (0.39)		1.51 (0.21)		10.69 (0.00)		0.88 (0.34)	
Told about side effect								
SC/ST	30.9	398	18.6	372	11.6	455	57.2	486
Others	34.2	1366	14.1	1719	13.5	1721	46.6	1722
Chi.squ.(sig)	1.49 (0.22)		4.91 (0.02)		1.12 (0.28)		3.30 (0.06)	
Talked nicely during the contact with FP worker								
SC/ST	93	398	43.7	372	72.7	455	85.4	486
Other	93.6	1366	47.4	1719	71.6	1721	86.4	1722
Chi.squ.(sig)	0.22 (0.63)		1.64 (0.19)		0.24 (0.62)		0.29 (0.588)	
Follow up for current method								
SC/ST	91	398	57.7	372	81.3	455	72.8	486
Other	81.2	1366	53.9	1719	79.5	1721	74.6	1722
Chi.squ.(sig)	21.23 (0.00)		1.72 (0.18)		0.70 (0.40)		0.61 (0.43)	
Quality of care								
SC/ST	98.9	369	93	315	91.7	448	93.3	476
Other	97.5	1137	93.5	1297	92.2	1680	94.5	1673
Chi.squ.(sig)	2.54 (0.11)		0.10 (0.74)		0.10 (0.74)		1.03 (0.03)	

Source: IIPS, 2000.

Table 4.6 shows the distribution of women's responses for the question 'how was the quality of care in the family planning clinic?' by their caste status. Lesser percentage of SC/STs women than the other community women, reported good quality of care in Uttar Pradesh, Andhra Pradesh and Tamil Nadu. While in Himachal Pradesh percentage of SC/ST women are more than other community women who have received good quality of care. The differences in the percentage of SC/ST women and other community women who are receiving good quality of care are not much.

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4.2.3 Economic Variables

4.2.3a *Working Status of Woman:*

Table 4.7 shows that there is not much variation in the proportion of women who are getting information about the alternative methods with respect to their working status. Firstly, in Himachal Pradesh 9 percent more working women were obtaining information about the alternative methods than the women who are not working. While in Uttar Pradesh 3 percent less working women were given information about the alternative methods than the not working women. In rest of the two states this difference is less than one percent. Secondly the direction of the relationship is not very clear in case of Uttar Pradesh, Andhra Pradesh and Tamil Nadu: slightly high proportion of not working women have been given information about the alternative methods than working women. It is vise versa in the case of Himachal Pradesh. Therefore it is very difficult to state about the relationship of these two variables without further statistical analysis.

Table 4.7 shows that FP workers are more inclined to discuss about the family planning during the contact with not working women than working women. But there is not much variation in the percentage of women by their working status. Therefore here again it is difficult to say that FP worker's discussion is affected by the working status of the clients.

Figure 4.11 Percentage distribution of the women who are getting information about the side effects and receiving follow up visits by their working status.
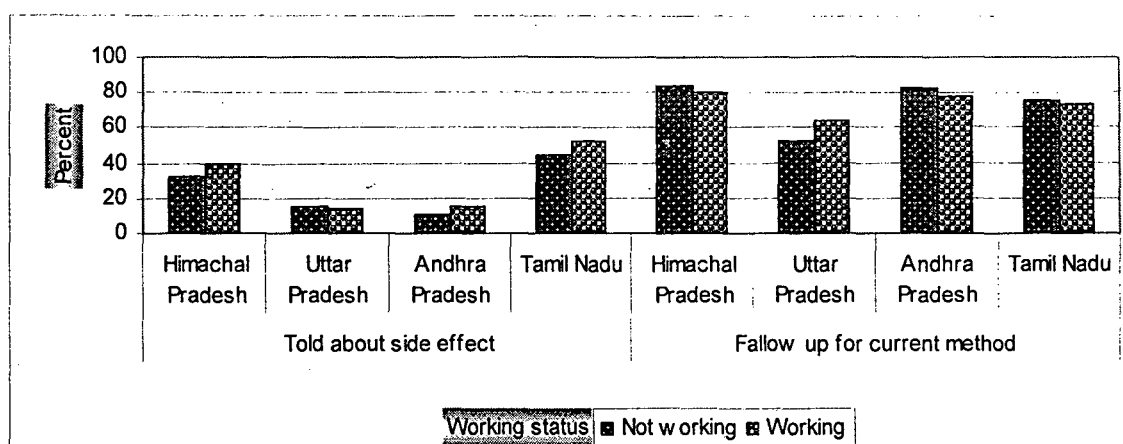
It is evident from the figure 4.11 that working status of the client affects the information exchange between clients and provider. Uttar Pradesh is the only state which shows that attainment of information about the side effects of the method is less among the working women than the not working. Otherwise in rest of the three states, working women are privileged in terms of getting information about the side effects of the method. The difference between the percentage of working women and not working women, who have been informed about the side effects, varies between 4.2 percent to 11.6 percent respectively in Andhra Pradesh and Tamil Nadu.

Table 4.7 shows that percentage of not working women is more than working women with regard to good interpersonal behavior of the service providers. However, it is contrary to what we expect. This pattern is prevailing in all the four states. But the proportional difference between working and not working women who reported good interpersonal behavior of the workers is not much. It appears that working status of the women does not affect significantly the talking manner of the family planning worker.

It is clear from the table 4.7 that the follows up visits are influenced by the women's working status. Here, Tamil Nadu is the only state which shows that percentage of not working women who reported positively about the follow up visits is more than the working women. While in the other three states follow up visits are occurring more in favour of working women than the not working women.

Table 4.7 also shows assessment of quality of care during the operation by the working status of the women. In Himachal Pradesh and Tamil Nadu more working women than the not working women are receiving good quality of care in family planning clinics. While in Uttar Pradesh and Andhra Pradesh it is opposite. But the percentage of working and not working women who reported good quality of care during the operation is not very different in all the states.

Table 4.7. Percentage distribution of different response/service variables by the working Status of the women.

Working status	Himachal Pradesh		Uttar Pradesh		Andhra Pradesh		Tamil Nadu	
	Percent	No. of cases	Percent	No. of cases	Percent	No. of cases	Percent	No. of cases
Method discussed with alternatives								
Not working	50.2	1413	11.9	1599	13.3	958	14.5	1206
Working	59.5	351	9.2	491	12.3	1222	14	1002
Chi.squ.(sig)	9.73 (0.00)		2.89 (0.08)		0.46 (0.49)		0.13 (0.71)	
Discussed family planning during contact with FP worker								
Not working	3.1	1413	5.3	1599	4	958	6.1	1206
Working	2	351	4.5	491	3	1222	2.6	1002
Chi.squ.(sig)	1.25 (0.26)		0.56 (0.45)		1.45 (0.23)		15.28 (0.00)	
Told about side effect								
Not working	32.1	1413	15.2	1599	10.8	958	43.8	1206
Working	39	351	14	491	15	1222	52.2	1002
Chi.squ.(sig)	6.13 (0.01)		0.41 (0.51)		8.40 (0.04)		15.53 (0.00)	
Talked nicely during the contact with FP worker								
Not working	94.3	1413	47.7	1599	73.3	958	87.6	1206
Working	90	351	43.4	491	70.8	1222	84.4	1002
Chi.squ.(sig)	8.56 (0.00)		2.77 (0.09)		1.65 (1.99)		4.49 (0.03)	
Follow up for current method								
Not working	84.1	1413	51.8	1599	83	958	75.4	1206
Working	80.3	351	63.6	491	77.6	1222	72.9	1002
Chi.squ.(sig)	2.93 (0.08)		21.21 (0.00)		9.79 (0.00)		1.78 (0.18)	
Quality of care								
Not working	97.9	1212	93.5	1180	93.2	921	93.9	1139
Working	98.6	294	93.3	432	91.2	1211	94.6	980
Chi.squ.(sig)	1.02 (0.311)		0.18 (0.89)		2.62 (0.10)		0.41 (0.52)	

Source: IIPS, 2000.

4.2.3b *Standard of living*

As mentioned in chapter third, standard of living index (SLI) has been calculated on the basis of toilet facilities, lighting, separate kitchen, fuel used, drinking water and household amenities to know the living standard of the women. The relationship between standard of living and discussion about the contraceptive choice is given in the figure 4.12. It is clear that with the increase in standard of living, proportion of women who are getting

information about the alternative method is increasing in all the states except in Himachal Pradesh. In Himachal Pradesh proportion of middle class women, who have discussed alternative method with FP worker, is less than low class women as well as high class women. It seems that in Himachal Pradesh, there is U-shaped relation between the two discussed variables. In rest of the states, proportion of women with information of method choice is increasing with the level of standard of living.

Figure 4.12 Percentage distribution of the women who are getting information about the alternative method and percentage of those who are getting good quality of care by their standard of living.
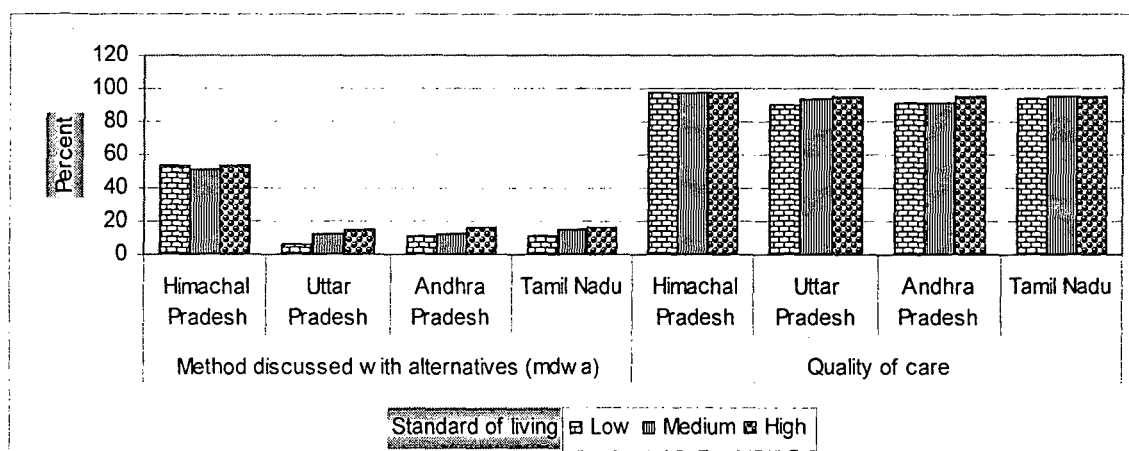
In table 4.8 all the four states are showing different trend in the percentage of women who reported family planning discussion with FP worker. In case of Himachal Pradesh proportion of middle class women, who reported discussion on family planning with FP worker is more than lower class women as well as upper class women. In Andhra Pradesh a similar trend is observed but there is over-all decrease in the proportion of such women with the increase in standard of living from lower level to high level. In Tamil Nadu it seems that family planning worker discussed family planning with fewer middle class women than lower and higher class women. In Uttar Pradesh family planning discussion decreases with increase in standard of living of the women. Therefore it is difficult to say about any relationship between family planning discussion by FP worker and standard of living of the women.

Table 4.8 shows that there is an increasing trend in percentage of women who have been told about the side effects of the method by the family planning worker, with the increase in the standard of living, except in Tamil Nadu. Tamil Nadu shows decreasing trend in the percentage of informed women with the increase of their standard of living. In Himachal Pradesh percentage of middle class informed women is higher than the lower class as well as high class informed women. The same thing can be seen in case of Andhra Pradesh. That means in Himachal Pradesh and Andhra Pradesh more middle class women are getting information about the side effect of the method than the lower and upper class women.

Table 4.8 shows that there is an increasing trend in proportion of women who have been talked nicely by the family planning worker with the increase in the standard of living, except in Tamil Nadu. Tamil Nadu shows a reverse relationship. But the effect of medium standard of living is not very clear. In case of Himachal Pradesh and Andhra Pradesh women from middle class are more than lower class as well as higher class, while in Uttar Pradesh middle class women are lesser than lower class women and higher class women who reported good talking behavior of the service providers. On the basis of over all increase in proportion of women, who reported good inter personal relation with the service provider, we can say that there is a positive relationship between talking behavior of the FP workers and standard of living of the clients.

Here again it is clear in the table 4.8 that in terms of follow up visits middle class women reported more privilege than the lower and upper class women in Himachal Pradesh. There is a sharp difference between the proportion of lower class women and middle class who reported follow up visits in Uttar Pradesh. The difference is almost 30 percentage points. Less proportion of high class women are reporting follow up visits than the medium class women in Himachal Pradesh and Andhra Pradesh, though this difference is sharper in Himachal Pradesh than Andhra Pradesh. In south Indian states proportion of women who are getting follow up visits, varies less with their standard of living than the north Indian states. This indicates that standard of living is more effective in north Indian states than the south Indian states. In Himachal Pradesh a significant variation is observed with the standard of living in relation to the provision of information on side effects, follow up visits and talking behavior of the worker with the women.

Table 4.8. Percentage distribution of different response/service variables by standard of living of the women.

Standard of living	Himachal Pradesh		Uttar Pradesh		Andhra Pradesh		Tamil Nadu	
	Percent	No. of cases	Percent	No. of cases	Percent	No. of cases	Percent	No. of cases
Method discussed with alternatives								
Low	53.4	131	5.7	388	11.8	680	11	672
Medium	50.7	923	12.1	1038	12.8	1048	15.6	1099
High	53.6	698	14.7	586	16.5	443	16.5	405
Chi.squ.(sig)	1.42 (0.49)		18.96 (0.00)		6.91 (0.03)		8.99 (0.01)	
Discussed family planning during contact with FP worker								
Low	1.5	131	8.8	388	3.8	680	4.5	672
Medium	3.3	923	4.6	1038	4	1048	4.3	1099
High	2.7	698	3.7	586	1.6	443	4.7	405
Chi.squ.(sig)	1.35 (0.50)		13.32 (0.00)		5.90(0.05)		0.12 (0.93)	
Told about side effect								
Low	29.9	131	11.9	388	11.8	680	52.2	672
Medium	36.3	923	15.4	1038	14.2	1048	46.9	1099
High	30.9	698	16.2	586	12.2	443	43	405
Chi.squ.(sig)	5.60 (0.00)		3.60 (0.16)		2.54 (0.29)		9.47 (0.00)	
Talked nicely during the contact with FP worker								
Low	85.5	131	46.4	388	69	680	88.1	672
Medium	94.3	923	45.1	1038	73.6	1048	85.4	1099
High	93.8	698	50.9	586	72	443	85.2	405
Chi.squ.(sig)	14.66 (0.00)		4.99 (0.08)		4.31 (0.11)		2.91 (0.233)	
Follow up for current method								
Low	90.8	131	15.8	388	80.9	680	74.3	672
Medium	91.9	923	53.2	1038	79.5	1048	73.1	1099
High	70.8	698	53.9	586	79.2	443	77.5	405
Chi.squ.(sig)	133.33 (0.00)		0.79 (0.67)		0.64 (0.72)		3.00 (0.22)	
Quality of care								
Low	97.6	126	90.1	323	91	675	93.5	664
Medium	97.9	862	93.7	828	91.6	1031	94.4	1053
High	97.8	508	95.1	391	95	417	94.9	371
Chi.squ.(sig)	0.04 (0.97)		7.88 (0.00)		6.25 (0.04)		0.95 (0.62)	

Source: IIPS, 2000.

Quality of care is not influenced by the standard of living in case of Himachal Pradesh and Tamil Nadu because there is very little difference in the proportion of women with low, medium and high standard of living, who reported good quality of care during the operation in the family planning clinics. In case of Uttar Pradesh and Andhra Pradesh, reporting of good quality of care is increasing with standard of living. It seems that with the

increasing standard of living quality of care is increasing in all the states, but the degree of outcome may vary.

4.2.4 Other variables

4.2.4a Exposure to mass media

Exposure to mass-media has a favorable effect on contraceptive use. Radio and television are particularly important in India where most of the women in the reproductive age are illiterate and they form an important vehicle to convey information on the benefits of small families and contraception (Retherford, 1997).

Figure 4.13 Percentage distribution of women who are discussing family planning matters with the FP worker and getting information about the alternative method by their status of media exposure.
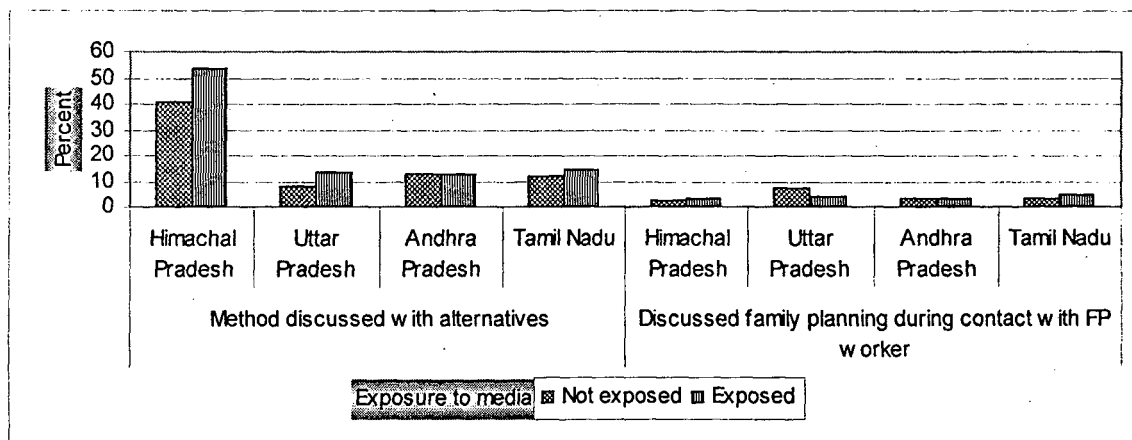
Figure 4.13 shows that the more women who are exposed to the media, reported discussion about the alternative methods than the women who are not exposed to mass media. All the states, except Andhra Pradesh show similar trend. In Andhra Pradesh more women (13.2 percent), who are not exposed to media, reported discussion about alternative method than the women (12.5 percent), who are exposed to the media. The substantial effect of media exposure can be seen in case of Himachal Pradesh where the difference is sharp (12 percent) between the case of 'media exposure' and 'no media exposure' with reference to the tendency of family planning worker to discuss alternative methods.

As figure 4.13 shows there is no definite trend in the variation of proportion of women who are reporting discussion on family planning with FP worker, with the media exposure of the women. There is little variation in the percentage of exposed women and unexposed women in terms of their reporting of discussion on family planning with family planning workers in all the states and also the numbers of cases are small in all the category of standard of living in all the states.

Table 4.9. Percentage distribution of different response/service variables by standard of living of the women.

Exposure to mass media	Himachal Pradesh		Uttar Pradesh		Andhra Pradesh		Tamil Nadu	
	Percent	No. of cases	Percent	No. of cases	Percent	No. of cases	Percent	No. of cases
Method discussed with alternatives								
Not exposed	41	227	8.1	851	13.2	576	11.7	392
Exposed	53.7	1537	13.5	1238	12.5	1604	14.8	1816
Chi.squ.(sig)	12.92 (0.00)		14.57 (0.00)		0.16 (0.68)		2.49 (0.11)	
Discussed family planning during contact with FP worker								
Not exposed	2.6	227	6.9	851	3.5	576	3.6	392
Exposed	2.9	1537	4	1238	3.4	1604	4.7	1816
Chi.squ.(sig)	0.05 (0.81)		9.11 (0.00)		0.002 (0.96)		0.92 (0.33)	
Told about side effect								
Not exposed	36.6	227	13.1	851	13	576	52.3	392
Exposed	33	1537	16.1	1238	13.2	1604	46.6	1816
Chi.squ.(sig)	1.13 (0.28)		3.77 (0.05)		0.00 (0.93)		4.21 (0.04)	
Talked nicely during the contact with FP worker								
Not exposed	88.1	227	42.3	851	66.8	576	88.3	392
Exposed	94.3	1537	49.8	1238	73.7	1604	85.7	1816
Chi.squ.(sig)	12.35 (0.00)		11.42 (0.00)		9.84 (0.00)		1.80 (0.18)	
Follow up for current method								
Not exposed	93	227	55	851	79.3	576	74.2	392
Exposed	82	1537	54.4	1238	80.2	1604	74.2	1816
Chi.squ.(sig)	17.18 (0.00)		0.06 (0.79)		0.18 (0.66)		0.00 (0.99)	
Quality of care								
Not exposed	97.3	219	93.2	738	90.4	572	92.7	385
Exposed	92.9	1287	93.6	873	92.7	1560	94.6	1734
Chi.squ.(sig)	0.03 (0.86)		0.08 (0.77)		3.05 (0.08)		1.99 (0.15)	

Source: IIPS, 2000.

In Himachal Pradesh and Tamil Nadu, more percentage of not exposed women are getting information about the side effects than the women who are exposed to media. In

Uttar Pradesh and Andhra Pradesh this situation is reverse and comes in favour of women exposed to mass media.

Table 4.9 shows that women exposed to media obtained good interpersonal behavior from the service provider compared to those who are not exposed to media. Only Tamil Nadu is showing a reverse position, where 88.3 percent unexposed women being talked nicely against the 85.7 percent women who are exposed to media. In rest of the states higher percentage of women who are exposed to mass media reported good talking behavior of the FP workers. That indicates there is positive relationship between women's exposure to mass media and the interpersonal relation with the service provider.

There is no significant variation in receiving of follow up visit from family planning worker with the exposure status of the women. Only in Himachal Pradesh this difference is in the favour of not exposed women i.e., more percentage of not exposed women are getting follow up visit for current method than the exposed women.

Table 4.9 shows that the attainment of good quality of care changes with the women's status of exposure to mass media. Except in Himachal Pradesh, all the states show that more percentage of media exposed women are getting good quality of care than the women who are not exposed to media. Though the difference between the proportion of media exposed and not exposed is not much, but there is still little variation. Even in Himachal Pradesh, more women not exposed to media reported good quality of care than the exposed women, but the difference is not much.

4.2.4b *Spousal communication:*

Spousal communication or husband involvement plays an important role in all matters related to contraceptive use (Bhusan, 1997).The relationship between spousal communication and information of alternative methods is very clear as shown in the figure 4.14. In all the considered states, higher proportion of women, who communicate with their partner, reported discussion about alternative methods with FP worker than the women who have not discussed family planning issue with the partner. The proportional difference between women who have discussed family planning with their partner and who have not discussed with their partner, is sharp (12 percent to 13 percent) in case of Himachal Pradesh

and Tamil Nadu. So it seems that there is a positive relationship between spousal communication and alternative choice of the method.

Figure 4.14 Percentage distribution of women who are discussing family planning matters with the FP worker and getting information about the alternative method by their inter-spousal communication status.
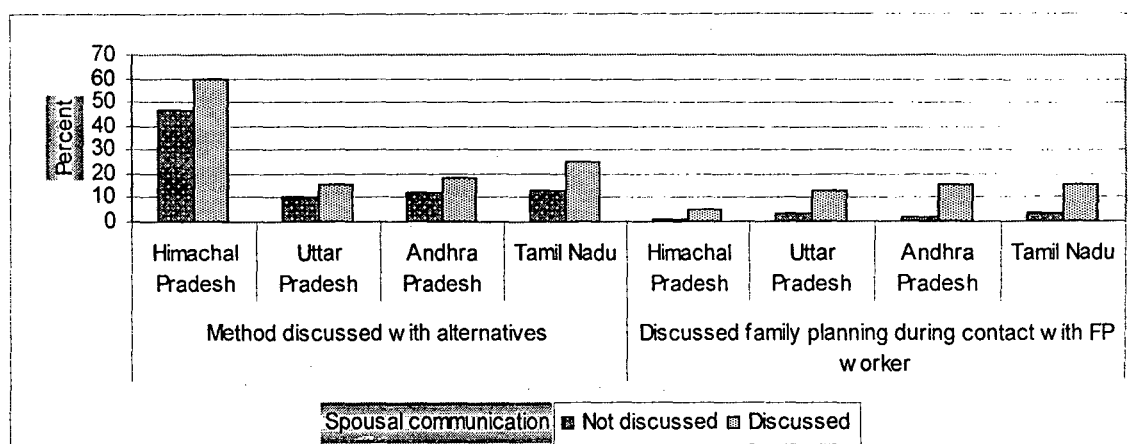
Again in the figure 4.14 spousal communication influences the family planning discussion during the contact with FP worker. All the states show that proportion of women who have reported family planning discussion during the contact with FP worker increase if women communicate family planning issues with their partner. The degree of influence is varies across the states.

Figure 4.15 Percentage distribution of women who have been talked nicely by the FP worker getting follow up visit by their inter-spousal communication status.
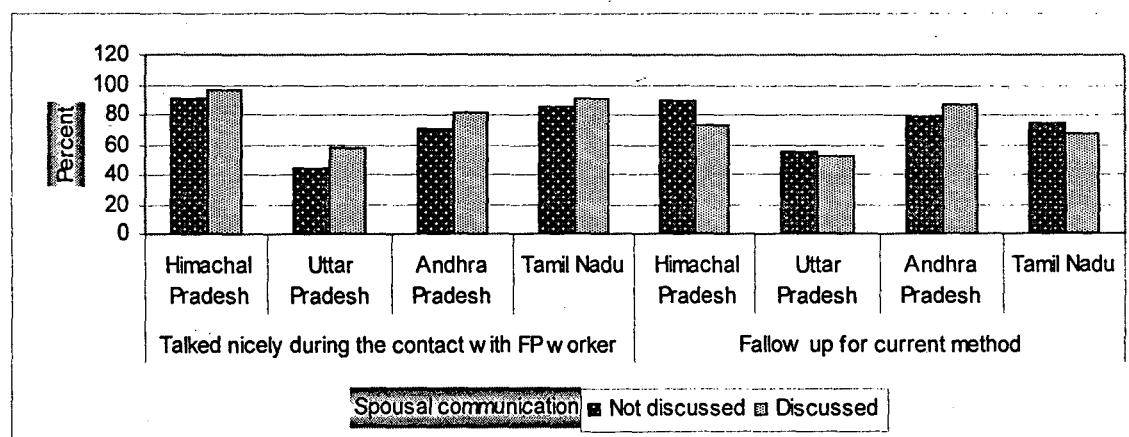
There are mixed results in the bivariate table 4.10. In Himachal Pradesh and Andhra Pradesh, more percentage of women with spousal communication are obtaining information about the side effects of the current method than the women without spousal communication. While in Uttar Pradesh and Tamil Nadu this trend is reverse. So it would be difficult to say about the relationship of these two variables, without further statistical analysis.

Table (4.10). Percentage distribution of different response/service variables by women status of inter-spousal communication.

Spousal communication	Himachal Pradesh		Uttar Pradesh		Andhra Pradesh		Tamil Nadu	
	Percent	No. of cases	Percent	No. of cases	Percent	No. of cases	Percent	No. of cases
Method discussed with alternatives								
Not discussed	46.7	1046	10.2	1634	12.1	1965	13	1978
Discussed	59.9	718	15.2	453	18.1	215	25.3	229
Chi.squ.(sig)	29.42 (0.00)		8.88 (0.00)		6.34 (0.01)		25.52 (0.00)	
Discussed family planning during contact with FP worker								
Not discussed	1.2	1046	3.1	1634	2.1	1965	3.2	1978
Discussed	5.3	718	12.8	453	15.8	215	15.3	229
Chi.squ.(sig)	24.89 (0.00)		68.81 (0.00)		109.93 (0.00)		3.87 (0.05)	
Told about side effect								
Not discussed	32.6	1046	15.3	1634	12.4	1965	48.3	1978
Discussed	34.7	718	13.7	453	20	215	41.5	229
Chi.squ.(sig)	0.82 (0.36)		29.72 (0.00)		9.90 (0.00)		3.85 (0.05)	
Talked nicely during the contact with FP worker								
Not discussed	90.9	1046	43.6	1634	70.8	1965	85.5	1978
Discussed	97.2	718	58.1	453	81.4	215	91.7	229
Chi.squ.(sig)	27.69 (0.00)		29.72 (0.00)		10.68 (0.00)		6.63 (0.01)	
Follow up for current method								
Not discussed	90.2	1046	55.4	1634	79.2	1965	75	1978
Discussed	73.5	718	52	453	86.5	215	67.5	229
Chi.squ.(sig)	84.85 (0.00)		1.68 (0.19)		6.39 (0.00)		5.89 (0.01)	
Quality of care								
Not discussed	97.3	971	93.2	1387	92.2	1934	94.4	1931
Discussed	98.9	535	95.1	223	90.4	198	92.5	187
Chi.squ.(sig)	4.01 (0.04)		1.14 (0.28)		0.83 (0.36)		1.12 (0.28)	

Source: IIPS, 2000.

Figure 4.15 shows that comparatively high proportion of women having spousal communication, reported nice talking behavior of the service provider than the women who did not have spousal communication. All the states are showing considerable increase when women communicate family planning matters with their partner. But nice talking behavior is not due to the spousal communication. Women who discuss FP issues with their partner may be from different group and may have some different socio-economic and demographic characteristics from the women without FP discussion with partner. Perhaps these distinct characteristics are playing a role in influencing the talking behavior of the service provider.

It is clear from the Figure 4.15 that higher percentage of women who do not discuss family planning with their husband, are getting follow up visits for the current method than the women who have discussed family planning with their husband. This trend is common in Himachal Pradesh, Uttar Pradesh, and Tamil Nadu. While in Andhra Pradesh this trend is reverse.

There are mixed results in the table (4.10). It shows that in north Indian states, more percentage of women who communicate with their partner, reported good quality of care in comparison to those who do not communicate with their partner. While in southern states, this situation is reverse. Actually in all the states a very high percentage of women in both the cases reported good quality of care during the sterilization or IUD insertion in the family planning clinic. Such a high percentage which does not vary much with the inter-spousal communication suggests that those who are opting sterilization or IUD may be a different group and here a distinction has not been made whether source of the service is government clinic or private clinic.

4.2.5 Summary of the bivariate analysis:

The above bivariate analysis is rather too long; our intention here to show the relationship and therefore the relationship had to be shown between all the predictor variables and response variables. From the above bivariate analysis some of the main results observed, are presented below.

Younger women have better interpersonal relationship as well as good chances of receiving information on family planning and alternative method in all the states, while older women are privileged in terms of receiving information on side effects of method. Rural urban differentials in quality of family planning services are clear in some states. In north

Indian poor performing state (Uttar Pradesh) big differences have been observed in favour of urban women in case of provision of information and interpersonal relationship. It seems that SC/STs are more privileged in terms of follow up visits and information on side effects than the other community in better performing states. The differences are sharper in south Indian states than north Indian states. In south Indian states, influence of women's exposure to mass media on quality of family planning services is not observed in analysis but it is positive in north Indian states. Women with high standard of living as well as women with high education level reported better response for all the dimensions of quality of care than the women with low standard of living and illiterate women. It is observed that these differences are lesser in south Indian states than the north Indian states. It is also observed that in all the states irrespective of their geographic location and demographic performance, family planning workers are more likely to provide information on the family planning and alternative method to Muslim and other religion women than the Hindu women. And less follow up visits for Muslim women takes place.

4.3 Correlation analysis among the predictor variables:

The present section examines the results of the correlation analysis among the socio-economic and demographic variables. A correlation analysis helps to identify the presence of common variance, if any, among the socio-economic and demographic (predictor variable) variables. Another reason for correlation analysis is to see the possibility of multicollinearity in the multivariate analysis. In this section, we discuss only those correlation coefficients, which are statistically significant and rather high i.e., more than 0.50. In Himachal Pradesh (table 4.11) there is no high correlation among the predictor variables. The maximum correlation coefficient observed is 0.34 between the standard of living index and women's exposure to mass media, which is significant at 5 percentlevel of significance. Other than this there is no such a high correlation coefficient among the predictor variables in case of Himachal Pradesh.

In Uttar Pradesh also there is no high correlation coefficient among the predictor variables. Though women's exposure to mass media is relatively highly correlated with the place of residence as well as with the standard of living index (both are significant at 5percent level), but the value of correlation coefficients are less than 0.50.

Table 4.11 Correlation coefficient among the predictor variables, Himachal Pradesh.

Variable	Current age	Place of residence	Educational level	Religion	Caste	Working status	Standard of living index	Exposure to mass media	Spousal communication
Current age	1								
Place of residence	0.046	1							
Educational level	0.07**	-0.101**	1						
Religion	-0.033	-0.099**	0.045	1					
Caste	0.014	-0.068**	0.022	0.045	1				
Working status	0.036	-0.068**	0.104**	0.051*	0.001	1			
Standard of living index	0.077**	-0.404**	0.039	0.037	0.264**	0.058*	1		
Exposure to mass media	-0.031	-0.196**	-0.122**	-0.035	0.052*	-0.029	0.34**	1	
Spousal communication	-0.199**	-0.096**	0.027	0.004	0.061*	-0.017	0.133**	0.153**	1

Source: IIPS, 2000.

Note: * = significant at 5 percent level of confidence.

     ** = significant at 1 percent level of confidence.

Table 4.12 Correlation coefficient among the predictor variables, Uttar Pradesh.

Variable	Current age	Place of residence	Educational level	Religion	Caste	Working status	Standard of living index	Exposure to mass media	Spousal communication
Current age	1								
Place of residence	0.007	1							
Educational level	0.066**	-0.006	1						
Religion	-0.113**	-0.223**	-0.038	1					
Caste	-0.049*	-0.099**	-0.098**	0.108**	1				
Working status	0.08**	0.141**	0.112**	-0.076**	-0.095**	1			
Standard of living index	-0.002	-0.42**	-0.127**	0.045*	0.279**	-0.199**	1		
Exposure to mass media	-0.062**	-0.409**	-0.199**	0.072**	0.148**	-0.126**	0.485**	1	
Spousal communication	-0.205**	-0.106**	-0.029	0.183**	-0.016	-0.062**	0.053*	0.078**	1

Source: IIPS, 2000.

Note: * = significant at 5 percent level of confidence.

** = significant at 1 percent level of confidence.

Table 4.13 Correlation coefficient among the predictor variables, Andhra Pradesh.

Variable	Current age	Place of residence	Educational level	Religion	Caste	Working status	Standard of living index	Exposure to mass media	Spousal communication
Current age	1								
Place of residence	0.005	1							
Educational level	-0.145**	-0.295**	1						
Religion	-0.013	-0.125**	0.047*	1					
Caste	-0.001	-0.14**	0.172**	-0.174**	1				
Working status	0.027	0.416**	-0.425**	-0.07**	-0.198**	1			
Standard of living index	0.094**	-0.308**	0.448**	-0.031	0.315**	-0.376**	1		
Exposure to mass media	-0.036	-0.255**	0.365**	0.014	0.141**	-0.308**	0.389**	1	
Spousal communication	-0.159**	0.021	0.066**	-0.022	0.029	-0.03	-0.006	-0.011	1

Source: IIPS, 2000.
Note: * = significant at 5 percent level of confidence.
    ** = significant at 1 percent level of confidence.

Table 4.14 Correlation coefficient among the predictor variables, Tamil Nadu.

Variable	Current age	Place of residence	Educational level	Religion	Caste	Working status	Standard of living index	Exposure to mass media	Spousal communication
Current age	1								
Place of residence	0.046*	1							
Educational level	0.077**	0.114**	1						
Religion	-0.033	-0.17**	-0.054*	1					
Caste	-0.01	-0.106**	-0.094**	0.064*	1				
working status	0.128**	0.296**	0.155**	-0.108**	-0.155**	1			
Standard of living index	0.061**	-0.336**	-0.093**	0.111**	0.256**	-0.261**	1		
Exposure to mass media	-0.064**	-0.242**	-0.167**	0.023	0.088**	-0.16**	0.342**	1	
Spousal communication	-0.236**	-0.107**	-0.05*	0.058**	0.012	-0.116**	0.113**	0.057**	1

Source: IIPS, 2000.

Note: * = significant at 5 percent level of confidence.

** = significant at 1 percent level of confidence.

Similar results are shown in the table 4.13 and table 4.14 for the state Andhra Pradesh and Tamil Nadu. In both the states the correlation coefficient is not more than 0.50. In Andhra Pradesh, working status of the woman shows relatively high and significant correlation coefficient with the place of residence as well as with the educational level of women. Again similar to the other states, in Andhra Pradesh also education level of the woman and standard of living index show comparatively high correlation, which is 0.45 and significant at 5 percent level. In Tamil Nadu a higher correlation is observed between standard of living and place of residence as well as between standard of living and exposure to mass media. This indicates that urban women have higher standard of living compared with rural women and women with higher standard of living are generally exposed to mass media than women from low standard of living.

4.4 Multivariate Analysis:

In this section, the results of the logistic regression are discussed. Table 4.15 to table 4.19 shows the logistic regression analysis for the response variable (service variables). These variables are method discussed with alternative, told about the side effects of the method, and talked nicely during the contact, follow up for current method, and quality of care during the operation. These service variables corresponds to the four basic elements of the quality of care, choice of the methods, information to the client, interpersonal relationship, and mechanism to encourage continuity, which have been identified by the Jain and Bruce,(1990). We would like to mention here, the logistic regression analysis for the variable 'discussion of family planning during the contact with the health worker' was not carried out as there were very few cases in all the states. This has been shown in connection with bivariate analysis which was carried out in second section of this chapter.

The exponential parameter in the tables, Exp (B) is the odds ratio. It represents proportional increase (if greater than 1) or decrease (if less than 1) in the concerned category. We have compared the regression results for all the states.

4.4.1 Method Discussed with Alternative:

Information about the alternative methods varies with the age of the women. It is clear from the table 4.15 that in Himachal Pradesh family planning worker have 40 percent

more probability to discuss about the alternative methods with the women of age group 30-39 than the women from age group 15-29. In the same way, those women who are more than forty years have 59 percent more chance of discussion about alternative methods for the family planning. Surprisingly this age factor does not seem to be effective in the determination of discussion about the alternative methods in rest of the three states. In Tamil Nadu it can be said that women from forty plus age group are 29 percent less likely to discuss about the alternative methods than the younger women from age group 15-29, but this statement is valid to say with the 7 percent level of significance.

Place of residence is another factor which can influence the information about the alternative methods at the time of family planning discussion. It is evident from the table 4.15 that in Uttar Pradesh, urban women are more likely to discuss about the alternative methods at the time of contraceptive acceptance than the rural women. Tamil Nadu is exception where women from urban area do not differ significantly from the rural women, in case of alternative method discussion with the FP worker. The more chances of discussion of method choice is 47 percent in Uttar Pradesh, while in Himachal Pradesh and Andhra Pradesh, urban women have24 percent and33 percent less probability of discussion about alternative methods than the rural women. This may be because of emphasis in family planning in rural areas of the states.

According to the results it seems that education is also playing a significant role in the provision of choice of method, in all the states. Middle school completed women have 1.35 times more chance in Himachal Pradesh and 2.04 times more chance in Tamil Nadu of getting choice of method than the illiterate women. In Uttar Pradesh and Andhra Pradesh, middle school completed women do not differ significantly from illiterate women in this regard. In these two states as well as in Tamil Nadu, high school and above educated women differ significantly from the illiterate women and have 65 percent, 85 percent and 308 percent more chances of getting choice of contraceptive method respectively. It is very clear that education after middle school is more effective in determination of quality of family planning services than the education less than middle school. And high educational status increases the chances of getting information about the choice in the family planning clinic or at home.

Table 4.15 Results of logistic analysis for discussion about alternative methods.

Variable	Ref.Cat.	Himachal Pradesh		Uttar Pradesh		Andhra Pradesh		Tamil Nadu	
		Sig.	Exp(B)	Sig.	Exp(B)	Sig.	Exp(B)	Sig.	Exp(B)
Age of the woman	**15-29**	0.003		0.559		0.502		0.161	
30-39		0.008	1.396**	0.736	0.944	0.52	0.908	0.215	0.836
40+		0.001	1.599**	0.298	0.81	0.246	0.807	0.062	0.716
Place of residence	**Rural**								
Urban		0.03	0.762*	0.033	1.47*	0.027	0.674*	0.818	0.969
Level of education	**Illiterate**	0.041		0.013		0.013		0	
Middle school completed		0.014	1.355*	0.551	0.887	0.867	0.971	0	2.047**
High school and above		0.072	1.351	0.023	1.655*	0.011	1.852*	0	3.086**
Religion	**Hindu**	0.072		0.489		0		0.912	
Muslim		0.026	1.937*	0.973	1.008	0	2.813**	0.68	1.108
Others		0.555	1.173	0.232	1.699	0.008	0.312**	0.929	0.976
Caste of the woman	**SC/ST**								
Others		0.554	0.93	0.092	1.469	0.002	0.591**	0.535	0.905
Working status	**Not working**								
Working		0.001	1.525**	0.66	0.923	0.989	1.002	0.069	1.282
Standard of living	**Low**	0.204		0.034		0.089		0.165	
Medium		0.089	0.712	0.018	1.83*	0.425	1.145	0.186	1.245
High		0.087	0.677	0.214	1.458	0.035	1.645*	0.825	0.95
Exposure to mass media	**Not exposed**								
Exposed		0.003	1.635**	0.715	1.071	0.211	0.809	0.556	0.893
Spousal communication	**Not discussed**								
Discussed		0	1.774**	0.071	1.351	0.029	1.535*	0.001	1.787**
Constant		0.003	0.495	0	0.046	0	0.223	0	0.102

Source: IIPS, 2000.

Note: * = significant at 5 percent.
    ** = significant at 1 percent.

In Himachal Pradesh and Andhra Pradesh religion is also playing a significant role in the availability of method choice. In these states, Muslims are 93 percent and 281 percent more likely to get information about the alternative methods than the Hindu women. In Andhra Pradesh women belonging to the other religion (except Hindu and Muslim) have 69 percent less chances of getting choice of contraceptive method. While in Uttar Pradesh and Tamil Nadu there is no significant difference in chance of getting method choice by the religion.

Caste is significantly effective in Andhra Pradesh only. Non SC/ST women have 41 percent less chances of getting information about the alternative method than the SC/ST women. While in the rest of the states other community women do not differ significantly from SC/ST women in terms of getting information of alternative method.

The effect of working status is not significant in Uttar Pradesh, Andhra Pradesh and Tamil Nadu. While in Himachal Pradesh working women have 52 percent more chances of getting choice of method than the not working women. This is significant at 99 percent level of confidence. Surprisingly, working status is only effective in Himachal Pradesh while, standard of living is significantly effective in Uttar Pradesh and Andhra Pradesh. Women with medium standard of living are 83 percent more likely to get information about the alternative method than the women from low standard of living in Uttar Pradesh. In Andhra Pradesh high living of standard is significantly influential. Women with high standard of living are 65 percent more likely to get information about the alternative method than the women from low standard of living in Andhra Pradesh.

In Himachal Pradesh, if women are exposed to mass media then there is 63 percent more chance of getting information about the alternative methods than the women who are not exposed to any media. In rest of the states there is no significant difference in women exposed and not exposed to the media in terms of getting information of method choice. Except in Uttar Pradesh, spousal communication is playing significant role in determining the availability of method choice. There is 77.4 percent more chance in Himachal Pradesh, 54 percent in Andhra Pradesh and 79 percent in Tamil Nadu of getting alternative choice of method, if women discussed family planning matters with their partner than in the absence of spousal communication. That means spousal communication may increase information about the choice of contraceptive method.

Table 4.16 Results of logistic analysis for the information about the side effects.

Variable	Ref.Cat.	Himachal Pradesh		Uttar Pradesh		Andhra Pradesh		Tamil Nadu	
		Sig.	Exp(B)	Sig.	Exp(B)	Sig.	Exp(B)	Sig.	Exp(B)
Age of the woman	**15-29**	0.248		0.645		0.903		0.934	
30-39		0.107	1.239	0.549	1.102	0.995	1.001	0.734	0.965
40+		0.176	1.225	0.349	1.182	0.684	1.075	0.764	0.964
Place of residence	**Rural**								
Urban		0.975	1.004	0.153	0.786	0.654	1.079	0.000	0.406**
Level of education	**Illiterate**	0.022		0.308		0.372		0.040	
Middle school completed		0.935	0.99	0.331	1.181	0.161	1.265	0.013	1.307*
High school and above		0.017	0.657*	0.135	1.375	0.515	1.187	0.407	1.138
Religion	**Hindu**	0.465		0.073		0.320		0.988	
Muslim		0.303	1.348	0.027	0.536*	0.480	1.226	0.878	1.029
Others		0.473	1.217	0.609	1.247	0.186	0.61	0.981	1.005
Caste of the woman	**SC/ST**								
Others		0.061	1.275	0.002	0.604**	0.632	1.09	0.295	0.89
Working status	**Not working**								
Working		0.007	1.409**	0.259	0.836	0.000	1.859**	0.239	1.12
Standard of living	**Low**	0.229		0.238		0.331		0.945	
Medium		0.175	1.332	0.090	1.392*	0.153	1.26	0.895	1.015
High		0.575	1.144	0.199	1.372	0.613	1.127	0.743	1.055
Exposure to mass media	**Not exposed**								
Exposed		0.714	0.941	0.192	1.233	0.891	1.023	0.981	1.003
Spousal communication	**Not discussed**								
Discussed		0.055	1.231	0.686	0.936	0.001	1.822**	0.269	0.845
Constant		0.000	0.285	0.000	0.174	0.000	0.069	0.079	1.343

Source: IIPS, 2000.

Note: * = significant at 5 percent.

    ** = significant at 1 percent.

4.4.2 Told about the side effects of the method:

Information about the side effects of the contraceptives is important, so that client can understand the potential problems during the acceptance of method. Provision of information about the side effects varies with the background characteristics of the client. It is evident from the table 4.16 that age of the women is not significant in determining provision of information about the side effects. In Tamil Nadu, urban women are 60 percent less likely to get information about the side effects than the rural women. In other states urban women do not differ significantly from rural women in terms of getting information about side effects. In Himachal Pradesh, high school and above educated women have 34 percent less probability and in Tamil Nadu, middle school passed women have 1.3 times more probability of getting information of side effects than the women who are illiterate. Here the case of Himachal Pradesh is unexpected and reasons for such relationship are not clear. In Utter Pradesh, Muslim women are 47 percent less likely to get information on side effects than the Hindu women, while in rest of the states religion is not playing a significant role in provision of information in the family planning clinic. In Uttar Pradesh women from the non SC/ST community have 40 percent less chance of getting information on side effects than the women from SC/ST community. This result about the caste is contrary to our expectation.

In Himachal Pradesh and Uttar Pradesh, working women have 1.4 times and 1.9 times respectively more chances of getting information about the side effects of the method, than the not working women. Spousal communication is important and significant in Andhra Pradesh: presence of spousal communication increases the chances of getting information about the side effects by 1.82 times than the absence of it. Rest of the states is not showing significant variation in chances of getting information about the side effects with spousal communication.

4.4.3 Talked nicely during the contact:

Inter-personal relationship between the service provider and client is an important aspect of the quality of service. Talking behavior of the FP worker is also influenced by the background characteristics of the client. It is evident from the table 4.17 that service provider is less likely to talk nicely to women in higher age group than the women from younger age

Table 4.17 Results of logistic for the talking behavior of the family planning worker during the contact.

Variable	Ref.Cat.	Himachal Pradesh		Uttar Pradesh		Andhra Pradesh		Tamil Nadu	
		Sig.	Exp(B)	Sig.	Exp(B)	Sig.	Exp(B)	Sig.	Exp(B)
Age of the woman	**15-29**	0.080		0.000		0.000		0.000	
30-39		0.100	0.602	0.000	0.598**	0.000	0.534**	0.000	0.515**
40+		0.025	0.481*	0.000	0.396**	0.000	0.453**	0.000	0.362**
Place of residence	**Rural**								
Urban		0.711	1.104	0.000	1.832**	0.643	0.943	0.031	0.736*
Level of education	**Illiterate**	0.148		0.405		0.531		0.522	
Middle school completed		0.055	1.608	0.497	1.09	0.917	1.014	0.492	1.109
High school and above		0.604	1.194	0.438	0.883	0.282	1.243	0.261	1.285
Religion	**Hindu**	0.990		0.065		0.285		0.702	
Muslim		0.974	0.981	0.064	1.364	0.634	1.116	0.409	1.28
Others		0.891	1.076	0.170	0.608	0.134	0.71	0.841	1.06
Caste of the woman	**SC/ST**								
Others		0.842	0.953	0.373	1.12	0.062	0.776	0.610	1.084
Working status	**Not working**								
Working		0.013	0.58*	0.887	1.016	0.866	1.02	0.103	0.798
Standard of living	**Low**	0.015		0.210		0.181		0.358	
Medium		0.005	2.401**	0.078	0.79	0.070	1.244	0.183	0.807
High		0.111	1.84	0.199	0.8	0.475	1.133	0.224	0.753
Exposure to mass media	**Not exposed**								
Exposed		0.308	1.324	0.608	1.061	0.036	1.292*	0.233	0.797
Spousal communication	**Not discussed**								
Discussed		0.000	2.965**	0.004	1.399**	0.022	1.531*	0.215	1.378
Constant		0.000	6.416	0.369	1.159	0	3.379	0.000	17.478

Source: IIPS, 2000.

Note: * = significant at 5 percent.

    ** = significant at 1 percent.

groups. Women from 40 and more age group have 52 percent, 61 percent, 55 percent and 64 percent less chances of being talked nicely by the FP worker than the women from 15-29 age group in Himachal Pradesh, Uttar Pradesh, Andhra Pradesh and Tamil Nadu respectively. Women from 30-39 age groups have 41percent, 47percent, and 49 percent less chance of being talked nicely by the FP worker than women from 15-29 age group in Uttar Pradesh, Andhra Pradesh and Tamil Nadu respectively. It is clear that interpersonal behavior of the FP worker is not good with the women of higher age group.

In Uttar Pradesh these relationship become relatively better with the women from urban area, while in Tamil Nadu this situation is reverse. In Uttar Pradesh, urban women have 1.8 times more probability of getting good talking behavior of the FP worker than the rural women, while in Tamil Nadu this probability is 69 percent less than the rural women. Working status and standard of living of women are important in Himachal Pradesh which influences the talking behavior of the service provider. Working women have 42 percent less chance and women with medium standard of living have 2.4 times more chances of reporting good talking behavior of the service provider than not working women and women with low standard of living respectively in Himachal Pradesh. Talking manner of family planning worker during the contact with woman is related to spousal communication, women who had spousal communication have 2.9 times more chances in Himachal Pradesh, 1.4 times more chances in Uttar Pradesh, 1.5 times more chances in Andhra Pradesh than the woman who did not have spousal communication. Tamil Nadu does not show significant effect of spousal communication on the talking behavior of the FP worker.

Form the above we can say that age and spousal communication are very significant factors for all the states in the determination of interpersonal behavior of the service provider. Working status and standard of living are also effective in Himachal Pradesh.

4.4.4 Follow up for current method:

Follow up services are important because these services can only maintain the continuity of family planning use. That is why good quality services incorporate it as an important aspect of the services. These services are influenced by the socio-economic and demographic characteristics of the client. In Himachal Pradesh age of the women affects the follow up visits of FP worker. Women in higher age group are more likely to get follow up

Table 4.18 Results of logistic for follow up services by a family planning worker.

Variable	Ref.Cat.	Himachal Pradesh		Uttar Pradesh		Andhra Pradesh		Tamil Nadu	
		Sig.	Exp(B)	Sig.	Exp(B)	Sig.	Exp(B)	Sig.	Exp(B)
Age of the woman	**15-29**	0.000		0.702		0.518		0.620	
30-39		0.000	2.394**	0.639	1.055	0.286	0.875	0.745	0.963
40+		0.000	4.197**	0.401	1.113	0.904	0.982	0.537	1.09
Place of residence	**Rural**								
Urban		0.000	0.449**	0.120	1.208	0.281	0.858	0.261	1.132
Level of education	**Illiterate**	0.000		0.632		0.610		0.922	
Middle school completed.		0.196	1.346	0.725	0.957	0.324	1.154	0.965	0.995
High school and above		0.000	0.349**	0.339	0.861	0.618	1.116	0.708	0.937
Religion	**Hindu**	0.953		0.066		0.001		0.75	
Muslim		0.883	1.059	0.02	0.687*	0.005	0.537**	0.533	1.145
Others		0.789	0.904	0.943	0.976	0.019	2.148*	0.640	1.116
Caste of the woman	**SC/ST**								
Others		0.329	0.809	0.329	0.885	0.966	0.994	0.620	1.063
Working status	**Not working**								
Working		0.288	0.828	0.000	1.57**	0.000	0.619**	0.398	0.913
Standard of living	**Low**	0.000		0.89		0.333		0.252	
Medium		0.376	1.364	0.846	0.975	0.271	0.861	0.435	0.909
High		0.246	0.645	0.855	1.032	0.148	0.751	0.440	1.155
Exposure to mass media	**Not exposed**								
Exposed		0.646	1.155	0.636	1.055	0.887	1.020	0.760	0.958
Spousal communication	**Notdiscussed**								
Discussed		0.000	0.472**	0.543	0.933	0.024	1.607*	0.017	0.681*
Constant		0.000	7.95	0.521	1.11	0.000	6.038	0.000	2.974

Source: IIPS, 2000.

Note: * = significant at 5 percent.
 ** = significant at 1 percent.

visits than the women from younger age groups. Women from forty plus age group have 4.2 times more chances of getting follow up service than the women from 15-29 age group in Himachal Pradesh. Women from 30-39 age groups have 2.4 times more chance of receiving follow up service, than the women from 15-29 age group in Himachal Pradesh. As in case of other response variables women of higher age group are getting better follow up service from the FP workers than the younger women. Place of residence and educational level of the women is also significant in determining of follow up services. Urban women are 54 percent less likely to get follow up visits than the rural women while high school and above educated women also have 65 percent less chance of getting follow up services than the illiterate women. In Uttar Pradesh and Andhra Pradesh, Muslim women have 31 percent and 46 percent less probability of getting follow up services than the Hindu women respectively. Women from other religions have 2.14 times more chance of receiving follow up visits than the Hindu women in Andhra Pradesh.

Working status of the women significantly affects the follow up service in Uttar Pradesh and Andhra Pradesh. Working women have 1.57 times more chances in Uttar Pradesh and 38 percent less chances in Andhra Pradesh than the not working women. The working status of the women affects follow up services in positive and negative ways both, in different states. In Himachal Pradesh and Tamil Nadu, those women who used to discuss family planning issues with their husband have less chances of receiving follow up visits than those women who did not discussed these issues with their husband. In Andhra Pradesh this situation is reverse. There is 1.6 times more chances of getting follow up services if the women had spousal communication.

4.4.5 Quality of care:

Assessment of quality of services by the client is a complete indicator which tells about the quality of services with the client's perspective. But good quality of care influenced by the background characteristics of the client. It is evident from the table 4.19 that in Himachal Pradesh age of the women is significantly affecting the quality of care during the sterilization or during the IUD insertion in family planning clinic. Women from age group 30-39 have 79 percent less probability of getting good quality of care than, younger women from age group 15-29. This age factor is not significant in rest of the states. In Tamil Nadu

Table 4.19 Results logistic analysis for quality of care during the operation in the family planning clinic.

Variable	Ref.Cat.	Himachal Pradesh		Uttar Pradesh		Andhra Pradesh		Tamil Nadu	
		Sig.	Exp(B)	Sig.	Exp(B)	Sig.	Exp(B)	Sig.	Exp(B)
Age of the woman	**15-29**	0.041		0.149		0.375		0.920	
30-39		0.039	0.212*	0.077	0.577	0.856	1.034	0.782	0.939
40+		0.315	0.441	0.438	0.771	0.180	1.366	0.686	0.899
Place of residence	**Rural**								
Urban		0.355	1.617	0.700	1.123	0.154	0.742	0.016	0.594*
Level of education	**Illiterate**	0.481		0.732		0.517		0.440	
Middle school completed		0.301	1.565	0.957	1.015	0.395	1.203	0.397	1.21
High school and above		0.916	0.938	0.442	1.413	0.314	1.463	0.218	1.542
Religion	**Hindu**	0.413		0.427		0.281		0.186	
Muslim		0.190	0.348	0.204	0.579	0.649	1.206	0.846	0.927
Others		0.869	1.187	0.748	0.785	0.126	2.099	0.067	0.517
Caste of the woman	**SC/ST**								
Others		0.143	0.442	0.815	0.940	0.861	1.038	0.491	1.169
Working status	**Not working**								
Working		0.253	1.868	0.622	1.124	0.520	0.879	0.651	1.098
Standard of living	**Low**	0.964		0.039		0.332		0.721	
Medium		0.792	1.194	0.021	1.821*	0.949	0.988	0.438	1.194
High		0.862	1.147	0.026	2.341*	0.209	1.491	0.544	1.241
Exposure to mass media	**Not exposed**								
Exposed		0.551	0.715	0.207	0.734	0.424	1.169	0.241	1.343
Spousal communication	**Not discussed**								
Discussed		0.063	2.373	0.398	1.326	0.423	0.811	0.241	0.696
Constant		0	183.49	0	13.678	0	9.393	0	12.765

Source: IIPS, 2000.

Note: * = significant at 5 percent.

  ** = significant at 1 percent.

urban women are 41 percent less likely to report good quality of care during the operation than the rural women. While this residence factor is not significant in rest of the states. Again in Andhra Pradesh, standard of living of the women affects the quality of care in family planning clinic during the sterilization or IUD insertion. Women who have medium standard of living are 1.82 times more likely to report good quality of care than the women who have low standard of living: in the same way women from high standard of living have 2.34 times more chance of getting good quality of care in the family planning clinic, during the operation. As we have seen in the analysis that age factor is significant in Himachal Pradesh, place of residence is significant in Tamil Nadu and standard of living is significant in Uttar Pradesh.

4.4.6 Summary of the Multivariate Analyses:

From the analyses it is observed that different socio-economic factors affect the quality of care in family planning services. Influence of these factors varies according to the geography of the state as well as according to their demographic characteristics. Here geography of the state means north-south location of the state. In this study we have accepted north south divide as Dyson and Moore (1983) mentioned in their study. Demographic characteristic of the state is in relation to the modern contraceptive use. Those states who reported high modern contraceptive use are considered as better performing states (Himachal Pradesh and Tamil Nadu) while those who reported less modern contraceptive use are considered as poor performing states (Uttar Pradesh and Andhra Pradesh).Following results can be highlight from the logistic regression analysis.

There are geographical difference in the factors that influence provision of information on alternative method and side effects of the method. Younger women have been ignored in provision of information about alternative method and side effects in north Indian better performing states (Himachal Pradesh), while such discrimination has not been found in the provision of information in south Indian states. This discrimination is again visible in poor performing states and better performing states, like information provision is better in poor performing states in urban areas than the rural areas. SC/ST women are privileged in terms of getting information about alternative and side effects of the methods in poor performing states, while in better performing states it is not so. It is also found that in terms

of follow up services north Indian better performing states concentrate on the older women, rural women, illiterate women and non Muslim women, while it is not so in south Indian states.

The influences of these factors do not vary always with their geographical location as well as with their demographic performance. Some factors influence quality of family planning services in equal manner. For example, it is found in the analysis that education level of the woman is related to better chances of getting information about the alternative methods and side effects of the method and it is also clear from the results that women from younger age group and women with high standard of living have always good chances of getting good interpersonal relation with the service provider in all the states irrespective of the geography as well as demographic performance of the states.

With the results of bivariate and multivariate analyses following hypotheses come true.

It is true that family planning workers provide good quality services to younger women in all the states, because it is observed that younger women have better interpersonal relationship as well as good chances of receiving information on family planning and alternative method in all the states.

Rural urban differentials in quality of family planning services are clear in some states. In north Indian poor performing state (Uttar Pradesh) large differences have been observed in favour of urban women in case of provision of information and interpersonal relationship. In south Indian states provision of quality services do not vary with the place of residence of the women.

It is observed that highly educated women are getting better quality of services than the illiterate women. Some states like Uttar Pradesh show little variation from this trend. Education level of the women influences the information aspect of quality of services positively. Working women have more chances of getting information about the side effects than not working women. But Uttar Pradesh and Tamil Nadu do not show any influence of working status of the women in information provision in the clinic. Women who are exposed to mass media reported receiving better information on alternative method than the women unexposed to mass media. Interspousal communication improves the chances of attaining better information on family planning and alternative methods.

Conclusion

Chapter Five

Chapter V

Conclusion

In the present scenario quality of health and family planning services has become the subject of increasing interest to health care providers and organizations responsible for financing and promoting health and family planning services. An international consortium of experts and agencies including WHO, USAID and supported organizations have accepted the important role of good quality services, over the performance of family planning programme especially at the time when most of the developing countries executing their family planning programme without paying any attention about quality of respective services. It is true that the developing countries ignored the quality aspect of their health and family planning programme since a long time and that is why they could not get satisfactory outcome from their respective programmes. The Indian government has put some efforts to improve the quality and ranges of services provided through the Indian family planning programme. In early 1996, the government abolished the nationwide system of contraceptive method targets. These targets distorted the programme philosophy. For this reason, in late 1997, the Indian government launched the new Reproductive and Child Health programme with the objective of addressing more effectively the broader reproductive health needs of family. And in this approach special stress has been given to improve the quality of family planning services.

The Present study finds that family planning worker are more likely to provide information on alternative method and side effects of the method to rural and urban women both in the states which report better contraceptive use (Tamil Nadu and Himachal Pradesh). On the other hand, in those states which report poor contraceptive use (Uttar Pradesh and Andhra Pradesh) urban women are privileged in terms of getting information on alternative method and side effects of the method than the rural women. It suggests that information aspect of the quality is better in demographically better states and it may be a main reason of better proportion of modern contraceptive users in these states.

Fertility rate among the illiterates is generally higher than the literate women. This situation may become worse if the quality of family planning services provided to

illiterate women is not good as the present study shows. In the absence of information about the methods client may discontinue the method. Illiterate women have not reported good follow up services also, which is disappointing for the illiterate women who would like to use modern contraceptive methods. Such a biased and poor quality programme can not sustain their clients for a long time. Actually a programme of high quality is one that is client oriented and aims to help the individuals to achieve their reproductive goals without any discrimination. Results from the present study indicate that in the Indian family planning programme not only services are poor in quality but also their provision is discriminatory. When demographic targets were introduced they did not consider the benefits of good quality services, but it has been recognized that quality of services has an important impact on fertility reduction.

The quality of family planning services does not vary with the client's religion. But some of the dimensions like, information about the choice of method are better among the Muslim women. It is well known that family planning workers generally suggest sterilization or IUD insertion. So discussion about the alternative method becomes essentials for the Muslim women. Another thing which is clear in the study is that family planning workers generally ignored Muslim women in provision of follow up visits. The reason for this may be their preference of contraceptive method other than sterilization and IUD. Follow up visits generally take place if the client goes through the sterilization or IUD insertion.

Here one question arises, if the family planning workers can provide information about the alternative method to Muslim women then why is this information not available to the non-Muslim women. It indicates the family planning worker's habit; they provide information according to their perception about client rather than according to the needs of client. The present study also finds that women who had discussed family planning with their partner have greater chances of getting information about the alternative choice and side effects of the method. This also indicates worker's tendency that they do not provide information until client initiates the discussion or asked about the particular method. Such initiation does not take place in the case of client who is illiterate, do not discuss family planning with their partner or have no knowledge about contraceptive methods. It appears that family planning staff does not know about the quality of

services, importance of quality in family planning services or simply they do not bother about it. Limited information is not only due to carelessness of the family planning worker but also due to limited knowledge about the methods of contraception. Some studies found, less percentage of nurse/midwives had an accurate understanding of contraception, side effects and many basic pathological tests (Visaria, 1999, and Satia and Giridhar, 1991).

Interpersonal relation between the client and provider must be such that it creates favorable atmosphere for the clients. It is found in the study that younger women, women with the high standard of living as well as women who discussed family planning matters with their partner are enjoying better interpersonal relations than rest of the women. This bias behavior of family planning worker may lead to lesser use of contraceptive among those women who are older, poor as well as those who do not discuss family planning matters with their partner. A client would not approach the family planning clinic if he/she gets derogatory and harsh treatment from the family planning staff. Such incidents with the clients are very common in Indian clinics. Not only this, our results also suggest that poor women are not getting proper care during the operation (sterilization or IUD insertion) in family planning clinics. Generally women, who can not monetarily reward family planning staff for their services, often face harsh behavior of the staff (Ravindran 1999). Such experience of a woman in family planning clinic may create the ground for other women not to visit family planning clinic. Follow up visits and care during the operation is also determined by the socio-economic and demographic status of the women.

In such circumstances one can not expect, that these clinics will be able to attain its aim in near future. These poor quality services are a prominent cause for disappointing performance of family planning programme in last fifty years. If these problems persist longer then the future performance of Indian family planning programme will be poor.

Out of four considered states Himachal Pradesh and Tamil Nadu are relatively well, because in these two states service provision is not in favour of advantageous section of the society. Perhaps this is the reason these states are comparatively better in terms of modern contraceptive use than the Uttar Pradesh and Andhra Pradesh. This does not mean that quality of services is very high in Himachal Pradesh and Tamil Nadu.

The present study highlighted the different factors that affect the quality of care in family planning services. Though Indian government has withdrawn method targets nationwide but it seems targets are implicitly given to family planning workers. This may be important reason why clients get limited information about the contraceptive methods. Poor and illiterate women are most sufferers with this attitude of family planning workers. Therefore, it is important for Indian family planning programme to implement effectively target free approach in family planning. This approach has the potential to contribute to enlarge contraceptive choice and improved quality of care. Family planning programme should try to remove various misconceptions about the contraceptive methods, prevailing in Indian society. These misconceptions can be removed only through providing accurate information about the side effects and their possible solutions. And above than all, this important information should be universally delivered without making any difference among the clients.

In the Indian family planning programme government should ensure healthy interaction between the client and service provider. That can only be done by adequate supervisory system. Here 'adequate' means supervisors exist at all levels of programme operations in sufficient numbers to make possible supervisory visits at least once in a month. At the time of supervision visits encouragement, advice, and support should be provided to the family planning workers, simultaneously, sufficient strictness should be there during the evaluation of worker's performance. Such a vigilance of activities at the family planning clinics at each level may improve the situation. At the same time training programmes for the family planning workers are must. And these training programmes should be run at each level of the operation as well as for each category of the staff, So that they can improve their understanding about the methods and their way of working and can develop the skills to communicate with the clients.

Finally the performance of family planning worker should be evaluated with the client perspective and good performing workers should be rewarded so that a new tradition of respect to performance can be started in the programme.

The programme should try to ensure the continuity of the client by keeping in touch with the client and by solving the problems that they face during the contraception use. Jain (1999) has also suggested that focus should be on providing for the needs of

continuing clients instead of concentrating exclusively on recruiting new ones. Such a focus would benefit not only the current users but also attract the new users, as the experience of earlier becomes known. But this strategy would be successful only if clear and specific guidelines are there in the programme for serving continuing clients. All these steps are very necessary to provide better quality services in the Indian Family planning programme.

APPENDIX - I

STANDARD OF LIVING INDEX

Standard of Living Index (Roy and Jayachandran, 1995) has been calculated to understand the standard of living of households of the interviewed women. Calculation procedure is given below.

Appendix Table: Scores for the variables used in the computation of Standard of Living Index (SLI).

Variable	Scores
1. Separate Room for cooking	Yes =1 No =0
2. Type of House	Pucca =2 Semi-Pucca = 1 Kachha =0
3. Source of Lighting	Electricity =2 Kerosene or gas or oil = 1 Other = 0
4. Fuel for Cooking	Electricity or gas or bio-gas = 2 Coal or charcoal or kerosene = 1 Other =0
5. Source of drinking water	Well or pipe or hand-pump (Own) = 2 Well or pipe or hand-pump, (Public) = 1 Other = 0
6. Toilet Facility	Own flush toilet =3 Flush toilet (Public or shared) or own pit toilet = 2 Shared pit toilet or public pit toilet =1 Other = 0
7. Ownership of live stock	Bullock = 2 Cow = 2 Buffalo =2 Goat = 1 Sheep =1 Camel =1
8. Ownership of goods	Sewing Machine =2 Clock / Watch =1 Sofa set =2 Fan =2 Radio / Transistor =2 Refrigerator =3 Television =3 VCR/VCP =3 Bicycle =2 Motorcycle! Scooter =3 Car =4
Standard of Living Index (SLI)	Score Range 0 to 48
Categories of SLI Low SLI Medium SLI High SLI	Range 0 to 9 1o to 19 20 and above

DETAILED RESULTS OF LOGISTIC REGRESSION ANALYSIS: HIMACHAL PRADESH

Method discussed with alternative

Variable	Ref.Cat.	B	S.E.	Wald	df	Sig.	Exp(B)
Age of the woman	**15-29**			11.432	2	0.003	
30-39		0.334	0.125	7.068	1	0.008	1.396
40+		0.469	0.143	10.79	1	0.001	1.599
Place of residence	**Rural**						
Urban		-0.271	0.125	4.734	1	0.030	0.762
Level of education	**Illiterate**			6.374	2	0.041	
Middle school completed		0.303	0.123	6.098	1	0.014	1.355
High school and above		0.301	0.167	3.239	1	0.072	1.351
Religion	**Hindu**			5.25	2	0.072	
Muslim		0.661	0.296	4.977	1	0.026	1.937
Others		0.159	0.27	0.348	1	0.555	1.173
Caste of the woman	**SC/ST**						
Others		-0.073	0.123	0.35	1	0.554	0.93
Working status	**Not working**						
Working		0.422	0.126	11.241	1	0.001	1.525
Standard of living	**Low**			3.181	2	0.204	
Medium		-0.34	0.2	2.897	1	0.089	0.712
High		-0.39	0.228	2.936	1	0.087	0.677
Exposure to mass media	**Not exposed**						
Exposed		0.492	0.163	9.095	1	0.003	1.635
Spousal communication	**Not discussed**						
Discussed		0.573	0.105	29.942	1	0.000	1.774
Constant		-0.702	0.234	8.989	1	0.003	0.495

Told about the side effects

variable	Ref.Cat.	B	S.E.	Wald	df	Sig.	Exp(B)
Age of the woman	**15-29**			2.789	2	0.248	
30-39		0.214	0.133	2.604	1	0.107	1.239
40+		0.203	0.15	1.833	1	0.176	1.225
Place of residence	**Rural**						
Urban		0.004	0.131	0.001	1	0.975	1.004
Level of education	**Illiterate**			7.635	2	0.022	
Middle school completed		-0.01	0.126	0.007	1	0.935	0.99
High school and above		-0.42	0.176	5.661	1	0.017	0.657
Religion	**Hindu**			1.53	2	0.465	
Muslim		0.299	0.29	1.063	1	0.303	1.348
Others		0.197	0.274	0.514	1	0.473	1.217
Caste of the woman	**SC/ST**						
Others		0.243	0.13	3.498	1	0.061	1.275
Working status	**Not working**						
Working		0.343	0.127	7.31	1	0.007	1.409
Standard of living	**Low**			2.952	2	0.229	
Medium		0.287	0.212	1.836	1	0.175	1.332
High		0.135	0.241	0.314	1	0.575	1.144
Exposure to mass media	**Not exposed**						
Exposed		-0.061	0.166	0.135	1	0.714	0.941
Spousal communication	**Not discussed**						
Discussed		0.208	0.108	3.681	1	0.055	1.231
Constant		-1.254	0.249	25.316	1	0.000	0.285

Family planning worker talked nicely to the women

Variable	Ref.Cat.	B	S.E.	Wald	df	Sig.	Exp(B)
Age of the woman	15-29			5.052	2	0.080	
30-39		-0.508	0.309	2.7	1	0.100	0.602
40+		-0.731	0.326	5.038	1	0.025	0.481
Place of residence	Rural						
Urban		0.099	0.267	0.137	1	0.711	1.104
Level of education	Illiterate			3.824	2	0.148	
Middle school completed		0.475	0.248	3.677	1	0.055	1.608
High school and above		0.177	0.341	0.269	1	0.604	1.194
Religion	Hindu			0.02	2	0.990	
Muslim		-0.019	0.568	0.001	1	0.974	0.981
Others		0.074	0.537	0.019	1	0.891	1.076
Caste of the woman	SC/ST						
Others		-0.049	0.244	0.04	1	0.842	0.953
Working status	Not working						
Working		-0.545	0.221	6.113	1	0.013	0.58
Standard of living	Low			8.429	2	0.015	
Medium		0.876	0.309	8.013	1	0.005	2.401
High		0.61	0.383	2.535	1	0.111	1.84
Exposure to mass media	Not exposed						
Exposed		0.281	0.276	1.038	1	0.308	1.324
Spousal communication	Not discussed						
Discussed		1.087	0.26	17.498	1	0.000	2.965
Constant		1.859	0.411	20.452	1	0.000	6.416

Received fallow up for the Current method

Variable	Ref.Cat.	B	S.E.	Wald	df	Sig.	Exp(B)
Age of the woman	15-29			46.817	2	0.000	
30-39		0.873	0.171	26.099	1	0.000	2.394
40+		1.434	0.223	41.394	1	0.000	4.197
Place of residence	Rural						
Urban		-0.8	0.166	23.259	1	0.000	0.449
Level of education	Illiterate			52.987	2	0.000	
Middle school completed		0.297	0.23	1.671	1	0.196	1.346
High school and above		-1.053	0.241	19.064	1	0.000	0.349
Religion	Hindu			0.096	2	0.953	
Muslim		0.057	0.388	0.022	1	0.883	1.059
Others		-0.1	0.375	0.072	1	0.789	0.904
Caste of the woman	SC/ST						
Others		-0.212	0.217	0.954	1	0.329	0.809
Working status	Not working						
Working		-0.189	0.178	1.127	1	0.288	0.828
Standard of living	Low			15.551	2	0.000	
Medium		0.311	0.351	0.785	1	0.376	1.364
High		-0.439	0.378	1.346	1	0.246	0.645
Exposure to mass media	Not exposed						
Exposed		0.144	0.314	0.211	1	0.646	1.155
Spousal communication	Not discussed						
Discussed		-0.75	0.153	24.161	1	0.000	0.472
Constant		2.073	0.403	26.414	1	0.000	7.95

Quality of care during the operation in family planning clinic

Variable	Ref.Cat.	B	S.E.	Wald	df	Sig.	Exp(B)
Age of the woman	**15-29**			6.409	2	0.041	
30-39		-1.55	0.749	4.28	1	0.039	0.212
40+		-0.82	0.816	1.01	1	0.315	0.441
Place of residence	**Rural**						
Urban		0.48	0.519	0.855	1	0.355	1.617
Level of education	**Illiterate**			1.465	2	0.481	
Middle school completed		0.448	0.433	1.07	1	0.301	1.565
High school and above		-0.064	0.604	0.011	1	0.916	0.938
Religion	**Hindu**			1.769	2	0.413	
Muslim		-1.056	0.805	1.72	1	0.190	0.348
Others		0.171	1.04	0.027	1	0.869	1.187
Caste of the woman	**SC/ST**						
Others		-0.816	0.558	2.141	1	0.143	0.442
Working status	**Not working**						
Working		0.625	0.546	1.308	1	0.253	1.868
Standard of living	**Low**			0.074	2	0.964	
Medium		0.178	0.673	0.07	1	0.792	1.194
High		0.137	0.785	0.03	1	0.862	1.147
Exposure to mass media	**Not exposed**						
Exposed		-0.335	0.563	0.355	1	0.551	0.715
Spousal communication	**Not discussed**						
Discussed		0.864	0.465	3.447	1	0.063	2.373
Constant		5.212	1.034	25.397	1	0.000	183.49

APPENDIX-III

DETAILED RESULTS OF LOGISTIC REGRESSION ANALYSIS: UTTAR PRADESH

Method discussed with alternative

Variable	Ref.Cat.	B	S.E.	Wald	df	Sig.	Exp(B)
Age of the woman	**15-29**			1.164	2	0.559	
30-39		-0.058	0.171	0.114	1	0.736	0.944
40+		-0.21	0.202	1.085	1	0.298	0.81
Place of residence	**Rural**						
Urban		0.385	0.181	4.558	1	0.033	1.47
Level of education	**Illiterate**			8.612	2	0.013	
Middle school completed		-0.119	0.2	0.355	1	0.551	0.887
High school and above		0.504	0.221	5.203	1	0.023	1.655
Religion	**Hindu**			1.432	2	0.489	
Muslim		0.008	0.234	0.001	1	0.973	1.008
Others		0.53	0.443	1.432	1	0.232	1.699
Caste of the woman	**SC/ST**						
Others		0.385	0.228	2.84	1	0.092	1.469
Working status	**Not working**						
Working		-0.08	0.182	0.193	1	0.660	0.923
Standard of living	**Low**			6.761	2	0.034	
Medium		0.604	0.255	5.616	1	0.018	1.83
High		0.377	0.303	1.546	1	0.214	1.458
Exposure to mass media	**Not exposed**						
Exposed		0.068	0.187	0.133	1	0.715	1.071
Spousal communication	**Not discussed**						
Discussed		0.301	0.166	3.268	1	0.071	1.351
Constant		-3.069	0.309	98.672	1	0.000	0.046

Told about the side effects

Variable	Ref.Cat.	B	S.E.	Wald	df	Sig.	Exp(B)
Age of the woman	15-29			0.877	2	0.645	
30-39		0.097	0.162	0.359	1	0.549	1.102
40+		0.167	0.179	0.876	1	0.349	1.182
Place of residence	Rural						
Urban		-0.241	0.168	2.042	1	0.153	0.786
Level of education	Illiterate			2.357	2	0.308	
Middle school completed		0.166	0.171	0.943	1	0.331	1.181
High school and above		0.318	0.213	2.234	1	0.135	1.375
Religion	Hindu			5.233	2	0.073	
Muslim		-0.624	0.282	4.916	1	0.027	0.536
Others		0.221	0.432	0.261	1	0.609	1.247
Caste of the woman	SC/ST						
Others		-0.505	0.164	9.502	1	0.002	0.604
Working status	Not working						
Working		-0.179	0.158	1.275	1	0.259	0.836
Standard of living	Low			2.875	2	0.238	
Medium		0.331	0.195	2.87	1	0.090	1.392
High		0.317	0.246	1.652	1	0.199	1.372
Exposure to mass media	Not exposed						
Exposed		0.21	0.161	1.705	1	0.192	1.233
Spousal communication	Not discussed						
Discussed		-0.066	0.162	0.164	1	0.686	0.936
Constant		-1.75	0.229	58.631	1	0.000	0.174

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Family planning worker talked nicely to the women

Variable	Ref.Cat.	B	S.E.	Wald	df	Sig.	Exp(B)
Age of the woman	15-29			49.893	2	0.000	
30-39		-0.515	0.116	19.807	1	0.000	0.598
40+		-0.927	0.131	49.789	1	0.000	0.396
Place of residence	Rural						
Urban		0.606	0.124	23.97	1	0.000	1.832
Level of education	Illiterate			1.809	2	0.405	
Middle school completed		0.086	0.127	0.462	1	0.497	1.09
High school and above		-0.124	0.16	0.601	1	0.438	0.883
Religion	Hindu			5.482	2	0.065	
Muslim		0.31	0.168	3.434	1	0.064	1.364
Others		-0.497	0.362	1.887	1	0.170	0.608
Caste of the woman	SC/ST						
Others		0.113	0.127	0.795	1	0.373	1.12
Working status	Not working						
Working		0.016	0.112	0.02	1	0.887	1.016
Standard of living	Low			3.123	2	0.210	
Medium		-0.236	0.133	3.115	1	0.078	0.79
High		-0.223	0.174	1.649	1	0.199	0.8
Exposure to mass media	Not exposed						
Exposed		0.06	0.116	0.263	1	0.608	1.061
Spousal communication	Not discussed						
Discussed		0.336	0.116	8.332	1	0.004	1.399
Constant		0.148	0.164	0.806	1	0.369	1.159

Received fallow up for the Current method

Variable	Ref.Cat.	B	S.E.	Wald	df	Sig.	Exp(B)
Age of the woman	**15-29**			0.708	2	0.702	
30-39		0.053	0.114	0.22	1	0.639	1.055
40+		0.107	0.128	0.707	1	0.401	1.113
Place of residence	**Rural**						
Urban		0.189	0.122	2.411	1	0.120	1.208
Level of education	**Illiterate**			0.917	2	0.632	
Middle school completed		-0.044	0.124	0.124	1	0.725	0.957
High school and above		-0.15	0.157	0.915	1	0.339	0.861
Religion	**Hindu**			5.431	2	0.066	
Muslim		-0.376	0.161	5.431	1	0.020	0.687
Others		-0.024	0.341	0.005	1	0.943	0.976
Caste of the woman	**SC/ST**						
Others		-0.122	0.125	0.952	1	0.329	0.885
Working status	**Not working**						
Working		0.451	0.112	16.285	1	0.000	1.57
Standard of living	**Low**			0.233	2	0.890	
Medium		-0.026	0.131	0.038	1	0.846	0.975
High		0.031	0.171	0.033	1	0.855	1.032
Exposure to mass media	**Not exposed**						
Exposed		0.054	0.114	0.224	1	0.636	1.055
Spousal communication	**Not discussed**						
Discussed		-0.069	0.114	0.371	1	0.543	0.933
Constant		0.104	0.162	0.412	1	0.521	1.11

Quality of care during the operation in family planning clinic

Variable	Ref.Cat.	B	S.E.	Wald	df	Sig.	Exp(B)
Age of the woman	15-29			3.806	2	0.149	
30-39		-0.551	0.311	3.133	1	0.077	0.577
40+		-0.26	0.336	0.601	1	0.438	0.771
Place of residence	Rural						
Urban		0.116	0.301	0.149	1	0.700	1.123
Level of education	Illiterate			0.625	2	0.732	
Middle school completed		0.015	0.278	0.003	1	0.957	1.015
High school and above		0.346	0.449	0.591	1	0.442	1.413
Religion	Hindu			1.701	2	0.427	
Muslim		-0.546	0.43	1.613	1	0.204	0.579
Others		-0.242	0.754	0.103	1	0.748	0.785
Caste of the woman	SC/ST						
Others		-0.062	0.265	0.055	1	0.815	0.94
Working status	Not working						
Working		0.117	0.238	0.243	1	0.622	1.124
Standard of living	Low			6.508	2	0.039	
Medium		0.6	0.26	5.336	1	0.021	1.821
High		0.851	0.382	4.955	1	0.026	2.341
Exposure to mass media	Not exposed						
Exposed		-0.309	0.245	1.591	1	0.207	0.734
Spousal communication	Not discussed						
Discussed		0.282	0.333	0.715	1	0.398	1.326
Constant		2.616	0.383	46.629	1	0	13.678

DETAILED RESULTS OF LOGISTIC REGRESSION ANALYSIS: ANDHRA PRADESH

Method discussed with alternative

Variable	Ref.Cat.	B	S.E.	Wald	df	Sig.	Exp(B)
Age of the woman	15-29		·	1.379	2	0.502	
30-39		-0.097	0.15	0.414	1	0.520	0.908
40+		-0.214	0.185	1.348	1	0.246	0.807
Place of residence	Rural						
Urban		-0.394	0.179	4.86	1	0.027	0.674
Level of education	Illiterate			8.623	2	0.013	
Middle school completed		-0.03	0.178	0.028	1	0.867	0.971
High school and above		0.616	0.243	6.43	1	0.011	1.852
Religion	Hindu			25.738	2	0.000	
Muslim		1.034	0.241	18.393	1	0.000	2.813
Others		-1.166	0.44	7.029	1	0.008	0.312
Caste of the woman	SC/ST						
Others		-0.526	0.172	9.346	1	0.002	0.591
Working status	Not working						
Working		0.002	0.162	0	1	0.989	1.002
Standard of living	Low			4.832	2	0.089	
Medium		0.135	0.169	0.637	1	0.425	1.145
High		0.498	0.236	4.455	1	0.035	1.645
Exposure to mass media	Not exposed						
Exposed		-0.212	0.169	1.561	1	0.211	0.809
Spousal communication	Not discussed						
Discussed		0.428	0.196	4.76	1	0.029	1.535
Constant		-1.499	0.248	36.666	1	0	0.223

Told about the side effects

Variable	Ref.Cat.	B	S.E.	Wald	df	Sig.	Exp(B)
Age of the woman	**15-29**			0.204	2	0.903	
30-39		0.001	0.15	0	1	0.995	1.001
40+		0.072	0.177	0.165	1	0.684	1.075
Place of residence	**Rural**						
Urban		0.076	0.17	0.201	1	0.654	1.079
Level of education	**Illiterate**			1.976	2	0.372	
Middle school completed		0.235	0.167	1.969	1	0.161	1.265
High school and above		0.171	0.263	0.423	1	0.515	1.187
Religion	**Hindu**			2.277	2	0.320	
Muslim		0.204	0.289	0.499	1	0.480	1.226
Others		-0.494	0.374	1.748	1	0.186	0.61
Caste of the woman	**SC/ST**						
Others		0.086	0.18	0.23	1	0.632	1.09
Working status	**Not working**						
Working		0.62	0.161	14.746	1	0.000	1.859
Standard of living	**Low**			2.212	2	0.331	
Medium		0.231	0.162	2.047	1	0.153	1.26
High		0.12	0.237	0.256	1	0.613	1.127
Exposure to mass media	**Not exposed**						
Exposed		0.023	0.165	0.019	1	0.891	1.023
Spousal communication	**Not discussed**						
Discussed		0.6	0.189	10.084	1	0.001	1.822
Constant		-2.678	0.264	103.251	1	0	0.069

Family planning worker talked nicely to the women

Variable	Ref.Cat.	B	S.E.	Wald	df	Sig.	Exp(B)
Age of the woman	**15-29**			42.727	2	0.000	
30-39		-0.628	0.116	29.288	1	0.000	0.534
40+	~	-0.791	0.133	35.437	1	0.000	0.453
Place of residence	**Rural**						
Urban		-0.059	0.127	0.215	1	0.643	0.943
Level of education	**Illiterate**			1.267	2	0.531	
Middle school completed		0.013	0.129	0.011	1	0.917	1.014
High school and above		0.218	0.202	1.158	1	0.282	1.243
Religion	**Hindu**			2.508	2	0.285	
Muslim		0.11	0.23	0.226	1	0.634	1.116
Others		-0.343	0.228	2.25	1	0.134	0.71
Caste of the woman	**SC/ST**						
Others		-0.254	0.136	3.473	1	0.062	0.776
Working status	**Not working**						
Working		0.02	0.119	0.028	1	0.866	1.02
Standard of living	**Low**			3.421	2	0.181	
Medium		0.218	0.12	3.278	1	0.070	1.244
High		0.125	0.174	0.51	1	0.475	1.133
Exposure to mass media	**Not exposed**						
Exposed		0.256	0.122	4.397	1	0.036	1.292
Spousal communication	**Not discussed**						
Discussed		0.426	0.187	5.217	1	0.022	1.531
Constant		1.217	0.192	40.108	1	0	3.379

Received fallow up for the Current method

Variable	Ref.Cat.	B	S.E.	Wald	df	Sig.	Exp(B)
Age of the woman	**15-29**			1.315	2	0.518	
30-39		-0.133	0.125	1.136	1	0.286	0.875
40+		-0.018	0.15	0.015	1	0.904	0.982
Place of residence	**Rural**						
Urban		-0.153	0.142	1.161	1	0.281	0.858
Level of education	**Illiterate**			0.988	2	0.610	
Middle school completed		0.143	0.145	0.974	1	0.324	1.154
High school and above		0.109	0.22	0.248	1	0.618	1.116
Religion	**Hindu**			13.572	2	0.001	
Muslim		-0.623	0.222	7.849	1	0.005	0.537
Others		0.765	0.326	5.501	1	0.019	2.148
Caste of the woman	**SC/ST**						
Others		-0.006	0.149	0.002	1	0.966	0.994
Working status	**Not working**						
Working		-0.479	0.135	12.552	1	0.000	0.619
Standard of living	**Low**			2.199	2	0.333	
Medium		-0.15	0.136	1.21	1	0.271	0.861
High		-0.286	0.197	2.098	1	0.148	0.751
Exposure to mass media	**Not exposed**						
Exposed		0.02	0.138	0.02	1	0.887	1.02
Spousal communication	**Not discussed**						
Discussed		0.475	0.211	5.076	1	0.024	1.607
Constant		1.798	0.216	69.335	1	0	6.038

Quality of care during the operation in family planning clinic

Variable	Ref.Cat.	B	S.E.	Wald	df	Sig.	Exp(B)
Age of the woman	**15-29**			1.964	2	0.375	
30-39		0.033	0.183	0.033	1	0.856	1.034
40+		0.312	0.233	1.8	1	0.180	1.366
Place of residence	**Rural**						
Urban		-0.298	0.209	2.033	1	0.154	0.742
Level of education	**Illiterate**			1.32	2	0.517	
Middle school completed		0.185	0.217	0.724	1	0.395	1.203
High school and above		0.381	0.378	1.013	1	0.314	1.463
Religion	**Hindu**			2.537	2	0.281	
Muslim		0.187	0.41	0.208	1	0.649	1.206
Others		0.742	0.484	2.347	1	0.126	2.099
Caste of the woman	**SC/ST**						
Others		0.037	0.212	0.031	1	0.861	1.038
Working status	**Not working**						
Working		-0.128	0.2	0.414	1	0.520	0.879
Standard of living	**Low**			2.207	2	0.332	
Medium		-0.012	0.191	0.004	1	0.949	0.988
High		0.4	0.318	1.576	1	0.209	1.491
Exposure to mass media	**Not exposed**						
Exposed		0.156	0.195	0.639	1	0.424	1.169
Spousal communication	**Not discussed**						
Discussed		-0.209	0.261	0.642	1	0.423	0.811
Constant		2.24	0.305	53.807	1	0	9.393

DETAILED RESULTS OF LOGISTIC REGRESSION ANALYSIS: TAMIL NADU

Method discussed with alternative

Variable	Ref.Cat.	B	S.E.	Wald	df	Sig.	Exp(B)
Age of the woman	**15-29**			3.652	2	0.161	
30-39		-0.179	0.144	1.535	1	0.215	0.836
40+		-0.334	0.179	3.475	1	0.062	0.716
Place of residence	**Rural**						
Urban		-0.032	0.139	0.053	1	0.818	0.969
Level of education	**Illiterate**			31.749	2	0.000	
Middle school completed		0.716	0.159	20.199	1	0.000	2.047
High school and above		1.127	0.209	29.049	1	0.000	3.086
Religion	**Hindu**			0.184	2	0.912	
Muslim		0.103	0.249	0.171	1	0.680	1.108
Others		-0.024	0.271	0.008	1	0.929	0.976
Caste of the woman	**SC/ST**						
Others	.	-0.1	0.161	0.385	1	0.535	0.905
Working status	**Not working**						
Working		0.249	0.137	3.308	1	0.069	1.282
Standard of living	**Low**			3.609	2	0.165	
Medium		0.219	0.166	1.752	1	0.186	1.245
High		-0.051	0.231	0.049	1	0.825	0.95
Exposure to mass media	**Not exposed**						
Exposed		-0.113	0.192	0.347	1	0.556	0.893
Spousal communication	**Not discussed**						
Discussed		0.58	0.178	10.581	1	0.001	1.787
Constant		-2.28	0.249	83.865	1	0	0.102

Told about the side effects

Variable	Ref.Cat.	B	S.E.	Wald	df	Sig.	Exp(B)
Age of the woman	**15-29**			0.136	2	0.934	
30-39		-0.036	0.106	0.116	1	0.734	0.965
40+		-0.037	0.123	0.09	1	0.764	0.964
Place of residence	**Rural**						
Urban		-0.902	0.099	82.7	1	0.000	0.406
Level of education	**Illiterate**			6.417	2	0.04	
Middle school completed		0.268	0.107	6.235	1	0.013	1.307
High school and above		0.129	0.155	0.687	1	0.407	1.138
Religion	**Hindu**			0.024	2	0.988	
Muslim		0.029	0.188	0.024	1	0.878	1.029
Others		0.005	0.206	0.001	1	0.981	1.005
Caste of the woman	**SC/ST**						
Others		-0.117	0.112	1.096	1	0.295	0.89
Working status	**Not working**						
Working		0.114	0.097	1.384	1	0.239	1.12
Standard of living	**Low**			0.112	2	0.945	
Medium		0.015	0.11	0.017	1	0.895	1.015
High		0.054	0.163	0.108	1	0.743	1.055
Exposure to mass media	**Not exposed**						
Exposed		0.003	0.127	0.001	1	0.981	1.003
Spousal communication	**Not discussed**						
Discussed		-0.168	0.152	1.221	1	0.269	0.845
Constant		0.295	0.168	3.078	1	0.079	1.343

Family planning worker talked nicely to the women

Variable	Ref.Cat.	B	S.E.	Wald	df	Sig.	Exp(B)
Age of the woman	15-29			30.14	2	0.000	
30-39		-0.664	0.173	14.714	1	0.000	0.515
40+		-1.017	0.185	30.122	1	0.000	0.362
Place of residence	Rural						
Urban		-0.307	0.143	4.634	1	0.031	0.736
Level of education	Illiterate			1.299	2	0.522	
Middle school completed		0.104	0.151	0.471	1	0.492	1.109
High school and above		0.251	0.223	1.262	1	0.261	1.285
Religion	Hindu			0.707	2	0.702	
Muslim		0.247	0.299	0.681	1	0.409	1.28
Others		0.058	0.288	0.04	1	0.841	1.06
Caste of the woman	SC/ST						
Others		0.08	0.158	0.261	1	0.610	1.084
Working status	Not working						
Working		-0.225	0.138	2.662	1	0.103	0.798
Standard of living	Low			2.057	2	0.358	
Medium		-0.214	0.161	1.773	1	0.183	0.807
High		-0.284	0.233	1.481	1	0.224	0.753
Exposure to mass media	Not exposed						
Exposed		-0.226	0.19	1.422	1	0.233	0.797
Spousal communication	Not discussed						
Discussed		0.321	0.259	1.538	1	0.215	1.378
Constant		2.861	0.266	115.747	1	0	17.478

Received fallow up for the Current method

Variable	Ref.Cat.	B	S.E.	Wald	df	Sig.	Exp(B)
Age of the woman	**15-29**			0.957	2	0.620	
30-39		-0.038	0.118	0.106	1	0.745	0.963
40+		0.086	0.139	0.381	1	0.537	1.09
Place of residence	**Rural**						
Urban		0.124	0.11	1.261	1	0.261	1.132
Level of education	**Illiterate**			0.162	2	0.922	
Middle school completed		-0.005	0.119	0.002	1	0.965	0.995
High school and above		-0.065	0.173	0.14	1	0.708	0.937
Religion	**Hindu**			0.577	2	0.75	
Muslim		0.135	0.217	0.389	1	0.533	1.145
Others		0.11	0.235	0.219	1	0.64	1.116
Caste of the woman	**SC/ST**						
Others		0.061	0.123	0.245	1	0.62	1.063
Working status	**Not working**						
Working		-0.091	0.108	0.715	1	0.398	0.913
Standard of living	**Low**			2.757	2	0.252	
Medium		-0.096	0.123	0.611	1	0.435	0.909
High		0.144	0.186	0.597	1	0.440	1.155
Exposure to mass media	**Not exposed**						
Exposed		-0.043	0.141	0.093	1	0.760	0.958
Spousal communication	**Not discussed**						
Discussed		-0.384	0.16	5.733	1	0.017	0.681
Constant		1.09	0.188	33.755	1	0	2.974

Quality of care during the operation in family planning clinic

Variable	Ref.Cat.	B	S.E.	Wald	df	Sig.	Exp(B)
Age of the woman	**15-29**			0.167	2	0.920	
30-39		-0.063	0.229	0.077	1	0.782	0.939
40+		-0.107	0.264	0.163	1	0.686	0.899
Place of residence	**Rural**						
Urban		-0.52	0.215	5.842	1	0.016	0.594
Level of education	**Illiterate**			1.64	2	0.440	
Middle school completed		0.191	0.225	0.719	1	0.397	1.21
High school and above		0.433	0.351	1.519	1	0.218	1.542
Religion	**Hindu**			3.364	2	0.186	
Muslim		-0.076	0.391	0.038	1	0.846	0.927
Others		-0.66	0.36	3.36	1	0.067	0.517
Caste of the woman	**SC/ST**						
Others		0.156	0.226	0.475	1	0.491	1.169
Working status	**Not working**						
Working		0.094	0.208	0.205	1	0.651	1.098
Standard of living	**Low**			0.656	2	0.721	
Medium		0.177	0.229	0.601	1	0.438	1.194
High		0.216	0.356	0.368	1	0.544	I.241
Exposure to mass media	**Not exposed**						
Exposed		0.295	0.251	1.377	1	0.241	1.343
Spousal communication	**Not discussed**						
Discussed		-0.363	0.309	1.376	1	0.241	0.696
Constant		2.547	0.341	55.929	1	0	12.765

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