

A Dissertation on
**A COMMUNITY BASED CROSS SECTIONAL STUDY ON PERSON
CENTRED CARE IN FAMILY PLANNING AMONG WOMEN IN
KANCHEEPURAM DISTRICT, TAMIL NADU - 2019**

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M.D. BRANCH – XV COMMUNITYMEDICINE

Reg No: 201725354



**THE TAMIL NADU DR. M.G.R MEDICALUNIVERSITY CHENNAI,
TAMILNADU.**

MAY – 2020

CERTIFICATE

This is to certify that the dissertation titled “**A COMMUNITY BASED CROSS SECTIONAL STUDY ON PERSON CENTRED CARE IN FAMILY PLANNING AMONG WOMEN IN KANCHEEPURAM DISTRICT, TAMIL NADU**” is a bonafide work carried out by **Dr.SHRUTHEE.S.G**, Post Graduate Student in the Department of Community Medicine, Government Stanley Medical College, Chennai- 600001, under the guidance of **Dr.P.SEENIVASAN M.D.**, towards partial fulfillment of the requirements for the degree of M.D. Branch XV Community Medicine and is being submitted to the Tamil Nadu Dr.M.G.R Medical University, Chennai.

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DECLARATION

I solemnly declare that the dissertation titled “**A COMMUNITY BASED CROSS SECTIONAL STUDY ON PERSON CENTRED CARE IN FAMILY PLANNING AMONG WOMEN IN KANCHEEPURAM DISTRICT, TAMIL NADU.**” was done by me under the guidance and supervision of **Dr.P.SEENIVASAN M.D.**, Professor & Head, Department of Community Medicine, Government Stanley Medical College, Chennai-01. The dissertation is submitted to The Tamil Nadu Dr.M.G.R. Medical University, Chennai towards partial fulfillment of the requirement for the award of M.D. degree (Branch XV) Community Medicine.

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ABBREVIATIONS

ANM Auxiliary Nurse Midwife

ANOVA Analysis of Variance

CEDAW Committee on the Elimination of Discrimination Against Women

CHARM Counselling Husbands to Achieve Reproductive Health and Marital Equity

CHC Community Health Centre

COPE Client-Oriented, Provider-Efficient services

CPR Contraceptive Prevalence Rate

DMPA Depot Medroxyprogesterone Acetate

FP Family Planning

HSC Health Sub-centre

HUD Health Unit District

HW(F) Health Worker – Female

HW(M) Health Worker – Male

ICMR Indian Council of Medical Research

ICPD International Conference on Population and Development

IIPS International Institute of Population Sciences, Mumbai

IQFP Interpersonal Quality in Family Planning

IUD Intrauterine Device

mCPR Modern Contraceptive Prevalence Rate

MEASURE Monitoring and Evaluation to ASsess and Use REsults

NFHS National Family Health Survey

OCPs Oral Contraceptive Pills

PCC Person Centred Care

PCC-FP Person Centred Care in Family Planning

PCFP Person Centred Family Planning

PHC Primary Health Centre

PPIUCD Postpartum Intrauterine Contraceptive Device

QOC Quality of Care

SD Standard Deviation

SDG Sustainable Development Goal

SPSS Statistical Package for Social Sciences

SRH Sexual and Reproductive Health

TFR Total Fertility Rate

UNFPA United Nations Population Fund

USAID United States Agency for International Development

WHO World Health Organization

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Introduction

Globally, 40 percent of all pregnancies are unintended, representing 85 million pregnancies every year. Overall, the proportion of unintended pregnancies that end in an abortion is higher in developed countries (54%) as compared to developing nations (49%)¹. A similar rate of unintended pregnancies is observed in the state of Tamil Nadu, India (43%); although a much greater proportion (75%) end in abortion². With 67% of abortions in India being classified as unsafe, unsafe abortions are one of the leading causes (8%) of maternal mortality in India^{3,4}. Unintended pregnancies result in numerous adverse outcomes including lower rates of adequate antenatal care, childhood vaccinations, and higher risk of neonatal mortality⁵. Expanding access to family planning is a fundamental strategy to curb unintended pregnancies. If the current unmet need for family planning in India is met over the next five years, it has the potential to avert 35,000 maternal and 12 lakh infant deaths⁶.

The stipulated benefits of family planning, however, go far beyond health and impacts all Sustainable development goals (SDGs), especially goals 1, 3, 5, 8 and 10. Empowering women with the knowledge and agency to control reproduction, and providing access to their contraceptive method of choice is one of the most cost effective solutions to achieve “Gender equality” which is the SDG goal 5⁶. An estimate by the United States Agency for International Development (USAID) stipulates that “Every dollar invested in family planning saves four dollars in other health and development areas”⁷.

Harbouring nearly one fifth of the women aged 15 – 49 years worldwide⁸, the fertility status of women in India has a demographic significance, with the potential to affect the global fertility indicators. As of 2016, the current Total Fertility Rate(TFR) in India is 2.3⁹, nearing the threshold of 2.1 for achieving replacement level fertility. However, Tamil Nadu being one of the forerunners with respect to healthcare in the country, has reduced its TFR below replacement level to 1.6⁹.

The National family planning programme in India is one of the oldest and most ambitious efforts at regulating human fertility. However, in its six decades of existence, the programme has shown only modest achievement, with 13% of women in India still having an unmet need for family planning¹⁰. The programme itself, with its misdirected priorities, emphasis on quantity rather than quality, and lack of effective implementation must be accorded a primary explanatory role for its limited success.

The quality of care provided by family planning programmes is an important determinant of its overall success; and plays a central role in the effective and full use of family planning services¹¹. Quality family planning services not only creates more demand but ensures return of clients and long term sustainability of the programme. Thus, there is a need to move beyond basing the performance of the programme on quantity based targets to emphasizing indicators based on quality of care.

Following the consensus arrived at the International Conference on Population and Development(ICPD) held in Cairo in 1994, there was a marked shift in the programme policy from a target oriented approach, where focus was on contraceptive uptake rates, to person centred approach for quality in family planning services¹². Person centred

care is a multifaceted concept, in which all persons receive care that is closely aligned with their preferences, co-ordinated around their needs and is safe, efficient, timely, effective and of acceptable quality¹³. Despite recognition that person-centred care is a critical component to providing high quality family planning services, there lacks consensus on how to operationalize and measure it¹⁴.

Several efforts have been made over the years to create a favourable policy environment for delivery of quality FP services including the National Population Policy 2000 and the Rights Based Family planning – 2020 initiative. Successful translation of policy into practice is impractical, however, where policy is not informed by an adequate understanding of existing standards of care. Despite family planning being an extensively researched arena, information regarding the quality of service delivery at the client-provider level is surprisingly limited in India. Recent evidence on the subject remains largely unpublished and inaccessible; thus limiting the scope for providing concrete recommendations.

This study, thus aims to measure quality of family planning services among married women in Kancheepuram district in the state of Tamil Nadu, India with an emphasis on person centred approach to care. The district of Kancheepuram in Tamil Nadu is one of the best performing districts in the country in terms of health services. The district has recorded a contraceptive prevalence rate of 61.6%¹⁵ in NFHS-4, much higher than the state average of 53%¹⁶. Thus Kancheepuram district is an ideal setting for evaluating quality of care within the Indian Family Welfare Programme, having already attained a high coverage of family planning services.

Justification

- 1.** The National Family Welfare Programme envisaged provision of demand-driven, client-oriented family planning services, with a shift in the policy mandate from target oriented services to the “Target-free Approach” in 1996. This study thus, aims to understand whether this change in programme policy is reflected in the implementation of family planning services.
- 2.** The Contraceptive Prevalence rate has declined over the last decade at the national and state level. Where contraceptive use has become established, reducing contraceptive discontinuation rates by ensuring quality FP services will be more instrumental than improving acceptance rates in addressing the stagnant CPR.
- 3.** Knowledge of the existing standards of care in family planning is essential, for identifying deficiencies in service provision where present, and further planning as what is not known cannot be addressed.
- 4.** The National Family Health Survey measures the quality of family planning by assessing informed choice and access to contraceptive information among non-users. However, a multidimensional framework for measuring person-centred care in family planning needs to be used to monitor our progress towards the comprehensive goal of client-oriented services.
- 5.** There is a dearth of evidence on the quality of care within the Indian Family Welfare Programme; studies done remain largely unpublished and inaccessible to the public.

Objectives

1. To assess the quality of person-centred care in family planning among women in Kancheepuram district.
2. To identify the determinants of person-centred care in family planning.

Review of Literature

The literature search was conducted on ‘PubMed’ and ‘Google Scholar’ databases using the main keywords such as ‘family planning’, ‘contraceptive services’, ‘quality of family planning services’, ‘rights based family planning’, ‘person centred care’, ‘client centred care’ and individual domain names such as informed choice, privacy, etc. mentioned below. Original research articles, guidelines, books, reports and fact sheets published in the recent past were included in the literature review. The review of literature is arranged under the following headings:

- Family Planning
- Need for Family Planning
- Rights-based Family Planning
- Person Centred Care (PCC) as a proxy for Rights-based Family Planning
 - Information
 - Accessibility
 - Physical accessibility
 - Financial accessibility
 - Socio-cultural accessibility
 - Non-discrimination
 - Informed Choice
 - Interpersonal Care
 - Respectful care
 - Timely care

- Gender-sensitive care
- Privacy
- Continuity of Care

Family Planning:

According to the Department of Reproductive Health and Research of the World Health Organization (WHO), family planning is defined as “the ability of individuals and couples to anticipate and attain their desired number of children and the spacing and timing of their births.” It is achieved through use of contraceptive methods and the treatment of involuntary infertility¹⁷.

Traditionally, family planning consists of two major concepts: birth spacing and limiting.

Birth spacing: refers to the practice of postponing the next child birth by couples who have not yet completed their family size¹⁸. Failure leads to a “**mistimed pregnancy**”.

Birth limiting : refers to the practice of preventing further pregnancies by couples who have completed their family size¹⁸. Failure leads to an “**unwanted pregnancy**”.

Family planning is achieved with the help of contraception, previously known as “birth control methods”. Contraceptive methods are often classified as either modern or traditional methods¹⁷. A modern contraceptive is defined as “**a product or medical procedure that interferes with reproduction from acts of sexual intercourse**”¹⁹.

The methods that do not fit under the definition of ‘modern’ can alternatively be labelled as ‘non-modern methods’. This classification does not take into account

contraceptive effectiveness; so the term 'modern methods' should not be equated with higher efficacy. Rather, modern contraceptives are designed to enable couples to act on their natural impulses and have sexual intercourse at any mutually desired time; unlike the non-modern or traditional methods which are based on fertility awareness and periodic abstinence¹⁹.

Need for Family Planning:

Annually, family planning prevents about a third of pregnancy related deaths and 44% neonatal deaths worldwide. Evidence suggests that women who have more than four children are at increased risk of maternal mortality. Also, by ensuring spacing of at least two years, family planning prevents adverse outcomes in pregnancy including prematurity and malnutrition in the mother and child²⁰. As a result of family planning, an estimated 35 million unintended pregnancies and 11 million unsafe abortions have been prevented in 2015 - 2016²¹. The stated benefits of family planning are (1) :1) Prevents pregnancy-related health risks in women, 2) Reduces infant mortality, 3) Helps prevent sexually transmitted infections such as HIV/AIDS 4) Enforces the right of couples to reproductive self-determination, 5) Prevents adolescent pregnancies and 6) Slows population growth.

Current Scenario of Family Planning Services and its Utilization:

Worldwide estimates of family planning by the Population Reference Bureau (PRB) in 2019 show that there are 1.8 billion women aged 15 to 49 years. Of them, only 62% are using contraception, with 56% and 6% attributed to modern and traditional methods respectively. The modern contraceptive methods in popular use are: female

sterilization (18%), intrauterine device (13%), oral pills (9%) and male condom (8%)²². More than one in ten women (12%) globally have an unmet need for family planning, which means that they are not using any contraception to prevent pregnancy although they desire to stop (unmet need for limiting) or delay (unmet need for spacing) childbearing⁸.

India, the second most populous country in the world, contributes a share of 350 million (18%) to the global pool of reproductive age women. India is yet to achieve replacement level fertility and has a current TFR of 2.3 as against the global total fertility rate (TFR) of 2.5²². As per the National Family Health Survey - 4 in 2015 – 2016, the contraceptive prevalence rate (CPR) in India among currently married women 15 – 49 years of age is 53.5% with the modern contraceptive prevalence rate (mCPR) at 47.8%. This has dropped over the last decade from 56.3% and 48.5% in NFHS-3 respectively. The current total unmet need for family planning is 12.9%; while the unmet need for spacing is 5.7%¹⁰.

Tamil Nadu has achieved below replacement level fertility with a TFR of 1.6 and has better health indicators compared to most other states. The current contraceptive prevalence rate is 53% with no significant difference between urban and rural areas. Notably, the share of female sterilization to modern contraception has risen from 90% to 93% in the state. Kancheepuram district fares much better with a CPR of 62% with 57% attributed to female sterilization. The total unmet need for family planning is 10% at the state level and a similar proportion (9.6%) of unmet need is noted in Kancheepuram district¹⁵.

Rights based Family Planning:

The concept of reproductive rights rest on “the recognition of the basic right of all couples and individuals to decide freely and responsibly the number, spacing and timing of their children and to have the information and means to do so, and the right to attain the highest standard of sexual and reproductive health”, as outlined in the ICPD Programme of Action²³. It is encompassed within the broader concept of “sexual and reproductive health and rights (SRHR)”²⁴.

The rights based approach to family planning adopted by the international community after the 1994 ICPD conference has brought the realization that empowering women to meet their sexual and reproductive health needs is key to achieving population stabilization²³.

Rights based family planning involves the “application of key human rights principles to how programmes are planned, implemented, monitored and evaluated”²⁵. In the context of contraceptive services, a human rights based approach would include the following nine key principles/ standards: Non-discrimination, availability, accessibility, acceptability, quality of care, informed decision making, privacy and confidentiality, participation and accountability²⁶.

This approach is essential as a programme that is not rights based would result in exclusive focus on reduction of fertility and inadequate importance given to quality in provision of care. This is likely to result in reduced accessibility and acceptability of services, especially for the poorly resourced groups. This would in turn affect the programme’s ability to reduce the unmet need for contraception. The consequences

that would follow are unintended pregnancies and avoidable reproductive morbidity and mortality. In any case, ensuring human rights in the provision of contraceptive services is a moral imperative; not merely a value addition²⁶.

Under this approach, provision of contraceptive services is “not contingent on the good will of governments, but obligations they are required to fulfil as a result of their ratification of international and/or regional human rights treaties”²⁷. The six Human Rights monitoring committees established by the United Nations, especially the Committee on the Elimination of Discrimination Against Women (CEDAW) have recognized the need for every government to ensure access to family planning information and services. The significant provisions of CEDAW that address family planning are as follows²⁸:

- Article 12 protects women’s right to health and requires state parties “to eliminate discrimination against women in the area of healthcare, including reproductive health care such as family planning services”.
- Article 16 protects women’s right “to decide on the number and spacing of their children and to have access to the information and means to do so”.

Family Planning 2020 is a global partnership initiative formulated in 2012 seeking to acknowledge and uphold “the fundamental right of individuals to decide, freely and for themselves, whether, when and how many children to have”. The goal of FP 2020 initiative is to enable and empower an additional 120 million women and girls to access family information and services by the year 2020. By building upon existing human rights frameworks, ten rights principles as it relates to family planning have

been identified as follows: Agency and autonomy, Availability, Accessibility, Acceptability, Quality, Empowerment, Equity and Non-discrimination, Informed choice, Transparency and accountability and, Voice and participation²⁹.

India is one of the key protagonists of the FP 2020 initiative, committed to contribute an additional 48 million users of the global 120 million. This requires an annual increase of 2.35% in the modern contraceptive prevalence rate (mCPR) as against the observed 1%³⁰. Family planning has been repositioned as a central element in our effort to achieve Universal Health coverage. Priority interventions have been identified under the broader umbrella of RMNCH+A to achieve the national FP 2020 goals including increasing financial commitment to more than 2 billion USD; addressing equity with respect to both quantity and quality of services; expanding the basket of contraceptive choices; and focus on quality services through new standard operating protocols³¹.

Person Centred Care (PCC) as a proxy for Rights based Family Planning:

In 1990, Judith Bruce, a policy analyst with the Population Council conceptualized a ground breaking framework for service delivery in family planning that is based on the needs of the clients rather than the utilitarian goal of population stabilization. Known popularly as the Bruce/Jain Quality of Care (QOC) framework, it has six elements: information, availability of appropriate constellation of services, choice of contraceptive methods, technical competence of providers, interpersonal relations and follow-up / continuity of care³². The term quality has since then been in use in many rights based frameworks for reproductive health and family planning.

Client-Oriented, Provider-Efficient Services (COPE), which is a quality improvement process developed for family planning is built around the framework of seven clients' rights and three staff needs, which are recognized as key for achieving quality care. These include the rights of clients to Information, Access to services, Informed choice, Safe Services, Privacy and Confidentiality, Dignity, Comfort and Expression of opinion and Continuity of care; and the needs of healthcare staff for facilitative supervision and management, ongoing training and development, and sufficient supplies and infrastructure. The underlying assumptions informing this process are that clients are not passive but active participants who are responsible for making their own decisions related to healthcare; and while healthcare staff desire to deliver high quality services, it will remain a challenge without adequate resources and infrastructure³³.

The origin of the concept of person centred care can be traced back to Florence Nightingale who differentiated nursing from medicine by its "focus on the patient rather than the disease". The term 'patient centred medicine' was first introduced by Edith Balint in 1969, conceptualized as "understanding the patient as a unique human being"³⁴.

In its landmark 2001 report, 'Crossing the Quality Chasm', the National Academy of Medicine, formerly called the Institute of Medicine (IOM) named patient-centred care as one of the six fundamental aims of the U.S. health care system. The IOM defines patient-centred care as:

"Health care that establishes a partnership among practitioners, patients, and their families (when appropriate) to ensure that decisions respect patients' wants, needs,

and preferences and that patients have the education and support they need to make decisions and participate in their own care”³⁵.

The use of the word “patient” or “client” describes an interpersonal relationship where the provider or clinician assumes authority, power and control. In contrast, person-centred care shifts the focus from the provider to the person to whom healthcare is being provided, thus giving control to that individual³⁶. Rather than reducing the person to just their symptoms and disease, person centred care calls for a more holistic approach to care. It incorporates the various dimensions to whole well-being, including a person’s context and individual expression, preferences and beliefs³⁷.

In literature, the term person centred care is interchangeably used with user/clientcentred care, patient centred care, personalized care or resident centred care. However the core of the concept remains the same; that care should be individualized regardless of the healthcare setting³⁸.

Several definitions exist for Person Centred Care (PCC). McCormack(2003) defined PCC as “the formation of a therapeutic narrative between professional and patient that is built on mutual trust, understanding and a sharing of collective knowledge”. Suhonen et al. (2002) defined PCC as being comprehensive care that meets each patient’s physical, psychological, and social needs. A much more comprehensive definition states that “PCC is a holistic(bio-psychosocial-spiritual) approach to delivering care that is respectful and individualized, allowing negotiation of care, and offering choice through a therapeutic relationship where persons are empowered to be involved in health decisions at whatever level is desired by that individual who is receiving the care”³⁸.

Several conceptual frameworks exist for person centred care, one of which uses the Donabedian model for healthcare improvement to categorize the domains of PCC into structure, process and outcome. Structural measures focus on the setting where the healthcare exchange occurs; process signifies the actual patient-provider interaction and services provided to the patient and outcome measures relate to the impact of the healthcare services on the patient and the population³⁹.

The Picker Commonwealth Programme for Patient Centred Care began in 1987 in the United States as a movement for promoting patient centredness in the delivery of healthcare. Following eight dimensions have been identified to elucidate patient's experience of care : (1)respect for patients' values, preferences, and expressed needs; (2) coordination and integration of care; (3) information, communication, and education; (4) physical comfort; (5) emotional support and alleviation of fear and anxiety; (6) involvement of friends and family; and (7) transition and continuity. This program was the first to identify that person centred care should transcend beyond the patient and provider to the organizational level⁴⁰.

Mead and Bower (2000) created a conceptual framework that included five dimensions of patient-centredness by review of existing literature. Their dimensions were “biopsychosocial perspective, patient as person, shared power and responsibility, the therapeutic alliance, and doctor as person”. Patient centred care was recognized as a proxy for quality of care and the obligation of the provider to understand the needs of each person and create a healthy interpersonal relationship was highlighted⁴¹.

Slater's (2006) concept analysis identified the health care environment as having an influence on person-centred delivery of care. The antecedents identified by Slater were dignity, autonomy, respect, and therapeutic relationship; attributes identified were individuality, respecting values, and empowerment; and consequences identified included improved health outcomes and perceived improved relationship³⁶.

Although person centred care is recognized as a critical component in providing high quality family planning services, there is lack of consensus on how to operationalize and measure it. With that objective, a person centred family planning (PCFP) scale was validated and developed in India and Kenya (2018) to evaluate quality improvement interventions and experiences of women related to family planning. Cross sectional data from 522 women in Kenya and 225 women in India who visited a healthcare facility for family planning services was used for tool development. Validity and reliability of the tool were assessed using psychometric analysis and association with global measures of satisfaction and quality of care. The result is a multidimensional scale with 20 items and 22 items for India and Kenya respectively¹⁴.

Anand et al. (2010) analysed secondary data collected by Johns Hopkins University (JHU) and Indian Institute of Population Sciences (IIPS) as a follow up study to the NFHS – 2 in 1998-99. Data from four states namely, Tamil Nadu, Maharashtra, Bihar and Jharkhand were used to establish a relationship between women's use of reproductive healthcare and perceptions of service quality. It was observed that availability of healthcare provider, waiting time, privacy and financial affordability enhanced the probability of accessing a private healthcare facility; while availability

of drugs and supplies and effectiveness of treatment in public facilities increased the likelihood of access by women⁴².

Several studies were conducted in 1994 by the Indian Institute of Population Sciences (IIPS) to assess the experiences and perceptions of eligible women in rural areas of four Indian states, regarding the quality of services offered by the Indian Family Welfare Programme. Tamil Nadu, Karnataka, Bihar and West Bengal were selected based on their family planning performance; 3 districts were selected and sampled from each state based on contraceptive prevalence rates (CPR) to capture the variation in quality of services. Dimensions of quality of care assessed were 1) contact with the government program, 2) method choice, 3) Information, 4) Provider-client interpersonal relationship, and 5) appropriateness of services provided. 1855 women in the reproductive age group who may or may not have used family planning services were interviewed in the community and at the health facilities; in addition exit interviews were conducted among 'family planning acceptors' at the primary health centres to capture their personal experience. The study revealed wide variability in the quality of services, with an expected pattern at the state level. While most women in Tamil Nadu and Karnataka reported reasonably high quality of services, women did not report such favourable perceptions of quality of care in Bihar and West Bengal⁴³.

In a resource limited setting like Ethiopia where the total fertility rate (TFR) is 4.8 and contraceptive prevalence rate (CPR) is low at 29%, the client centredness of family planning services was studied using exit surveys and an observation checklist at selected public health facilities. The outcome of perceived informed choice and perceived client provider interaction was seen in 70% and 67.6% respectively. The

independent predictors found significantly associated at $p < 0.01$ were perceived degree of client provider interaction, perceived accessibility, clinical competence of providers and type of health facility⁴⁴.

Nalwadda et al. (2016) conducted a study in Uganda to assess the quality of family planning services among young people. 128 encounters with healthcare providers was done using simulated client method with narrative debriefing and a structured questionnaire. Quality of care was assessed using six domains, including : client needs assessment, choice of contraception, information, interpersonal relations, constellation of services and continuity of care. Overall quality of care was low in public and private facilities with the private sector faring poorer. Choice of method and interpersonal quality of care were better addressed in public facilities. On the whole, information given was suboptimal with all facilities scoring low on the range of available services⁴⁵.

In a more recent qualitative study (Mexico, 2018) conducted among 43 women from diverse sociocultural contexts, Holt et al. investigated women's preferences for contraceptive counselling. During the focus group discussions, women expressed a desire for privacy, confidentiality, informed choice and respectful treatment consistent with quality of care and human rights frameworks⁴⁶.

Information:

Clients have a right to accurate, appropriate, unambiguous and understandable information related to reproductive health and sexuality, and health overall³³.It includes “the right to seek, receive and impart information and ideas on sexual and reproductive health issues and on the entire range of contraceptive methods, both

modern and traditional”. Information must be made available through appropriate communication channels so that it meets the needs of everyone, including those with limited literacy skills and disabilities²⁶. Article 10 of the CEDAW protects women’s right to education, and “to provide women equal access to educational materials and advice on family planning”.

Data from the NFHS-4 indicates that 99% of Indian men and women have some knowledge about contraception; with respect to emergency contraception, this proportion drops to 48% and 42% for men and currently married women respectively. While 72% of women were exposed to information related to family planning either on television (59%), wall painting/hoardings (53%) or radio (18%), more men (76%) than women were exposed to these messages⁴⁷.

A qualitative study (Mexico 2018) indicates that women have a desire for complete and correct information regarding family planning, and this is regarded as the most important aspect of an ideal contraceptive counselling⁴⁶.

Accessibility:

Family planning services have to be accessible and affordable to all with no inappropriate social barriers such as age, marital status, ethnicity, social class or religion^{26,33,48}. Accessibility has three overlapping dimensions: physical accessibility, financial or economic accessibility and socio-cultural accessibility²⁶. This can be measured by assessing distance to health facilities, contraceptive costs and the prevailing socio-cultural beliefs and gender norms that influence access to contraception⁴⁸.

Physical Accessibility:

The rural healthcare infrastructure in India is a three tier system with one sub centre for every 5000 population; one primary health centre(PHC) for every 30000 population and one community health centre(CHC) for every 1.2 lakh population as per norms. The current status (2018) of healthcare infrastructure in India closely reflects the national norms. Currently, the average radial distance covered by a Sub centre, PHC and CHC is 2.35, 6.25 and 12.35 kms. Family planning services are an essential component of service delivery at all levels of healthcare⁴⁹.

History has shown that mere availability of services in healthcare facilities is unlikely to increase uptake of contraception. As per the national norms, one health worker male and female has to be appointed for every 5000 population. Currently, there is one HW(F) and HW(M) for every 3801 and 15412 population respectively⁴⁹ Several studies from India indicate significant shortcomings in the outreach efforts by health workers in family planning such as in the frequency and regularity of visits and time devoted for performing outreach activities.

In the four state study by IIPS (1999), approximately 70% of respondents in Tamil Nadu, Bihar and Karnataka and 58% in West Bengal had visited a public health facility in the preceding six months. A majority in all four states reported having been visited by an auxiliary nurse midwife (ANM) in the past 3 months, ranging from 93% and 89% in Karnataka and Tamil Nadu respectively to 61% and 53% in West Bengal and Bihar respectively. Significant differences are observed between the southern and northern states in the level of contact with public sector functionaries⁴³.

An average travel time of less than 30 minutes for accessing public health facilities for family planning services was reported by a majority of women in all the four states. While 88% and 71% women in Tamil Nadu and Karnataka reported the same, similar travel time was reported by 85% and 90% women in Bihar and West Bengal respectively⁴³.

A national ICMR study (1991) observed that, the more remote a village, without sub-centres or primary health centres, the more likely it is, to have a complete absence of use of contraception, both long term and reversible. A similar study in Uttar Pradesh found that outreach efforts were universally low, with women residing in remote villages least likely to be contacted by public health functionaries^{11,50}.

Financial Accessibility:

The goal of universal health coverage is to ensure availability of healthcare for all, without anyone having to suffer financial hardship on paying for them⁴⁸. Publicly financed sexual and reproductive health services, free at the point of delivery, would remove financial barriers to access²⁶. In India, the RMNCH+A programme implemented in 2013 categorically states that: “as a matter of service guarantee, the states are required to ensure that family planning information, commodities and services are provided absolutely free to every client”⁴.

However the significant proportion of women accessing the private sector (54% for oral pills; 40% for Intrauterine device as per NFHS-4) due to various reasons incur significant out-of-pocket expenditure⁴⁷. Even where affordability has been addressed at the programme level, challenges persist at the service delivery level such as informal

payments demanded by some providers for services and supplies that are otherwise meant to be available free of cost. This practice is fairly widespread and constitutes a significant proportion of out of pockets expenses in India ²⁶.

Socio-cultural Accessibility:

Broader socio-cultural and religious norms and practices play a role in the access to contraceptive services. In a study in Mangalore (2017), literacy status of women, type of family and number of male children were found to significantly influence use of contraception by women⁵¹.

While the burden of use of contraception is on women, the decision making that goes behind is still male dominated in many households in India. NFHS – 4 data indicates that 3 out of 8 men believe contraception is women’s business; and 20% men fear women may become promiscuous with use of contraception⁴⁷.

The CHARM family planning evaluation trial was done among 867 young couples in rural Maharashtra. Of those interviewed, 22% of women reported current use of modern spacing methods; and 46% reported discussing freely with spouse regarding family planning. Women who reported better communication with spouse regarding FP were seven times more likely to use modern spacing methods with an adjusted odds ratio of 7.1(4.9 , 10.3)⁵².

Non-discrimination:

Contraceptive information and services must be available and accessible to all irrespective of age, gender, disability, religion, ethnicity, income levels, marital or health status. The use of the term family planning itself seemingly excludes clients outside the ambit of a “family”, while the provision of family planning services in the context of maternal and child health care sends a wrong signal to men and women alike, that ‘contraception is women’s business.’ There is need for more inclusive services that discriminates against none, and provides for all, with special attention directed towards the vulnerable segments of the population²⁶.

The provision of services has to be voluntary and free of coercion or violence. Coercion in family planning consists of “actions or factors that compromise individual autonomy, agency or liberty in relation to contraceptive use or reproductive decision making through force, violence, intimidation or manipulation”. There are a spectrum of coercive practices that have been identified in policies and programmes related to family planning. Those that are clear violations include enforcement of one-child or two-child norm, mandatory contraceptive use policies and family planning procedures that are undertaken without a client’s knowledge or against his/her will. Whereas the potential for coercion exists in policies that promote use of social pressure to enforce family planning adoption, family planning use as a target or performance indicator, provision of financial or other incentives or disincentives⁵³.

Coerced contraception occurs “when financial or other incentives, misinformation, or intimidation tactics are used to compel an individual to undergo the procedure”. Additionally, sterilization or long term contraception may be required as a condition

of health services or employment. Forced contraception occurs when a person is given contraception involuntarily without her knowledge or is not given an opportunity to provide consent⁵⁴.

In-depth studies conducted in Tamil Nadu, Uttar Pradesh and elsewhere in India show that public sector providers granted access to induced abortion services conditional on the adoption of post-abortal sterilization or long term contraception. Studies from Tamil Nadu cite examples where women underwent sterilization or IUD insertion without their knowledge or explicit approval/consent, especially in urban public health facilities¹¹.

Informed Choice:

The term “Informed and voluntary decision making” broadly refers to any healthcare decision and assumes that “individuals have the both the right and the ability to make their own healthcare decisions”⁵⁵.

A conducive environment for informed choice is created when⁵⁵

1. Service delivery options are available
2. The decision-making process is voluntary
3. Individuals have appropriate information
4. Good client provider interaction including counselling is ensured
5. The social and rights context supports autonomous decision making

Informed choice happens when “the process by which an individual arrives at a decision about his healthcare is based upon access to, and full understanding of, all necessary information from the client’s perspective”. Informed choice empowers the

individual to make a choice that reflects his desires and values; is based on accurate, relevant information, and is medically appropriate⁵⁶.

Six elements have been identified as essential in ensuring informed consent for sterilization; mere documentation is deemed insufficient. The client should be aware that voluntary sterilization is a surgical procedure; it is permanent, and will prevent him/her from having any more children. That temporary methods are available and the client can decide against sterilization at any time without losing the right to health services must be clearly communicated⁵⁷.

The official policy of the family planning programme is to encourage voluntary adoption of family planning by providing a full range of contraceptive services and the information required to make an informed decision. Studies conducted in India indicate that these mandates are rarely followed in practice¹¹.

As per the NFHS – 4 data, only 47% of modern contraceptive users in India were informed about possible side effects. A smaller proportion 39% were told about what to do if they experience side effects, while 54% were informed about other methods. Tamil Nadu has a much more favourable picture with 7 in 10 women being informed about dealing with side effects and 79% being informed about other methods(46).

The pattern of contraceptive use in India as a whole suggests limited choice. In a study by Murthy et al. (1999) in rural Maharashtra, women living in remote communities as well as less educated women were less likely to be informed about spacing methods and contraceptive side effects¹¹. Most facility-based providers in the southern states strongly emphasized sterilization with a reported occurrence of 58% and 56% in

Tamil Nadu and Karnataka respectively. Nearly 50% of the providers also suggested spacing methods in these two states. These proportions were found to be much lower in the northern states of West Bengal and Bihar. On the other hand, mention of both sterilization and spacing methods during outreach visits by the ANM was somewhat high (43%) only in Karnataka. Male sterilization was rarely, if ever, offered as an option⁴³.

The view that the provider should decide the appropriate method for a client was held by 93% of the ANMs in Karnataka while approximately 75% of the ANMs reported a similar view in the other three states. Available evidence suggests that information given by providers to clients about contraceptive methods are frequently inadequate; neither are the side effects clearly explained nor are they counselled on how to deal with the side effects⁴³.

Nearly 60% of family planning users in Tamil Nadu and West Bengal were informed by the provider about how the method prevents pregnancy and how it should be used. Only 47% and 40% were told about the possible side effects of the method, while 40% and 37% were instructed on how to deal with the side effects in Tamil Nadu and West Bengal respectively. Meanwhile, the situation in Bihar and Karnataka is much more favourable with a majority being informed about all relevant aspects of the contraceptive method⁴³.

Qualitative data from Tamil Nadu and Kerala show the incomplete nature of information provided to users of contraception, with more emphasis on the method effectiveness; while the less positive but relevant aspects such as side effects and contraindications are not discussed, so as not to deter potential acceptors¹¹.

An Indian Council of Medical Research Task Force Study was conducted in the year 2000 to evaluate informed contraceptive choices. 8077 potential clients were given a balanced presentation of positive and negative aspects of all the contraceptive methods available in the national programme at the time. Majority of women opted for spacing methods such as IUD (60%), condom (9%), OCPs (6%) and Norplant (5%). Only 17 % of women making an informed choice accepted female sterilization. The choice of contraception was not affected by the socio-economic status as methods were provided free of cost. It was also seen that informed choice equipped the women to override provider bias in the selection of contraceptive method⁵⁸.

Pariani et al. investigated the effect of whether the client's choice of contraception was granted or denied by the healthcare provider and husband-wife concurrence on method of choice on the 12 month contraceptive discontinuation rates in family planning clinics in Java, Indonesia. It was found that granting or denial of client's choice of contraceptive was an important determinant of continued use with 72% couples whose choice was denied discontinuing within 12 months, while only 9% couples whose choice was granted discontinued use in the same period. Also, couples whose choice was denied in presence of husband wife concurrence on method of choice suffered higher rates of 12 months discontinuation⁵⁹.

Interpersonal care:

A client seeking reproductive healthcare has the right to be treated with respect and consideration. It is the obligation of providers to ensure that clients are encouraged to express their views and preferences freely even when they are against those of the provider himself/herself. Also timely and safe provision of services that are gender

responsive; with the client made as comfortable as possible during any procedure is essential to assure quality care^{26,33}.

Respectful Care:

The Interpersonal Quality of Family Planning Care (IQFP) was validated in the US as part of the Patient-Provider Communication about Contraception Study by Dehlendorf et al (2016). It is a 11 item measure including indicators such as respecting the client as a person, giving him/her an opportunity to ask questions, giving enough information to enable the client to choose a birth control method most suited to him/her, and taking his/her preferences seriously⁶⁰.

The Patient - Provider Communication about Contraception Study is a prospective cohort study conducted during 2009 – 2012 in San Francisco. It was a mixed race study recruiting 348 women who were administered the 11 item Interpersonal Quality of Family Planning Care measure. It was observed that women reporting high interpersonal quality of family planning care were more likely to continue use of their chosen method of contraception at follow up after 6 months with an adjusted Odds ratio of 1.8 (1.1 , 3.0)⁶¹.

Exit interviews among women who utilized family planning services in Tamil Nadu revealed that the provider was perceived to be cordial and attentive by 66% and 62% of the respondents respectively. Karnataka fared better with favourable perceptions being reported by 79% and 69% respectively. Nearly half of the respondents were satisfied in West Bengal while Bihar fared the worst with less than half of the respondents satisfied with the quality of interpersonal care⁴³.

A study in Uganda found that, with regard to the attitude of the healthcare provider, 50% reported their care as being respectful; while 38% and 12% reported their care as being fairly respectful and disrespectful respectively⁴⁵

Timely Care:

The average waiting time for consultation with a family planning provider in public health facilities was less than 30 minutes for majority (80% to 90%) of respondents in all the states except West Bengal. With 6% or less number of women reported waiting for an hour or more in the other three states, 21% of women reported long waiting hours in West Bengal⁴³.

A study in Uganda (Nalwadda et al. , 2016) found that 31% did not have to wait at all to consult the provider while, 23%, 40% and 6% had to wait for less than 5 minutes, 5 – 50 minutes and 51 – 180 mins respectively⁴⁵.

Atuahene et al. conducted a cross sectional study in semi-urban Ghana to identify the factors influencing low acceptability of family planning services. Of the 68 women who were current family planning users, only 1 (1.7%) woman complained of having to wait too long while 67 (98%) said the waiting time was reasonable⁶².

Gender Sensitive care:

Gender sensitive care deals with the way service providers treat male or female clients. It is informed by knowledge and understanding of differences and varying needs of people of all gender identities. With respect to family planning, it also measures whether a range of contraceptive methods are available for both male and female clients^{63,64}.

The MEASURE (Monitoring and Evaluation to ASsess and Use Results) Evaluation partnership aided by the USAID lists several indicators for measuring gender sensitive care in developing countries including: percent and availability of female physicians for women who prefer them, non-stigmatizing attitude towards adolescents, unmarried women, etc. and equal treatment of male and female clients⁶⁴.

A study was conducted in the United Arab Emirates (UAE) in 2004 that looked at women's preferences and determinants in the selection of obstetrician in a non-western society. A consecutive sample of 508 women were interviewed using a structured questionnaire, 24 hours after admission to the health facility. A majority of 439 (86%) women preferred a female provider while 61(12 %) had no preference and 8(1.6%) preferred a male provider. The key determinants that influenced the preference were privacy (89%), religious beliefs (74%) and cultural tradition (45%)⁶⁵.

Focus group discussions to assess women's preferences in contraceptive counselling (Mexico, 2018) revealed that women felt "more comfortable" and "less embarrassed" with female providers, particularly with respect to physical examination and procedures. Some women felt, on the contrary, that gender was not as important, as long as the provider ensured the client was treated respectfully and made comfortable⁴⁶.

Privacy:

Privacy is legally defined as "a person's right to control access to his or her personal information"⁶⁶. In the context of sexual and reproductive health services, every client has the right to privacy and confidentiality during counselling, physical examination,

clinical procedures as well as in staff's handling of medical records and other personal information³³. Sexual and reproductive health (SRH) is a sensitive area of care, where the provider is entrusted with very personal information. Where adequate privacy is not ensured, clients may not be as willing to seek SRH services, jeopardizing their own health and that of others¹².

Confidentiality is the obligation of the provider to protect an individual's privacy. They have a duty to keep confidential both the written medical records and verbal communication. This is particularly key to protecting the SRH rights of stigmatized groups such as adolescents, transgenders and sex workers⁴⁸.

A study commissioned by UNFPA India in 2 states found that public health facilities lacked in privacy and confidentiality. Only 27 – 30% of the health facilities maintained adequate auditory privacy while even fewer (15 – 18%) facilities had adequate visual privacy. The same study revealed that more than 50% providers consulted a family member before contraceptive services to newly married women⁶⁷.

In the four-state study by Roy et al., satisfaction with the privacy offered by the family planning clinics was reported by 63% and 74% of the women utilizing services in Tamil Nadu and Karnataka respectively. While Bihar and West Bengal fared worse, with only 45% and 27% of women having reported that the clinic privacy was adequate⁴³.

Focus group discussions to assess women's priorities in contraceptive counselling (Mexico, 2018) tended to blend the concepts of privacy and confidentiality. Women expressed a need for private physical space; they strongly felt that others should not be

allowed in the room during their physical exam unless necessary, and even then only after obtaining their permission. Also they expected that any shared information “not leave the room” without their consent. The perceived consequence of a lack of privacy was that, a woman might not feel comfortable voicing out her needs, if she thinks others might hear⁴⁶.

A study in Uganda (2016) to assess the quality of family planning services among young people found that clients enjoyed enough privacy in 42% of cases while 28% and 30% reported some and no privacy respectively. Clients were not given privacy either intentionally inspite of there being adequate physical space; or unintentionally due to limited space⁶⁸.

Atuahene et al. conducted a cross sectional study in semi-urban Ghana to identify the factors influencing low acceptability of family planning services. Of the 269 women interviewed, majority were satisfied with the privacy offered, while 6% and 4.5% expressed dissatisfaction with the auditory and visual privacy during counselling respectively⁶².

Continuity of Care:

As use of contraception becomes a sufficiently established behaviour, contraceptive continuation and not acceptance plays an important role in increasing contraceptive prevalence. Many studies done in India point to an absence of follow up services as playing a role in the limited success of the national family planning programme^{11,12}.

A national ICMR study (1991) observed that 36% and 43% of women who accessed sterilization and IUD respectively did not have a record maintained at the primary

health centre which is an essential pre-requisite for follow-up¹¹. In a four state study by Roy and Verma (1999), detailed follow-up registers for tracing clients were maintained by less than 50 percent of ANMs in Tamil Nadu⁴³. A study in Kerala found that only 7 out of 22 women who sought family planning services at a primary health centre were scheduled a follow up visit¹¹.

In Uttar Pradesh, only one fourth of women experiencing method-related complications due to long term contraceptives reported being visited and assisted by a health worker for recovery. Although ANMs consider follow up of clients who have undergone sterilization to be an important practice, similar accord is not given to acceptors of reversible contraception especially those taking oral pills. While IUD users are advised to return to the facility in case of problems, those using oral pills are expected not to have any problem with the method⁵⁰.

Another study noted that no set guidelines or protocol has been established under the programme for health workers for follow-up of acceptors of family planning. Whether reported side effects have a medical basis or has more to do with the perceptions of women, unless these concerns are addressed, it could have a serious implication for the success of the programme¹¹.

Data from the NFHS – 4 shows the 12 month discontinuation rates for condom at 47%, pills – 42%, IUD – 26% and Injectable (51%). The most commonly cited reason was desire to become pregnant while 5% wanted to switch over to another method. The highest discontinuation rates (60-64%) were noted in Tamil Nadu, Andhra Pradesh, Kerala and Goa⁴⁷.

Shashikant et al. (2014) conducted a prospective cohort study in two primary health centres of rural Haryana to assess the acceptance rate, probability of follow up and expulsion of PPIUCD. Of the 238 women who consented and received a PPIUCD, only 128 returned for the advised follow up visit at 6 weeks. The expulsion rate and removal of PPIUCD at follow up were 18% and 13% respectively. Abdominal pain (16%), leucorrhoea and bleeding PV (6%) were the major reasons cited for request for removal. Probability of expulsion is higher in women aged more than 25 years and those who had four or more pregnancies⁶⁹.

Perceived Quality of Care:

Patient satisfaction is a multidimensional construct that encompasses patient concerns about disease, satisfaction with treatment, access, affordability, communication and confidence in physician. Measures of satisfaction are informed by ‘expectation disconfirmation theory – i.e. the extent to which an experience exceeded or fell below expectations’ and hence has the limitation of lacking in specificity and differentiation of measured behaviours⁷⁰. However, it is an important indicator of future adherence to intervention or treatment. It has implications for enhancing service delivery and has increasingly been the focus of various research and evaluation projects⁶⁰.

Methodology

Study Design: Community based Cross Sectional Study

Study Setting : The study was conducted in the district of Kancheepuram, which is situated in the northern part of Tamil Nadu. Kancheepuram town, known as the city of thousand temples is the district headquarters. Kancheepuram district has a population of 39,98,252 persons and ranks second with respect to population size in Tamil Nadu. The district is spread over an area of 4483 square kilometres (sq. km) with a population density of 892 per sq. km. The population is predominantly urban with 63.5% residing in the urban areas as against the state percentage urban population of 48.4%. Kancheepuram district has recorded the highest literacy rate in the state of 84.5%, higher than the state average of 80.1%⁷¹.

As per the 2011 Census, Kancheepuram district has 10 Taluks and 14 Community Development blocks⁷¹. For the purpose of public health administration, the district is divided into two Health Unit Districts (HUDs) namely Kancheepuram HUD and Saidapet HUD. Kancheepuram HUD is subdivided into 7 Blocks comprising of 35 Primary Health Centres while Saidapet HUD is subdivided into 6 Blocks comprising of 29 Primary Health Centres⁷².

Study period: The study was conducted for a period of one year between August 2018 and July 2019.

Study population: Married women in the reproductive age group (18 to 44 years) who are eligible for family planning services were included in the study with the inclusion and exclusion criteria being:

Inclusion criteria:

- 1) Resident of the area for at least six months
- 2) Had at least one pregnancy in the preceding five years, irrespective of the pregnancy outcome.
 - This criteria is used, to ensure that women included in the study are those who were eligible for family planning services in the preceding 5 years, irrespective of whether they utilized the services. Since the study aims to assess quality of family planning services, of which outreach activities to motivate non-users is an important aspect, both contraceptive users and non-users are included in the study.

Exclusion criteria:

- 1) Infertility : Inability to achieve a live birth within five years of pregnancy exposure⁷³ or self-reported history of conception following treatment for infertility.
 - This definition incorporating inability to achieve a live birth, rather than inability to conceive is useful in this context, since women who are able to conceive but unable to achieve a live birth due to miscarriages are unlikely to have a need for family planning. The period of 5 years used in this definition, is commonly used by demographers, as it is not possible to account for continuous pregnancy exposure during the period.
- 2) Women who are seriously ill or bedridden
- 3) Women who are mentally disabled

Operational definitions:

Desired family size: Number of children the woman intends/intended to have

Desired spacing: Number of years of spacing the woman intends/intended to have between consecutive childbirth

Unintended pregnancy: A pregnancy that is reported to have been either unwanted or mistimed

Unwanted pregnancy: A pregnancy that is reported to have occurred when no children or no more children were desired

Mistimed pregnancy: A pregnancy that is reported to have occurred earlier than desired

Modern contraception: The methods of contraception currently available under the National Family Welfare Programme, Ministry of Health and Family Welfare, Govt. of India.

1. Spacing methods :

- a. Condom
- b. Intrauterine contraceptive device (Cu T 380A and CuT 375)
- c. Oral contraceptives 'Mala N' and 'Chhaya' and
- d. Injectable 'Antara'

2. Permanent methods

- a. Female : Tubectomy by 'Minilap' and laparoscopic techniques
- b. Male: Conventional and non-scalpel Vasectomy

3. Emergency contraceptive pill – E-Pill or Ezy pill

Ever used :Self-reported use of a modern contraceptive method at any time, including current usage.

Recently accessed/used :Start of most recent episode of use of a modern method in the preceding 5 years

Person Centred Care:Assessed using seven domains of Information, Accessibility Non-discrimination, Informed choice, Interpersonal care, Privacy and Continuity of care.

1. **Information:** Provision of information regarding family planning to eligible couples through home visits by multipurpose health workers.
2. **Accessibility:**
 - i. **Physical Accessibility** : Access to family planning services by choice of healthcare facility, distance to health facility and 24 hours availability of services.
 - ii. **Financial Accessibility** : Availing a loan or borrowing money to access family planning services, including informal payments
 - iii. **Sociocultural Accessibility** : Spousal communication and decision-making regarding family planning, attitude towards modern contraception and influence of education, employment and religion on contraceptive use.
3. **Non-discrimination:** Voluntary adoption of family planning
 - i. With the knowledge and consent of the woman
 - ii. Without undue compulsion or being made conditional for abortion or other health services

4. Informed Choice: Provision of **choice** of more than one modern contraceptive method (Cafeteria approach) and **information** on essential aspects of chosen method

5. Interpersonal Care

- i. Respectful care:** Attitude of provider during provision of care as perceived by the individual
- ii. Timely care:** Being attended to by a healthcare provider within 30 minutes of arrival at the healthcare facility
- iii. Gender-responsive care :** Provision of care by female healthcare providers for women who prefer them

6. Privacy:

- i. Auditory privacy:** Information shared during client-provider interaction away from the earshot of other clients/individuals
- ii. Visual privacy:** Physical examination or invasive procedures done in the privacy of an enclosed room, or behind blinds.

7. Continuity of care: Provision of routine follow up care, appropriate care for side effects and provider compliance with removal or switching of methods

Sample size: Previous studies using a composite measure of person centred care in family planning in India, as conceptualized in this study were not found during literature search. Hence, a pilot study was conducted with 30 study participants satisfying the inclusion and exclusion criteria using the self-developed Person Centred Care in Family Planning (PCC-FP) tool. In the pilot study, 17/30 (56.6%) women were found to be recent users of modern contraceptive methods. Of the 17 users, only

5 (29%) women experienced care that characterized good or excellent person centred care in family planning.

Assuming 29% women receive person centred care in family planning, with an absolute precision of 6% at 95% confidence level, the required number of modern contraceptive users to be recruited in the study was calculated to be 220 using the formula $z_{\alpha}^2 pq/d^2$.

$$\text{Number of modern contraceptive users required} = \frac{3.84 * 29 * 71}{6 * 6} = 220$$

Since the prevalence of recent contraceptive use in the study population was found to be 56.6% in the pilot study, the required number of women eligible for family planning services to be recruited, so that at least 220 of them are contraceptive users, was calculated as 389, which is approximated to 390.

$$\begin{aligned} \text{Number of required study participants} &= \frac{\text{Number of recent contraceptive users required}}{\text{Prevalence of recent contraceptive use}} \\ &= \frac{220}{0.56} = 389 \approx 390 \end{aligned}$$

Sampling method: Multistage sampling technique was employed.

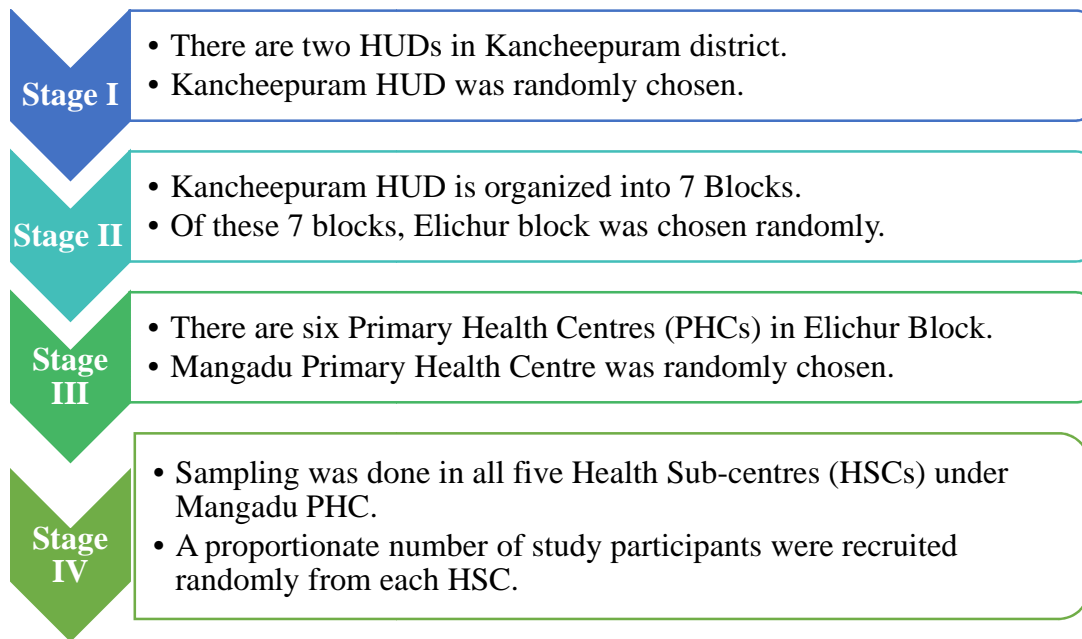
First stage: There are two HUDs in Kancheepuram district namely, the Saidapet and Kancheepuram HUDs. Kancheepuram HUD was chosen randomly.

Second stage: Kancheepuram HUD is organized into 7 Blocks namely, Acharapakkam, Elichur, Maduramangalam, Manamathi, Parandur, Thiruputkuzhi (Kancheepuram) and ZaminEndathur. Of these 7 blocks, Elichur block was chosen randomly.

Third stage: There are five Primary Health Centres (PHCs) in Elichur Block namely, Elichur, Kundrathur, Mangadu, Padappai and Somangalam. Of these, Mangadu Primary Health Centre was chosen randomly.

Fourth stage: Mangadu PHC covers a population of 67,713 persons and comprises five Health Sub-centres (HSCs). It was decided to sample from all five HSCs to improve representativeness and generalizability of the study, as each HSC has one designated multi-purpose healthworker for providing outreach contraceptive information and services. The number of study participants to be recruited from each HSC was determined proportionate to its population size. Study participants were sampled randomly from the population covered by each of the five HSCs, with the help of the multi-purpose health worker. If a selected sample did not satisfy the inclusion/exclusion criteria, then the next sample was randomly chosen until the required sample size was reached. The population of each HSC and the corresponding proportion of study participants chosen is given in Annexure 5.

Figure 1. Steps in Multistage Sampling



Data Collection:

Initial screening was done using a checklist containing the inclusion and exclusion criteria. Once the respondent was found eligible to participate in the study, the purpose of the study was explained to the study participant and her written informed consent was taken. The data was then collected by administering a structured questionnaire in the local language by personal interview. Relevant background information about self and the family, and a detailed reproductive history including contraceptive history was collected in the chronological order. Then questions were put forward pertaining to the seven domains of Person-centred care namely, Information, Accessibility, Non- discrimination, Informed choice, Inter-personal care, Privacy and Continuity of care.

The domains of Information and some components of Accessibility were evaluated among all 390 women interviewed in the community who may or may not be recent users of family planning services, as outreach efforts to motivate non-users form a significant component of the Indian Family Welfare Programme. While the remaining domains were put forward only to the users of family planning services in the past five years, as these questions were related to women's experiences with family planning care at the healthcare facility.

The study participants were also asked to rate their satisfaction with the overall quality of care during their most recent interaction with a healthcare facility for accessing a modern method of contraception. The rating was elucidated by a four point Likert scale with options ranging from Excellent to Poor.

Development of measurement tool:

The seven domains of person centred care were adapted from two literature sources namely, the handbook on “Client- Oriented, Provider-Efficient Services: A Process and Tools for Quality Improvement in Family Planning and Other Reproductive Health Services (1995)”³³ and the WHO guidelines on “Ensuring human rights in the provision of contraceptive information and services : guidance and recommendations”.⁴⁸

The self-developed Person Centred Care in Family Planning (PCC-FP) tool was assessed for content validity by expert review. The concerned experts are :Dr.T.K. SundariRavindran, M.Sc, Ph.D, Retired Professor of Public Health, SreeChitraTirunal Institute for Medical Sciences and Technology, Trivandrum and Dr.Subha Sri Balakrishnan, M.D. (OG), Senior Technical Officer, Liverpool School of Tropical

Medicine. They are renowned experts in the arena of gender and health, with specific focus on sexual and reproductive health and rights. Dr. T.K. SundariRavindran has contributed to numerous published works on reproductive health and rights, as a consultant for the WHO.

Statistical Analysis: Data was entered in MS Excel and analysed using the Statistical Package for Social Sciences (SPSS) Version 16. Descriptive statistics such as Mean / Median and Standard Deviation (SD) / Inter-quartile range were calculated as appropriate, for continuous variables. For categorical data, absolute and relative frequency were reported.

A summary score for Person Centred Care in Family Planning (PCC-FP) was calculated using 8 essential criteria covering all the seven domains of Person Centred Care. Each criteria is given a score of 1 if satisfied and 0 otherwise. The possible minimum and maximum scores are 0 and 8 respectively.

Person-Centred Care in Family Planning (PCC-FP) Scoring Criteria:

1. Self or consensual contraceptive decision making with spouse
2. Voluntary adoption of contraception with explicit consent obtained by healthcare provider
3. Choice of more than one modern contraceptive method offered by the healthcare provider – Cafeteria Approach
4. Informed about the common side effects of the method of choice
5. Care that is timely, respectful and gender-responsive
6. Privacy offered during all client-provider interactions and during physical examination/procedure

7. Appropriate follow-up care given for side effects if present and provider compliance with removal or switching of methods as applicable.
8. Absence of informal payments or loans to access family planning services

The criterion validity of the summary score was assessed by association with perceived quality of care reported by the beneficiary using one way ANOVA. The socio-demographic and healthcare related factors were analysed for association with person centred care in family planning using Student t test, one way ANOVA, Chi-square or Fischer exact tests as appropriate.

Human Subjects Protection: Approval was obtained from the Institutional Ethics Committee before the commencement of the study. The study was entirely question-based and required the study participants to spend about 20 to 30 minutes of their time. The purpose of the study was explained to the study participant in her own language and a written informed consent was obtained prior to administering the questionnaire. The voluntary nature of participation and the right to withdraw from the study at any time was explained. In addition, the participants were assured that their identity and the information shared would be kept confidential.

Results

A total of 390 married women in the age group of 18 to 44 years were interviewed for the study. Table 1. shows the socio-demographic characteristics of the study participants.

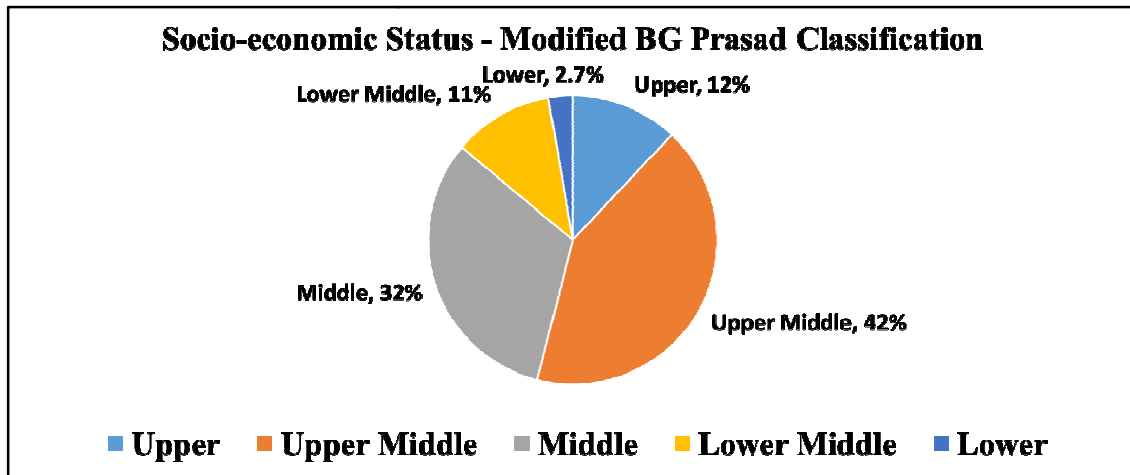
Table 1. Socio-demographic profile of the study participants (n=390)

Socio-demographic Characteristic	Number of study participants, n (%)
Age, years	
19 – 25	145 (37)
26 – 32	215 (55)
33 – 40	29 (7.4)
Education Status	
Illiterate	4 (1)
Upto Primary School	18 (4.6)
Upto Middle School	66 (17)
Upto High School	131 (34)
Upto Higher Secondary	78 (20)
Graduate	93 (24)
Occupation	
Employed	35 (9)
Self employed	13 (3.3)
Unemployed	342 (88)
Religion	
Hindu	302 (78)
Christian	39 (10)
Muslim	48 (12)
Age at marriage, years	
≤ 17	27 (6.9)
18 – 20	152 (39)
21 – 24	140 (36)
≥ 25	71 (18)

The mean age of the study participants was 27 ± 3.8 years, with a majority aged between 26 to 32 years (55%). All of the study participants were literate excepting one; while 78% of the women had completed upto high school and above, 24 % women had completed upto graduate education. The percentage of working women in this population was low (12%) despite the relatively higher levels of education attainment. The median (IQR) individual monthly income among the working population was Rs. 7000 (3750 – 10000), with the minimum and maximum of Rs. 1000 and Rs. 50,000 respectively. The religion most commonly practised was Hinduism (78%) with the minority groups also adequately represented. Although the mean age at marriage of these women was 21 ± 3.2 years, 6.9% were married before the legal age for marriage of 18 years.

The median (IQR) monthly family income was found to be Rs. 15,000 (10,000 – 20,000). The study area being a mixed rural-urban setting, the per-capita income classification of Modified BG Prasad scale was used to arrive at the socio-economic status. Using the Consumer Price Index (Industrial Worker) for the month of November 2018, which was 302, the Modified BG Prasad classification was updated. Figure 2. shows the socioeconomic classification as per the Modified BG Prasad Scale. The middle classes were seen to predominate while 12 % belong to the upper class and 2.7% to the lower class.

Figure 2. Socio-economic status of the study participants (n = 390)

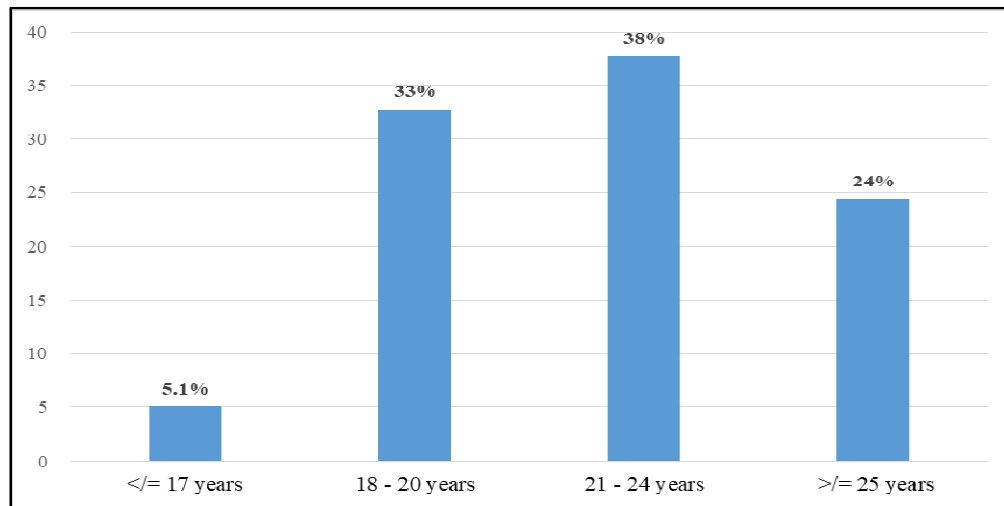


Reproductive Profile:

The mean age at first conception of the women participating in the study was found to be 22 ± 3.2 years. A woman conceived as early as 13 years while the maximum age at first conception was 36 years. 5% women had conceived before the age of 18 years, falling under the high-risk category of teenage pregnancies. A majority of 38% had their first conception at the age of 21 to 24 years closely followed by 33% first conceiving at the age of 18 to 20 years. Figure 3. shows the age at first conception of the study participants.

More than half of the study participants had two pregnancies (53%) while one fourth (25%) had one pregnancy till date. A smaller proportion (18%) had three pregnancies while the remaining 5% of women had four or more pregnancies. Table 2. shows the characteristics of the most recent pregnancy of the study participants.

Figure 3. Age at first conception of the study participants (n=390)



As regards the most recent pregnancy, 114 (29%) were unintended pregnancies, most of which were mistimed (22%) and the rest, unwanted (7.4%). 6 (1.6%) women underwent induced abortion, the predominant reason being an unintended pregnancy. One woman had had 15 pregnancies within a span of around 10 years, most of which were unintended pregnancies due to lack of contraception. Only 6 pregnancies ended in live birth and the rest were aborted, either spontaneously or induced.

Out of the 390 most recent deliveries, 2 were home deliveries while the rest were institutional deliveries. 283 (72%) happened in government institutions, with the tertiary care hospitals taking the lead, closely followed by the primary health centres (PHCs). District/Taluk government hospitals contributed little (7.7%) to the delivery load. The private sector handled a fair share of 114 (27%) deliveries.

Table 2. Characteristics of most recent pregnancy (n = 390)

	Number of study participants, n (%)
Planning	
Intended pregnancy	276 (71)
Unintended pregnancy	114 (29)
Mistimed pregnancy	85/114 (74)
Unwanted pregnancy	29/114 (26)
Outcome	
Vaginal delivery	191 (49)
Caesarean section	157 (40.3)
Spontaneous abortion	7 (1.8)
Induced abortion	6 (1.6)
Unwanted pregnancy	5/6 (83)
Foetal malformations	1/6 (17)
Currently pregnant	29 (7.4)
Place of delivery	
PHC	116 (30)
District/taluk govt. hospital	30 (7.7)
Govt. Medical college	131 (34)
Private hospital	104 (27)
Home delivery	2 (0.5)
Some govt. hospital	6 (1.5)

The mean number of living children per woman is 1.7 ± 0.66 , with a minimum and maximum of 0 and 6 respectively. Only one woman had no living children, as her most recent pregnancy ended in a spontaneous abortion. Table 3. shows the data regarding the number of children and, age and spacing of last child.

Table 3. Characteristics of living children (n = 390)

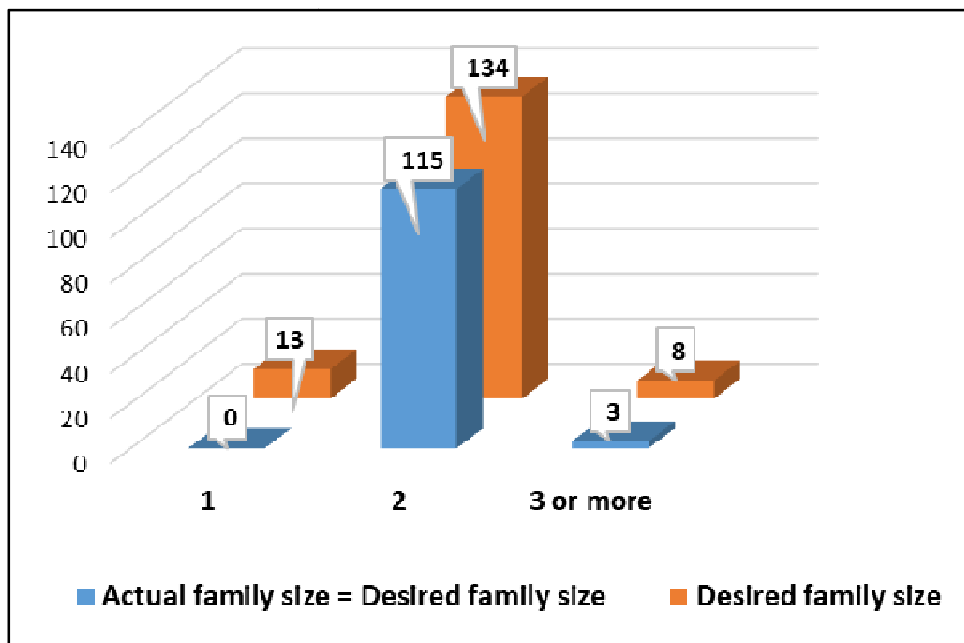
Characteristics of children	Number of study participants, n (%)
Number of living children	
0	1 (0.3)
1	148 (38)
2	211 (54)
3	27 (6.9)
≥ 4	3 (0.8)
Age of last child, months	
≤ 12	94 (24)
13 – 36	190 (49)
37 – 60	102 (26)
> 60	3 (0.8)
Spacing of last non-first order pregnancy, months	
≤ 12	45 (15)
13 – 24	84 (29)
25 – 36	76 (26)
> 36	89 (30)

75% of the women conceived within one year of marriage with the median (IQR) spacing achieved by newly married couples being 4 (2 – 12) months. Whereas for subsequent non-first order pregnancies, 30% and 26% had achieved a spacing of 3 years and 2 years respectively.

Desired vs Actual Family size :

Of the 390 study participants, a majority of 329 (84%) reported a desired family size of 2. Among the 155 women who had undergone sterilization and completed their family, only 118 (76%) women had achieved their desired family size. The number of study participants who had achieved their desired family size is shown in Figure 4.

Figure 4. Comparison of desired and actual family size (n = 155)

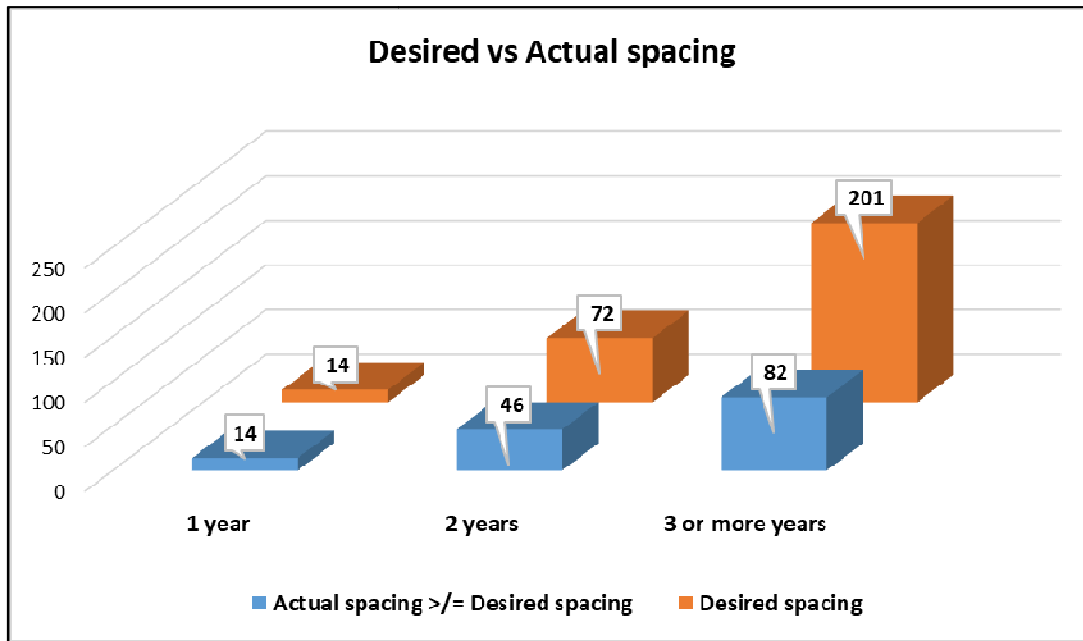


The major reasons cited for having a larger family than intended were son preference (27%), family pressure (27%) and unwanted pregnancy (15%).

Desired vs. Actual Spacing :

Of the 390 study participants, a majority of 273 (72%) women reported a desired spacing of at least 3 years between consecutive childbirths. However, among the 287 multiparous women, only 142 (49%) women had achieved their reported desired spacing in their most recent pregnancy. This is shown in Figure 5.

Figure 5. Comparison of desired and actual spacing (n = 287)



Modern Contraceptive services:

Table 4. Awareness and ever-use of modern contraception (n=390)

Modern method of contraception	Aware, n (%)	Ever-used, n (%)
Male Condom	319 (82)	35 (9)
Female Condom	37 (9.5)	-
Oral Pills	291 (75)	13 (3.3)
Injectable	229 (59)	1 (0.3)
Intrauterine Device	373 (96)	88 (23)
Tubectomy	389 (100)	155 (40)
Vasectomy	298 (76)	-
Emergency contraception	61 (16)	-

Among the 390 study participants, 247 (63%) women reported ever-use of modern contraception while 143 (37%) women had never used any modern method of

contraception. Table 4. shows the proportion of women who are aware of and have ever used the various modern contraceptive methods.

The ever-use of limiting and spacing methods are 40% and 36% respectively. Of the 60% women who were not sterilized, while less than 1% expressed a desire to use modern spacing methods or vasectomy in future, most (53%) women mentioned probable use of tubectomy in future.

Figure 6. shows the source of contraceptive information as reported by the study participants. Women were exposed to contraceptive information most frequently by friends/relatives(55%), followed by healthcare providers(37%) and media(16%). Majority of women who had never used modern contraception attributed it to fear of side effects (48%), a belief that modern contraception, especially spacing methods are not essential (29%), lack of spousal support (6%) and religious belief (4%).

Figure 6. Source of Contraceptive Information (n=390)

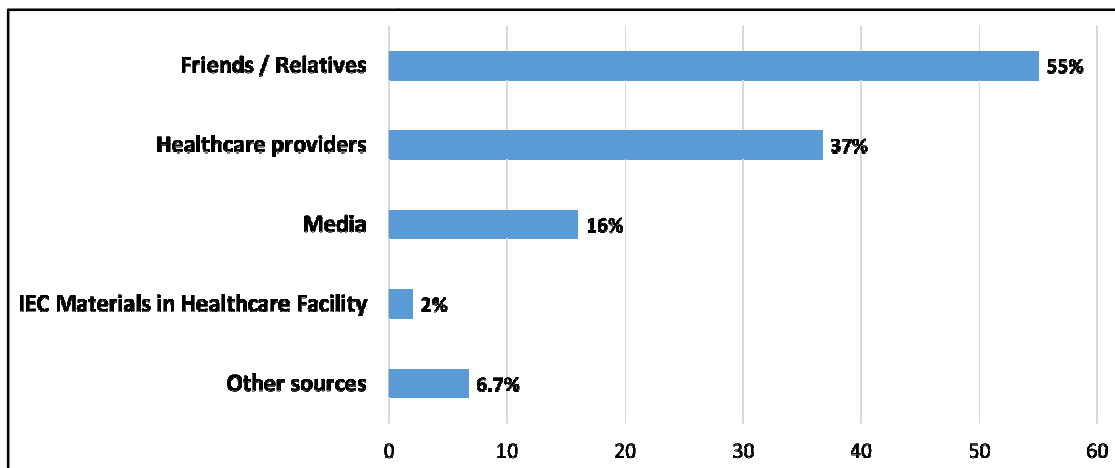


Figure 7. Proportion of women taking up contraception in successive pregnancies (n=390)

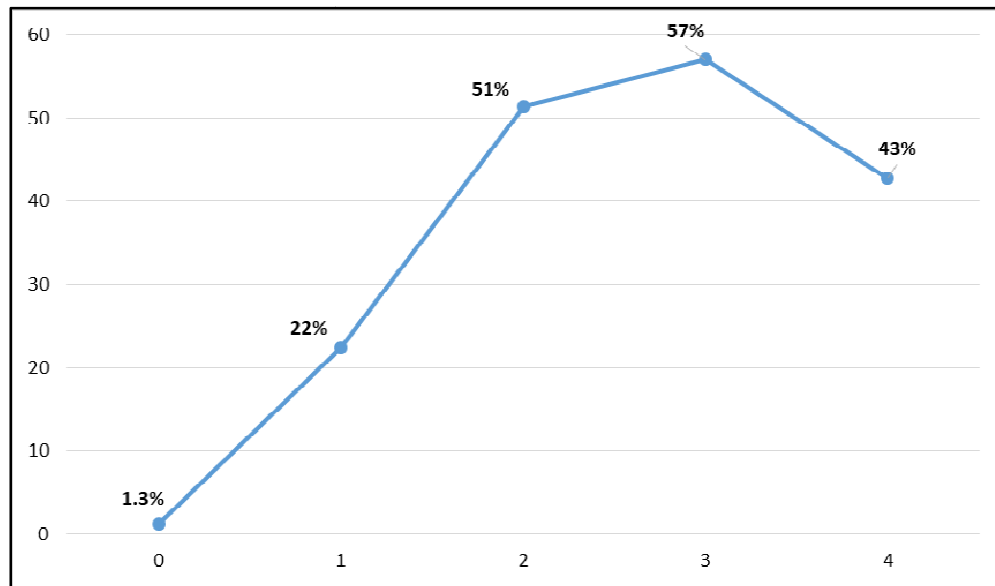


Figure 7. shows the proportion of women who had used a modern contraceptive method after each successive pregnancy. Only 1.3% newly married couples used a modern spacing method to delay the first childbirth. Contraceptive use in successive pregnancies steadily increased reaching a peak of 57% after the third pregnancy. This is followed by a drop to 43% after four or more pregnancies, possibly reflecting the fact that women who have higher order pregnancies are those who were less likely to adopt contraception in the first place.

Recent Contraceptive Use:

The most recent contraceptive method accessed by the study participants in the past 5 years is given in Table 5. Of the 236 women who had used a modern method of contraception in the past 5 years, there was a preponderance of tubectomy which was accessed by 155 women.

Table 5. Most recent contraceptive method accessed by the study participants

(N=236)

Most recent contraceptive service accessed	Number of study participants
Tubectomy	155
Intrauterine Device	63
Oral Pills	3
Injectable	1
Male Condom	14

81 women had recently accessed a modern spacing method. Of these, a majority had used or were using an intrauterine device or a male condom, with few having used or using oral pills or injectable contraception. Table 6. shows the timing of most recent episode of use of modern contraceptive methods other than condom. This is significant with respect to the degree of recall these women may possess regarding the aspects of quality of care, at the time of availing the said contraceptive method. The proportion of women who had availed care in the past 12 months was 32%. A good majority (79%) had accessed contraception in the past three years with only one-fifth of women reporting start of use dating more than three years back.

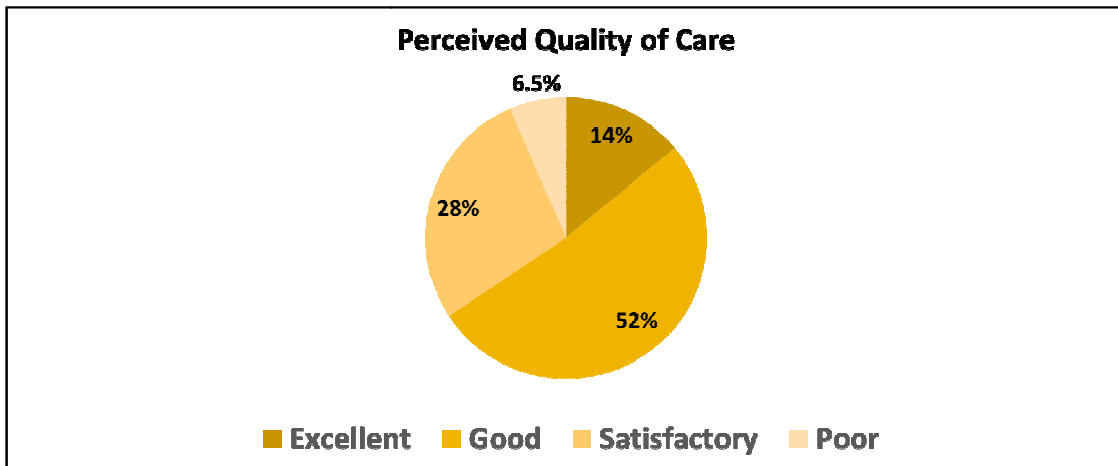
Table 6. Start of most recent episode of contraceptive use (n=222)

Start of most recent episode of use, months	Number of study participants
≤ 12	72 (32)
13 – 24	46 (21)
25 – 36	57 (26)
37 – 60	47 (21)

Perceived Quality of Care:

The 222 study participants, after excluding the 14 women who reported use of a male condom, were asked to rate the overall quality of care during their most recent interaction with a healthcare facility for accessing a modern method of contraception. Figure 8. shows the perceived quality of care as reported by the study participants. A majority rated the care they received as being excellent (14%) or good (52%); while 28% and 6.5% reported satisfactory and poor care respectively.

Figure 8. Perceived Quality of Care reported by the study participants (n=222)



The perceived quality of care was analysed to find out possible associations with relevant sociodemographic and healthcare related factors using Fischer T Exact test. Table 7. shows the perception of quality of care with respect to the type of healthcare facility accessed, public or private.

Table 7. Perceived Quality of Care vs. Type of healthcare facility (n=222)

Healthcare Facility	Perceived Quality of Care (%[#])			
	Excellent	Good	Satisfactory	Poor
Government	10	52	30	7.5
Private	29	50	19	2.4

[#]Row percentages

Women who accessed a private healthcare facility were more likely to report excellent quality of care (29% vs 10%). Half of the women who had accessed either facility found the care to be good, while women accessing a government healthcare facility were much more likely to rate their care as satisfactory or poor. The level of care in the public sector, namely primary, secondary or tertiary level care was not found to be significantly associated with the perception of quality of care ($p = 0.247$).

Other factors that were found to be significantly associated with perceived quality of care were the method of contraception accessed ($p=0.002^{**}$) and whether contraception was voluntary or involuntary ($p=0.04^*$). Women who accessed oral pills reported better quality of care followed by tubectomy, while the use of intrauterine device was associated with poor quality of care. Women were also more likely to rate the care as good or excellent when they voluntarily take up contraception. Three-fourths women who rated their care poor were subject to involuntary contraception. Figure 9. shows the perception of quality of care with respect to the manner in which the contraception was given, either voluntarily or involuntarily.

Figure 9. Perceived Quality of Care vs Involuntary Contraception(n=222)



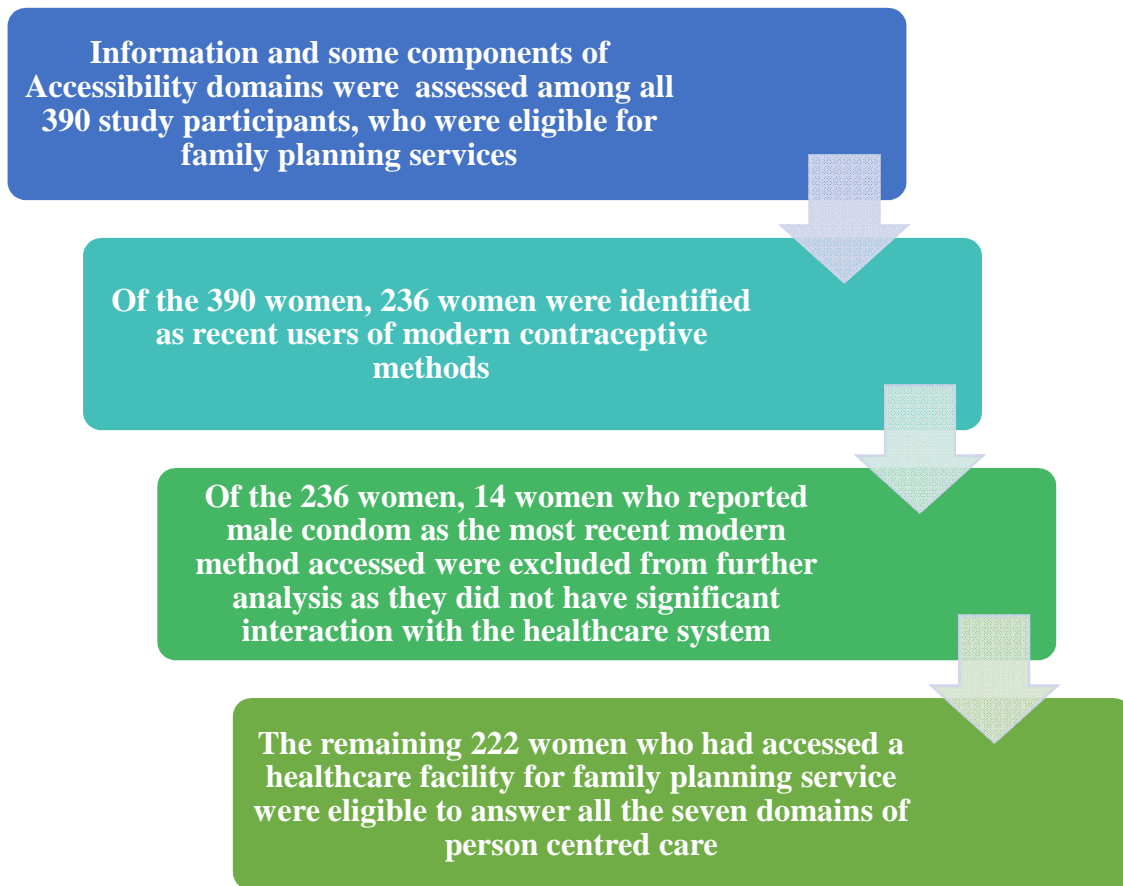
The number of living children at the time of accessing contraception was found to be significantly associated with perceived quality of care ($p = 0.004^{**}$). There was no linear trend seen; rather women with 2 children seemed to experience better quality of care as compared to women with only one child or women with three or more children. The other socio-demographic variables such as age, education status, employment status, religion or per-capita income were not associated with perceived quality of care.

Person Centred Care in Family Planning:

Person centred care in family planning was assessed with the help of seven domains:

1. Information
2. Accessibility
3. Non-discrimination
4. Informed choice
5. Interpersonal care
6. Privacy
7. Continuity of care

Figure 10. Flow of study participants



Information:

Awareness regarding the various modern methods of contraception is already reported in Table 4. In addition, the women were asked if they had ever received information regarding family planning from a healthcare provider. Of the 390 study participants, only 80% of the women recalled ever being told about family planning by a healthcare provider. The proportion of women who had received information regarding the various aspects of family planning is given in Table 8. The information that was conveyed to most number of women (68%) was about the importance of birth spacing, followed by information regarding modern spacing methods (50.5%). Less than half

of them were told about the importance of limiting family size or sterilization. This showed minimal increase to 54% and 56% respectively among those women who had completed their family.

Table 8. Access to family planning information from a healthcare provider(n=390)

Has a healthcare provider ever talked to you regarding	Number of study participants who answered yes, n (%)
Need for spacing childbirth	264 (68)
Temporary methods of contraception	196 (50.5)
Importance of limiting family size	176 (45)
Sterilization	182 (47)

Those who were provided any information received it most frequently from a doctor (62%) or staff nurse at the healthcare facility (32%). Only 31% of the women had received information from a multipurpose health worker namely, Urban Health Nurse (27%) or Anganwadi Worker (4%). 23% of the women had received information from more than one healthcare provider.

Accessibility :

Physical Accessibility:

A majority of 179 (81%) women accessed the contraceptive service from a government healthcare facility as opposed to the 43 (19%) women who accessed the service from a private provider. Table 9. gives the frequency with which the facilities at various levels of healthcare were accessed by these women for contraception and the median distance of these healthcare facilities from their residences. Most of the

women (41%) had availed the contraceptive service at a tertiary healthcare facility, followed by 28% who had accessed a primary health centre (PHC), with secondary care government hospitals contributing the least. On the whole, the median (IQR) distance travelled by these women is 6.5 (4 – 20) km, with the maximum distance travelled being 54 km. Women who accessed a tertiary healthcare facility had to travel the farthest, with a median distance of 20 (19 – 22) km. 98.2% of the women had accessed a facility that provided services round the clock.

Table 9. Frequency of access and distance of different healthcare facilities for contraceptive services (n=222)

Healthcare facility accessed	Number of study participants, n (%)	Distance from residence in km., Median (IQR)
Primary Health Centre	61 (28)	4 (3 – 5)
District / Taluk GH	27 (12)	4 (3 – 19)
Medical College Hospital	91 (41)	20 (19 – 22)
Private hospital / Clinic	43 (19)	3 (1 – 5)

Financial Accessibility:

The median (IQR) per-capita income of the family is Rs. 3750 (2500 – 5000). When analysed for association with type of healthcare facility accessed, whether public or private, there was no significant difference in per-capita income between those accessing either facility.

This financial independence of women was assessed by taking into account their employment status and whether they are in a position to decide how to spend their own income. As already given in Table 1, 88% of women are unemployed and depend

on their spouse for all financial support. A small proportion of 35 (9%) women are employed and 13 (3.3%) women are self-employed. Of them, only 39% could decide on their own the mode of spending their income, while 33% made the decision jointly with their spouse. The remaining 27% of women had no say in deciding how to spend their own income; either the spouse (18%) or the parents/in-laws (9%) made the decision for them.

At the level of the healthcare facility, the financial accessibility was assessed through frequency of occurrence of informal payments, where payments are made for services that are otherwise meant to be available free of cost; and how frequently a loan is taken or money borrowed to pay for services. Among the 43 women who accessed a private healthcare facility for contraceptive services, almost half of them (44%) had to take a loan or borrow money to avail services. Those who accessed free services from public healthcare facilities were asked about informal payments they had to make at the time of availing the service. 10.6% (19/179) women recalled making informal payments while 69% denied it and 21% were either not aware or had no recall.

Socio-cultural Accessibility :

To throw light on sociocultural accessibility, spousal communication, attitude towards modern contraception and decision-making roles regarding healthcare in general and family planning in particular were assessed. 168 (43%) women acknowledged being the principal decision makers when it came to their own healthcare while 64 (16%) women made the decision jointly with their spouse; 40% women had the decision made for them by either the spouse (37%) or the parents/in-laws (3%). 71 (18%) women reported that they were not allowed to go to a healthcare facility on their own.

With respect to family planning, only 80% of the women reported discussing with their spouse regarding family planning including number of children, spacing and contraception. The attitude of the women and their spouses towards modern spacing and limiting methods is given in Figure 11 and 12 respectively. An obvious trend is seen where sterilization is considered as essential by a larger number of men (92%) and women (90%), as compared to the relatively lower levels of acceptance of modern spacing methods (39% and 33% respectively). This trend is however reversed with respect to vasectomy as a permanent method of contraception. Only 12% of couples even considered vasectomy an acceptable method of contraception. Majority (66%) were against it or had never thought about it while 22% women were unaware of vasectomy. The major reasons cited for non-acceptance of vasectomy are : in the order of decreasing frequency, a belief that contraception is women's business (39), fear of safety/impotence (21), stigma (8), religious belief (7) and non-popularity (5).

Figure 11. Attitude towards use of modern spacing methods of contraception (n=390)

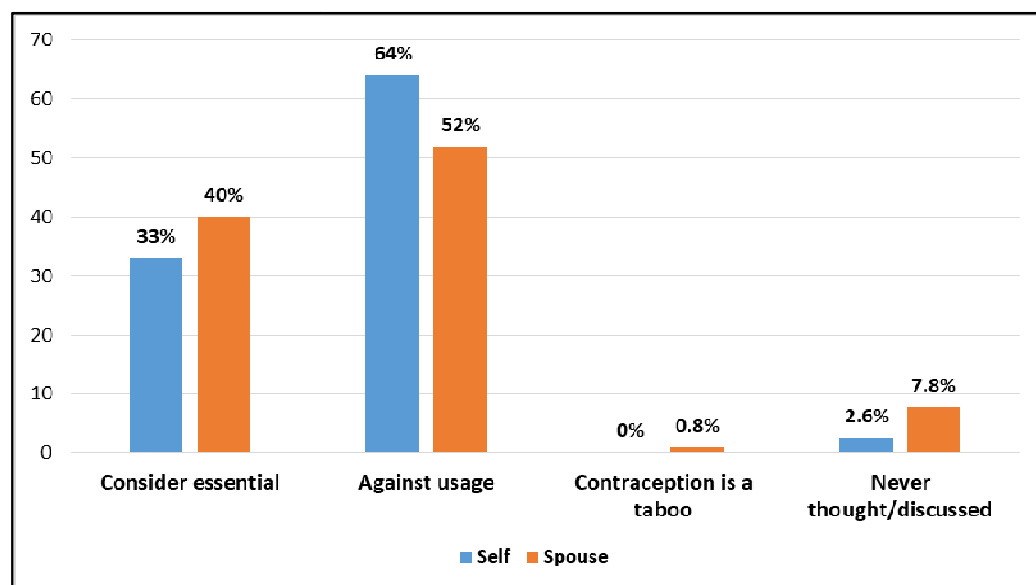
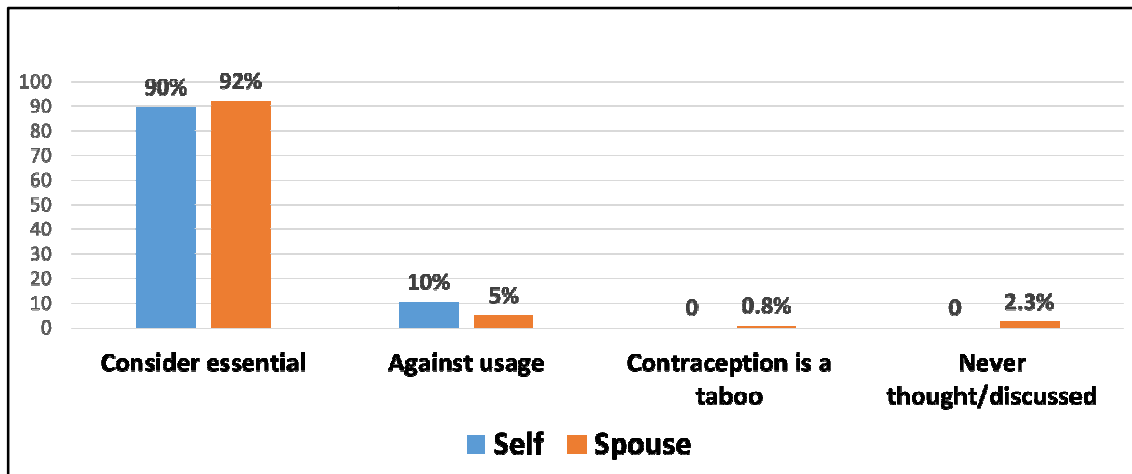
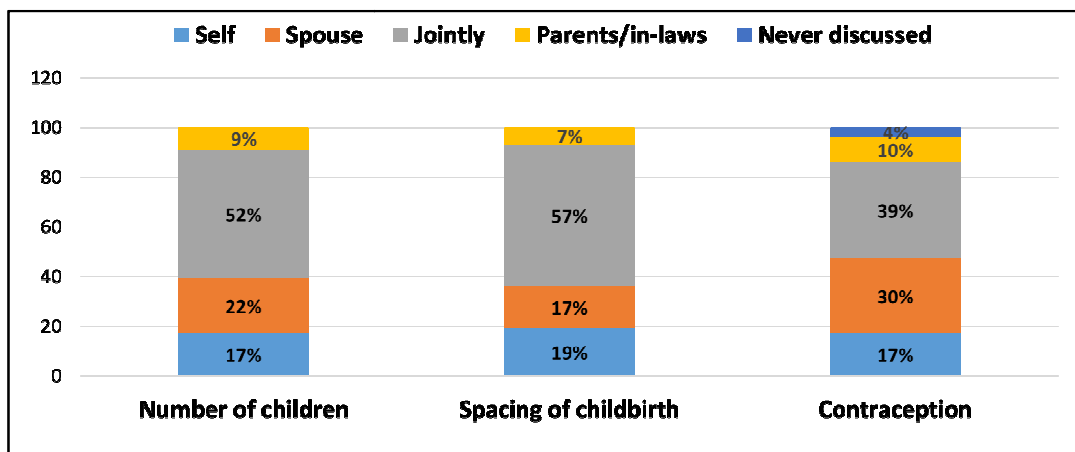


Figure 12. Attitude towards use of limiting methods of contraception (n=390)



Another major trend seen is that women were more often against use of contraception, be it spacing or limiting methods, than their spouses. However, there is a significant risk of bias as spousal preferences are also obtained from the women. With regard to decision making about limiting and spacing childbirth and use of contraception for the same, the role of self, spouse and other family members is given in Figure 13.

Figure 13. Role in family planning decision making (n=390)

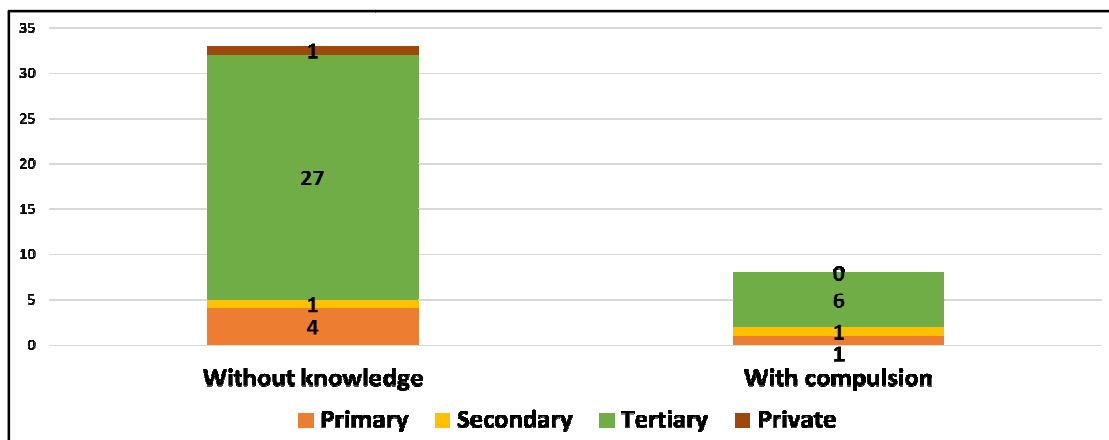


The general trend seen is that of joint decision making by a majority of the couples in all matters related to family planning. However this majority is diluted with respect to decision making regarding use of contraception, where male-dominated decision making is seen more frequently than with regard to limiting and spacing of children.

Non – Discrimination:

Among the 222 women who accessed modern contraceptive services, 41(18.5%) women were pushed to adopt contraception by a healthcare provider. All events of involuntary contraception happened in the immediate postpartum period. 15% (33/222) of women were administered contraception without their knowledge or consent. The method of contraception used without knowledge or consent was postpartum intrauterine device (PPIUCD) and tubectomy in 27 and 6 women respectively. Another 3.6% (8/222) women were administered contraception under compulsion. The methods of contraception that were given under compulsion were postpartum intrauterine device (PPIUCD) in 6 women, oral pills and tubectomy in 1 woman each.

Figure 14. Frequency of occurrence of involuntary contraception at various Healthcare facilities (n=41)



Healthcare related factors:

The frequency with which involuntary contraception occurred in the various health facilities is given in Figure 14. It can be seen that involuntary contraception occurred almost exclusively in the public healthcare facilities. Accessing a public healthcare facility was found to be significantly associated with being pushed to adopt family planning services. ($p=0.002^{**}$). Also among the public facilities, this practice was most commonly seen at the tertiary care level (80.5%) with only a handful few having taken place at the primary and secondary level facilities, in that order. The level of healthcare facility is also significantly associated with involuntary contraception ($p=0.000^{***}$). The various modern contraceptive methods accessed with respect to the voluntariness of access of the contraceptive service is tabulated in Table 10. Only 4.8% of the tubectomies, which is an irreversible procedure were done involuntarily while more than half of the PPIUCDs (52%) were inserted involuntarily. Of the 3 women who had used oral pills, one woman was compelled to adopt it. Thus, provider bias in pushing selective family planning methods was observed. ($p=0.000^{***}$)

Table 10. Voluntariness of access of various methods of modern contraception (n=222)

Contraceptive method	Involuntary		Voluntary
	Without knowledge	With compulsion	
	Number of study participants, n		
Tubectomy	6	1	148
Intrauterine Device	27	6	30
Oral Pills	0	1	2
Injectable	0	0	1
Total	33	8	181

Socio-demographic factors:

Of the various socio-demographic variables analysed for possible association with involuntary contraception, only the employment status of women was found to be significantly associated ($p=0.025^*$). All except one woman subject to involuntary contraception were unemployed. Details regarding the voluntary access of contraception with respect to the employment status of women is given in Table 11. Other factors such as age, education status, religion and socioeconomic status were not found to be significantly associated.

Table 11. Voluntariness of access of contraception with respect to employment status of women (n=222)

Employment Status	Involuntary Contraception	Voluntary Contraception
Employed	1	28
Unemployed	40	152

Informed Choice:

The adoption of Cafeteria approach in provision of contraceptive information and services is tabulated in Table 12. Only 266 / 390 (68%) women have ever been advised by a healthcare provider regarding contraception. Moreover, only 36% of women were given a choice of more than one contraceptive method. The rest were given selective information on only one contraceptive method; predominantly about either tubectomy (18%) or intrauterine device (13%).

Table 12. Cafeteria approach in provision of contraceptive information and services(n=390)

Healthcare provider offered information regarding	Number of study participants who answered yes, n (%)
Three or more modern methods	60 (16)
Two modern methods of spacing	79 (20)
Only Tubectomy	69 (18)
Only Intrauterine Device	50 (13)
Only Male Condom	1(0.3)
Only Oral Pills	1(0.3)
No information given	124 (32)

The frequency with which information regarding the essential aspects of the method of choice was provided to the contraceptive users at the time of adoption is given in Table 13. Among the 67 women who chose modern spacing methods, only 21(31%) were counselled regarding return to fertility after discontinuing use of the method.

Table 13. Provision of essential information on contraceptive method of choice (n=222)

Were you told about?	Number of study participants who answered yes, n (%)
Correct use of the method	26 (12)
How it prevents pregnancy	4 (1.8)
Common side effects	20 (9)
Symptoms and signs that necessitate a return to the facility	41 (19)
Relative effectiveness	42 (19)

Interpersonal Care:

Interpersonal care includes timely care, gender sensitive care and respectful care.

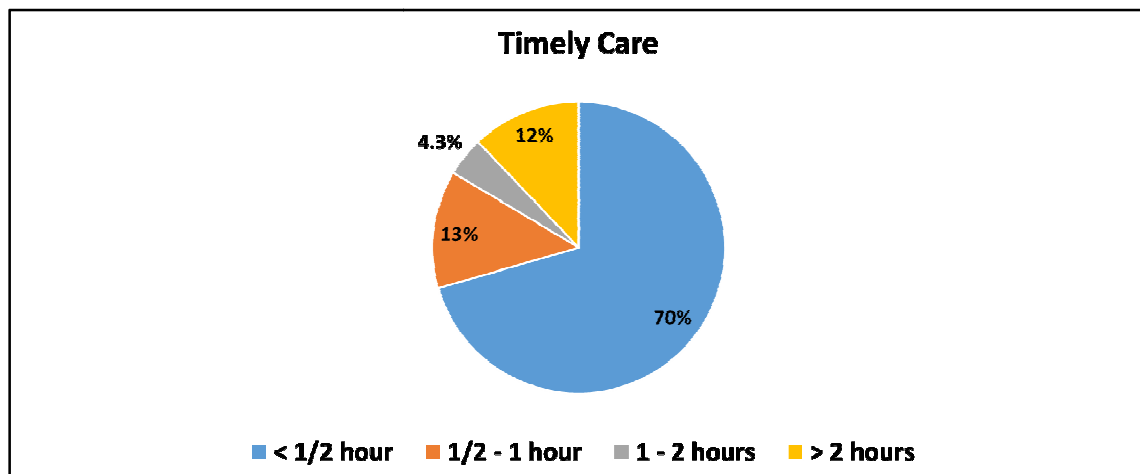
Respectful care:

A vast majority of 188 (86%) women qualified the care they received as being respectful. While 7% of women reported the care they received as being somewhat respectful, another 7% reported that the attitude of the provider was disrespectful. 108 (49%) women were encouraged to ask questions and clarify doubts regarding their care.

Timely Care:

The provision of timely care to the beneficiaries of contraceptive services is assessed by the time since arrival at the healthcare facility to being attended by a healthcare provider. This is shown in Figure 15. A good majority (70%) were attended to by the healthcare provider within half an hour of arrival at the healthcare facility; while 12% had to wait for more than two hours to receive contraceptive services.

Figure 15. Provision of timely care to beneficiaries of contraceptive services(n=222)



Gender-sensitive care:

Gender sensitive care is being sensitive to patient preferences with respect to the gender of the provider. Contraceptive services were provided by only female healthcare providers in a majority of 192 (87%) women while only male healthcare providers were involved in care provision to 18 (8.1%) women.

Healthcare providers of both genders were involved in providing care to 11 (5%) women. Of the 29 women whose care involved a male healthcare provider, 19 (66%) women reported feeling uncomfortable and expressed a desire to be attended to by a female healthcare provider; while 10 (34%) women had no preferences with regard to the gender of the provider.

Privacy :

Auditory Privacy:

Of the 222 women who had accessed a modern contraceptive service from a healthcare provider, 93 (44%) women said their interaction with the healthcare provider lacked privacy, as other clients were seated where they could hear their interaction with the provider. 87 (41%) women were satisfied with the auditory privacy provided during the interaction, while auditory privacy could not be assessed in 30 (14%) women, who reported having no personal interaction with the provider.

Visual Privacy:

Visual privacy was assessed in 219 women who were provided an invasive method of contraception namely tubectomy, intrauterine device or an injectable contraceptive as

given in Table 5. All of 155 tubectomies and 37/63 of IUD insertions were performed in the privacy of a sterile operation theatre. Another 15 women who accessed IUD and 1 woman who accessed injectable contraceptive were provided adequate visual privacy. Visual privacy was inadequate or absent in 11/222 (5%) women, for whom IUD insertion was done without the privacy of an enclosed space or blinds, where persons other than the healthcare providers were present.

Continuity of Care

Continuity of care is assessed by provision of routine follow up care, appropriate care for side effects, and provider compliance with removal or switching of methods. A routine follow up visit was advised to only 64% of women. On the whole, 45 (21%) women experienced side effects, most commonly due to intrauterine device (64%), followed by tubectomy (36%). The major side effects reported were abdominal pain/discomfort (51%), abnormal uterine bleeding (18%), wound discharge (16%), leucorrhoea (7%) and dysmenorrhoea (4%). One woman reported sterilization failure for which no compensation was awarded to her.

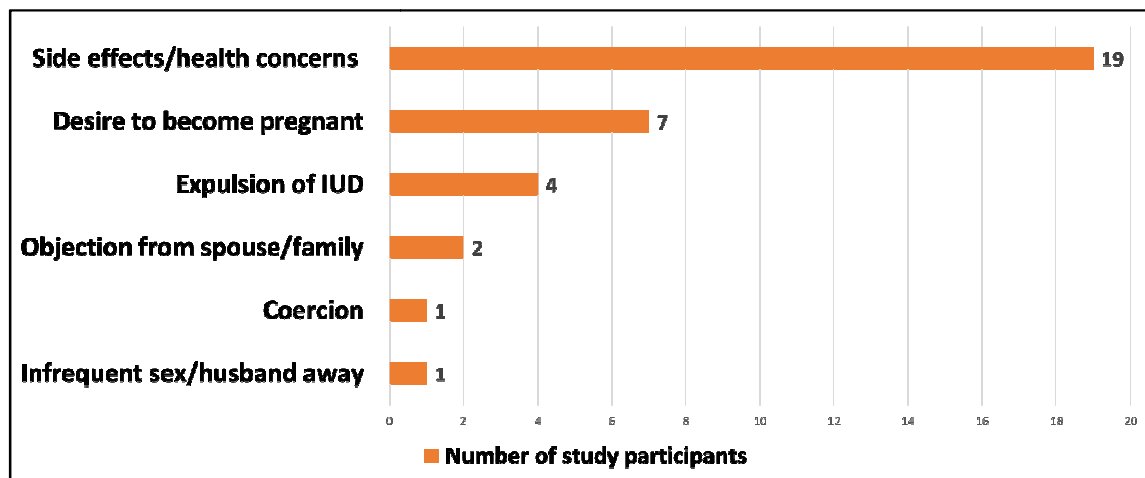
Of the 45 women who experienced side effects, only 36 (80%) women sought care from a healthcare provider. While 24 (67%) of the women who sought care received appropriate care for the side effects, 12 (33%) women were not satisfied with the quality of follow up care given. The length of use of the spacing methods until discontinuation is given in Table 14. Of the 67 women who used a modern spacing method of contraception, 22 (33%) discontinued within 12 months of start of use, with 7(10%) women having discontinued within 2 weeks of start of use.

Table 14. Length of use of spacing methods till discontinuation (n=67)

Length of use	Number of study participants, n (%)
Less than 2 weeks	7 (10.4)
2 weeks – 12 months	15 (22)
1 – 2 years	7 (10.4)
> 2 years	7(10.4)
Currently using	31(46)

The reasons for discontinuation of modern spacing methods is given in Figure 16. The major reasons cited for discontinuation within 1 year are side effects or health concerns, expulsion in case of IUD and coercion. Moreover, of the 35 women who had approached the healthcare provider for removal or switching of the spacing methods, the provider complied 83% of the time, while 17% women expressed dissatisfaction as their requests for removal or switching were not heeded.

Figure 16. Reasons for discontinuation of modern spacing methods (n=36)



Person Centred Care in Family Planning:

The seven domains of Person-Centred Care namely, Information, Accessibility, Non-Discrimination, Informed Choice, Interpersonal Care, Privacy and Continuity of Care were combined into a summary score which is the Person Centred Care in Family Planning (PCC-FP) summary score. Women who had used a modern contraceptive method in the past 5 years were included for calculating the Person Centred Care in Family Planning (PCC-FP) Summary Score. The scoring is done based on 8 set criteria, encompassing all the domains of person-centred care. Each criteria, if satisfied is given a score of 1 and if not, 0 is given. The range of possible scores is from 0 to 8.

The mean PCC-FP summary score was 3.7 ± 1.6 , with the observed minimum and maximum scores being 0 and 7 respectively. The pattern of scores obtained by the women is given in Table 15. Overall, 31% of women had received care that may be characterized as excellent or good person centred care. Nearly half of the women (47%) had obtained a score in the satisfactory range of 3-4, while 22% of women had received poor person centred care. No one had scored the maximum best of 8 while six women had the worst possible score of 0.

Table 15. Person-Centred Care in Family Planning (PCC-FP) Summary Score (n=222)

PCC-FP Summary Score	Number of study participants, n(%)
Poor (0 – 2)	47 (22)
Satisfactory (3 – 4)	101 (47)
Good (5 – 6)	61 (28)
Excellent (7 – 8)	6 (2.8)

Determinants of Person-Centred Care in Family Planning :

Healthcare-related factors:

The mean PCC-FP score for the 179 women who had accessed a government healthcare facility for contraceptive services is 3.5 ± 1.6 . Women who accessed a private healthcare facility had a relatively higher score of 4.6 ± 1.3 with a mean difference of 1.1. There is significant association between the type of healthcare facility and person centred care as given in Table 16.

Table 16. Association of person centred care with type of healthcare facility (n=222)

Healthcare setup	Mean score \pm SD	Mean Difference	95% CI	p value
Government	3.49 ± 1.56	Reference	-	-
Private	4.63 ± 1.34	1.14	0.619 – 1.66	0.000***

Further, for those accessed a public healthcare facility, the level of healthcare was tested was tested for association with person centred care. The results are given in Table 17. Overall, those who accessed secondary healthcare had the highest mean scores for person centred care, followed by primary healthcare. The worst scores were obtained by the women who had availed services from a tertiary care facility.

Table 17. Association of person centred care with level of healthcare (n=222)

Level of Healthcare	Mean score \pm SD	Mean Difference	95% CI	p value
Primary	3.86 ± 1.38	Reference		
Secondary	4.15 ± 1.38	0.286	- 0.56 , 1.13	1.000
Tertiary	3.06 ± 1.60	- 0.806	- 1.42, - 0.19	0.005**

In relation to the method of contraception adopted, women who used oral pills had the best PCC-FP scores with a mean score of 5.7 ± 1.5 while women who had availed an intrauterine device had scored low on the scale with a mean of only 2.6 ± 1.6 . The results are presented in Table 18.

Table 18. Association of person centred care with method of contraception adopted (n=222)

Contraceptive method	Mean score \pm SD	Mean Difference	95% CI	p value
Tubectomy	4.11 ± 1.32	Reference		
Intrauterine Device (IUD)	2.61 ± 1.58	-1.49	-2.01, -0.98	0.000***
Oral Pills	5.67 ± 1.53	1.56	-0.42, 3.53	0.174

The association of PCC-FP summary score with the voluntariness of use of contraception was tested, and the results are given in Table 19. As expected, women who had been pushed to adopt contraception involuntarily had significantly lower scores as compared to those who adopted contraception voluntarily.

Table 19. Association of PCC-FP summary score with voluntariness of use of Contraception (n=222)

Use of contraception	Mean score \pm SD	Mean Difference	95% CI	p value
Voluntary	4.16 ± 1.32	Reference	-	-
Involuntary	1.83 ± 1.16	- 2.33	- 2.77, -1.88	0.000***

Socio-demographic factors:

Of all the sociodemographic variables tested for association with the Person Centred Care in Family Planning (PCC-FP) summary scores, only number of living children

was found to be significantly associated. The results of the test of significance is given in Table 20. Women who had 2 living children had the highest scores followed by women who had 3 or more children with a significant mean difference of 1.5 and 1.1 respectively as compared to women with only one child.

Table 20. Association of PCC-FP summary score with number of living children (n=222)

Number of living children	Mean score ± SD	Mean Difference	95% CI	p value
1	2.56 ± 1.74	Reference		
2	4.04 ± 1.43	1.48	0.87, 2.1	0.000***
≥ 3	3.68 ± 1.16	1.13	0.14, 2.11	0.018*

Other factors such as age, education status, occupation, socioeconomic status, religion or age at marriage and conception were not found to be associated with the PCC-FP Summary score.

Association with Perceived Quality of Care:

A related measure for person centred care in family planning is the self-reported perceived quality of care, the frequency distribution of which is given in Figure 7. The PCC-FP summary score was tested for association with perceived quality of care, and the results are given in Table 21. The two measures of quality of care are significantly associated; women reporting better quality of care having correspondingly higher PCC-FP scores. This could likely reflect criterion validity of the PCC-FP summary score.

Table 21. Association of PCC-FP summary score with perceived quality of care (n=222)

Perceived QOC	Mean PCC-FP score \pm SD	Mean Difference	95 % CI	p value
Excellent	4.37 \pm 1.43	2.37	1.12, 3.62	0.000***
Good	4.00 \pm 1.48	2.00	0.9, 3.1	0.000***
Satisfactory	3.41 \pm 1.48	1.41	0.26, 2.56	0.007**
Poor	2.00 \pm 1.11	Reference	-	-

Discussion

The aim of the present study was to assess the quality of person centred care in family planning services among currently married women 18 – 44 years of age, who were eligible for family planning services, reflected by the criteria of having at least one pregnancy in the preceding 5 years. The study population of 390 women are found to be representative of the prevailing literacy, religion and socio-economic standards in Kancheepuram district.

Among the seven domains, the domains of Information and some components of Accessibility were evaluated among all 390 women interviewed in the community who may or may not be users of family planning services, however are in need of family planning services, as outreach efforts to motivate non-users form a significant component of the Indian Family Welfare Programme. While the remaining domains were directed towards the users of family planning services in the past five years, as these questions were related to women's experiences with family planning care at the healthcare facility.

The “extension education” approach to motivate couples for family planning through home visits was first adopted in the 1960s, when it was realized that mere availability of services in healthcare facilities is insufficient to improve coverage and access to family planning services. Yet, even today, family planning information is most frequently obtained from a doctor (62%) or staff nurse (32%) at the healthcare facility accessed for delivery. The study found that only 31% of women had received information regarding family planning from a multipurpose health worker during outreach activities. This is also reflected in the NFHS-4 data of Kancheepuram

district, where only 31% of women who were non-users of contraception ever received family planning information from a health worker. This is reported as one of the key indicators of quality of family planning services in the NFHS-4¹⁵, as provision of information is the starting point in enabling a woman to access family planning services. Several Indian studies show shortcomings in the outreach efforts by health workers in family planning such as in the frequency and regularity of visits and time devoted to outreach activities¹¹. An explanation provided in a study done by Population Council, New Delhi stated that the “Target-free Approach” instituted in 1996 were misconceived by some health workers as “work-free”¹².

Public health facilities (81%) were found to be the major service providers of family planning services, and this is reflected in the NFHS-4 Tamil Nadu statistics, which shows that 79% of sterilizations, and 62% of IUD insertions occur in the public sector. However, private sector plays the upper hand with respect to short acting contraceptives such as condoms (75%) and oral (54%) pills¹⁶. The monopoly of sterilization and long acting reversible contraception such as IUDs among family planning services provided in the public sector might be due to provider bias in promoting selective methods, as these methods have better compliance irrespective of literacy status and requires less periodic motivation compared to oral pills and condoms.

The median distance travelled by the study participants for family planning services is reported to be 6.5 kms. Family planning being a primary health care service, adheres to the national norms for primary health centres to cover a radial distance of 6.04 kms⁴⁹, thereby indicating adequate physical accessibility. However, only 28% women

had accessed PHCs (28%) as against 41% using tertiary facilities for family planning services. This is explained by the finding that most of these women adopted contraception in the immediate postpartum period; and healthcare providers at tertiary facilities were more likely to “push” adoption of post-partum family planning. However, the relatively low contribution of primary level care and outreach efforts in promoting family planning services cannot be refuted.

The choice of healthcare facility, and thereby the choice of free or paid services, was not influenced by the financial status of these women, as there was no significant difference in the income levels of those accessing public or private health facilities. Due to the perceived quality care in the private sector⁴⁷, women belonging to low economic strata borrowed money or took loans (44%) to avail services in private facilities. This emphasizes the fact that availability of free family planning services, without attention to quality of care does not necessarily improve financial accessibility, as the perceived low quality of care pushes women to seek more expensive care. Even where free services were accessed, 10.6% women had to make informal payments, which poses a threat to good service delivery level, as pointed out by other studies²⁶.

In the present study, a majority (80%) of women reported discussing with their spouse regarding family planning. This presents a better picture in comparison with a study in Maharashtra, where only 46% women reported discussing freely with their spouse regarding family planning, and correspondingly their current use of contraception was also low at 22%. It was found that women who reported better spousal communication regarding family planning were seven times more likely to adopt modern spacing methods⁵².

Women who were less educated were more likely to use contraception (77% among primary school vs 54% among graduates), a finding also reflected in the NFHS-4⁴⁷. Self employed women (77%) seemed to have a higher CPR as compared to unemployed (63%) and otherwise employed women (60%), however this difference was not found to be statistically significant. A somewhat similar picture is seen in the NFHS-4 data, where employed women (60%) in total had better CPR as compared to unemployed women (44%)⁴⁷.

The right to informed choice is central to the concept of person centred care. Each of the two components ‘information’ and ‘choice’ are essential aspects to any decision making related to family planning. In the study, only 36% of the women were offered a choice of more than one modern contraceptive method; while 64% were pushed to use a method selected by the service provider. Among these women, tubectomy was the most commonly used method of contraception. This proportion is lower than what was reported by NFHS-4 in Tamil Nadu, which is 79%¹⁶. While the programme advocates “Cafeteria approach” in the provision of contraceptive information and services, the same is not reflected in practice. This could have implications for programme success with respect to quality of care, as it is well established that there is a positive correlation between number of contraceptive methods offered and willingness-to-use. Addition of every new contraceptive method, if made available to at least half of the population, has been found to increase mCPR by 4 - 8%⁶. The study shows that not all women were given information about various methods; however, we were not able to explore why healthcare providers restrict the contraceptive choice for potential clients, when existing studies have shown granting client’s choice of

method lowers the rate of discontinuation within 12 months by more than eight times, and this requires further research⁵⁹.

Provision of essential information regarding all the relevant aspects of the chosen method of contraception is also low. While 31% were informed about return to fertility following discontinuation of the spacing method, even fewer were told about the correct use of the method (12%), mode of action (1.8%), common side effects (9%), how to deal with side effects (19%) and relative effectiveness (19%). This finding is similar to the NFHS-4 India data where less than half of the modern contraceptive users were informed about the various aspects of the method⁴⁷. However, the NFHS-4 data of Kancheepuram district reports that, more than 7 in 10 women are informed about possible side effects of the current method¹⁵. This discrepancy questions the generalizability of the present study results to the entire district of Kancheepuram. However, the paucity of information available with modern contraceptive users, regarding their method of choice calls into question, the “informed” nature of the choice.

Interpersonal care is an important aspect of person centred care that concentrates on the quality of interaction between the client and provider. This includes care that is respectful, timely and gender responsive. In the study, nearly three-fourth of the clients (70%) were attended to by the health provider within thirty minutes of arrival at the facility; while 16% had to wait for an hour or more. This finding is similar to that reported by the four state study by Roy et al. where a majority (90%) of respondents in Tamil Nadu had reported a waiting time of 30 minutes or less; with only 6% reporting a waiting time of more than 1 hour⁴³. As observed in the NFHS-4

data of Tamil Nadu, 46% of people cited prolonged waiting time as the reason for preferring a private facility for healthcare⁴⁷. Thus, timely care not only influences women's choice of health facility, but also their willingness to adopt contraception and seek appropriate follow up care. This will directly influence contraception continuation in addition to overall client satisfaction with provision of care.

Some similarities are noted in the choice of variables used to measure interpersonal care between the present study and the Interpersonal Quality of Family Planning Care (IQFP) scale published in 2018 after the tool development and data collection, including “respecting the client as a person” and “giving him/her an opportunity to ask questions”⁶⁰. Although a majority (86%) of women characterized the care as respectful, only half of them (49%) were encouraged to ask questions. A similar study (1999) which conducted exit interviews among women who utilized family planning services in Tamil Nadu, showed only 66% of women perceiving the provider as cordial⁴³. Respectful care is an important determinant of client satisfaction and is therefore bound to influence future decisions to seek care at that facility. In any case, respectful care is to be strived for, not only as a means to an end; but as an end in itself.

One of the indicators proposed by the MEASURE Evaluation for measuring gender responsive care has been used in this study namely, “availability of female providers for women who prefer them”. Of the 29 women who were attended to by a male healthcare provider, a majority of two-thirds (66%) expressed a desire for care by a female provider. While this is consistent with the prevailing cultural beliefs and preferences in our country, the lack of gender preference reported by one-third of

women could resonate with the view expressed by women in a multi-racial study that gender was not as important as long as the provider treated them respectfully and made them feel comfortable⁴⁶.

In the present study, privacy at the healthcare facility was assessed as two separate components: auditory and visual privacy. While 41% women reported satisfaction with the auditory privacy offered at the time of counselling; 95% of women reported adequate visual privacy at the time of adopting an invasive method of contraception. Inadequate visual privacy is more of a source of discomfort to women, while the lack of auditory privacy is supposedly more harmful to the programme goals, as women might feel uncomfortable initiating a discussion about their contraceptive needs in the presence of others⁴⁶. Confidentiality could not be assessed in this study as it was difficult to gather necessary information from beneficiaries alone, as they might not know how their information is handled in their absence.

A routine follow-up visit was advised to only 64% of women, and this proportion was similar across all modern contraceptive users. While ideally, every woman should be offered a chance to discuss her queries with respect to her method of choice especially in the initial months of use, the observed follow up rate is expected, as one study notes, no set guidelines or protocol has been established under the programme for follow-up of acceptors of family planning methods¹¹. Of the 36 women who returned for a follow-up visit to manage side effects, only 24(67%) women reported receiving appropriate follow up care for side effects; while 12(33%) were dissatisfied with the quality of follow-up care. This might be a lapse for the TN health system as it is one of better performing states with good quality health indicators; hence this needs to be

addressed. The findings are much more favourable compared to that in the northern state of Uttar Pradesh, where only about 25% of the women reporting method-related complications were assisted by a health worker for recovery⁵⁰.

The 12 month contraceptive discontinuation rate is 33% in the study. A majority cited side effects, while some reported expulsion in case of IUD and involuntary adoption as the reasons for discontinuation within a year. Similar rates of discontinuation are observed in the NFHS - 4 data at 26% for IUDs and in the range of 40 – 50% for other spacing methods⁴⁷. However, the most commonly cited reasons - desire to become pregnant and switching to other methods remain somewhat contrasted, as none of the participants in this study who discontinued within a year, did so because they wanted to get pregnant. Provider compliance with switching or removal of methods is another important determinant in ensuring person centred care. Requests by 6/35 (17%) women for removal or switching of methods were not heeded at the facility where they had initially adopted contraception. Not only does this impinge on the right of women to reproductive self-determination, but this could potentially discourage future use of contraception and thereby, have negative repercussions for the programme as well.

The identified prevalence of involuntary contraception is high at 18.5%. In a study done among 285 women living with HIV in Latin America, 23% of women experienced pressure to undergo sterilization post-diagnosis⁵⁴. In the present study, 52% of IUDs inserted in the postpartum period were administered involuntarily; demonstrating the low acceptability of the newly introduced PPIUCD initiative. This initiative does not seem to be based on the “needs assessment approach” as

emphasized in the programme policy. This practice occurs almost exclusively at the public health facilities, especially in tertiary level care(80%), as target oriented service provision is still mandated by several states despite the policy change to ensure voluntary and informed choice at the programme level¹¹. Though unacceptable when family planning services are pushed with a utilitarian goal in mind; on the other hand, the ethical dilemma faced by healthcare providers when providing care to women who are unaware and ignorant of the dangers of too many and closely spaced pregnancies, must be given due consideration.

The perceived quality of care among those administered contraception involuntarily, although relatively less favourable, compared to the voluntary “acceptors”, it is surprising to find that nearly half of them still rated the care as good (42%) or excellent (8%). This seeming paradox is reported by many studies in India done by the IIPS in the 1990s, where high client satisfaction was reported despite serious deficiencies in the quality of care. Possible courtesy bias and low expectations of quality from healthcare provided free of cost were cited as the plausible explanations in a study done by IIPS in 1999¹¹.

The Person Centred Care in Family Planning (PCC-FP) summary score, encompassing all seven domains, could be calculated only for those women who are identified “family planning acceptors”. The summary score was self-developed by the researcher, as there were no comprehensive multi-dimensional tools available to measure person centred care at the time¹⁴. The Person Centred Family Planning (PCFP) scale developed and validated in Uttar Pradesh, India and Nairobi, Kenya (2018) became available much later¹⁴. However, on comparing, several similarities are

noted in the measurement variables used, validating the process behind the development of the study tool.

The content validity and criterion validity of the self-developed PCC-FP scale have been established by expert review and association with perceived quality of care respectively. Many observers regard client's reported satisfaction as being an important indicator of quality of services received^{14,60}. Measures of satisfaction often correlate with measures of person centred care but are considered distinct concepts.

With this premise, the PCC-FP summary score was tested for association with perceived quality of care, which was assessed by asking women to rate the overall quality of care on a 4 point Likert scale from 'Excellent' to 'Poor'. It was found that women reporting more favourable perceptions of quality of care had better PCC-FP scores with a significant linear trend noted ($p < 0.01^{**}$). This can be said to establish reasonable criterion validity of the PCC-FP summary score. The summary score as a measure of the construct of "person centred care", however, remains to be validated in further studies.

Two other studies have employed a similar method to establish validity namely, the "Person Centred Family Planning (PCFP) Scale"¹⁴ and the "Interpersonal Quality in Family Planning (IQFP) Scale"⁶⁰, both published very recently in 2018. The criterion validity of PCFP scale was assessed by examining the association between PCFP and perceived quality of care and satisfaction with care. Perceived quality of care was measured by asking women to rate the quality of their care with response options "very bad" to "very good" on a 4 point Likert scale; and satisfaction measured similarly with a 4 point Likert scale "very dissatisfied" to "very satisfied". It was

found that higher PCFP scores are associated with higher ratings for perceived quality of care, with a statistically significant linear trend¹⁴. Similarly, the construct validity of the Interpersonal Quality in Family Planning (IQFP) Scale was assessed by comparison of the IQFP scores with global visit satisfaction on a 5 point Likert scale from Excellent to poor. It was found that participants with high IQFP scores were more likely to report high overall satisfaction as against those with low IQFP scores. (100% vs 51%, $p < 0.001$)⁶⁰.

According to the essential criteria for person centred care included in the PCC-FP summary score, it was observed that 2.8% and 28% women received excellent and good standards of care respectively. However a much greater proportion of 14% and 52% of the study participants rated their perceived quality of care as excellent and good respectively. A plausible explanation for the disproportionately high client satisfaction could be that women have low expectations of service quality and even more so, when they are provided free of cost in the public sector. It might also be that, clients' perception of quality of care is based on other factors not necessarily addressed by the score. Another important factor could be that respondents are prone to "courtesy bias". Similar paradoxes have been noted to occur in several Indian studies, where clients' satisfaction with services was high despite the sub-standard levels of care they experience, according to Western standards¹¹. This needs to be further explored through qualitative research to understand what constitutes person centred care for women with respect to family planning services.

In the present study, 43(19%) had obtained their modern contraceptive method in the private sector. This is comparable to the NFHS-4 India statistics which reports that

private sector is the source for 18.5% of users of modern methods⁴⁷. Higher mean PCC-FP scores are observed in the private sector (4.63 vs 3.49) as compared to the public sector. This is an expected finding, as 72% of the 3.8 million trained healthcare professionals and 70% of healthcare financing in India comes from the private sector, while providing family planning services to only 33.5% of the population⁴⁷. Meanwhile, healthcare personnel in public sector are unable to deliver quality care due to limited infrastructure, resources and low public sector spending on healthcare. Long waiting times (46%) and poor quality of care (37%) were cited as the major reasons for not preferring a government health facility in Tamil Nadu as per the NFHS-4⁴⁷. A systematic review in low and middle income countries suggests that although private providers provided timely and more hospitable care, patient outcomes were poor as compared to the public sector⁷⁴. A further explanation for the observed finding is the continued practice of target oriented service provision with less concern for quality of care in family planning in public health facilities¹¹. Other plausible arguments include an economics concept where people undervalue commodities when they are provided free of cost. Healthcare provided free of cost in the public sector may be undervalued by consumers and providers alike; thereby simultaneously creating a low demand and supply for quality in healthcare services.

Another important finding observed was that, while women who accessed secondary level healthcare facilities had higher PCC-FP scores overall in the public sector, those accessing tertiary care facilities reported the lowest PCC-FP scores. This finding must be seen in light of the fact that only 12 % of women accessed secondary level care for family planning services, while tertiary care facilities handled 41% of the family

planning users and also have a wider patient base in terms of distance covered. Thus it is seen that, secondary level facilities lag in contributing their due share of MCH services, especially delivery - related care, while providers in tertiary facilities lack orientation towards delivery of quality services, and this could possibly explain the seemingly low quality of care observed in these facilities.

Women who were sterilized had higher PCC-FP scores as compared to acceptors of IUD. Stratified analysis showed that while more than 95% of tubectomies were performed with voluntary and informed consent, less than half of IUD insertions were adopted voluntarily. As observed in the current study, voluntary adoption of family planning was associated with higher PCC-FP scores with a mean difference of 2.33 ($p < 0.001^{***}$). This could have a major implication for the PPIUCD initiative being currently rolled out under the programme. Another reason possibly contributing to lower scores among IUD acceptors could be the higher incidence of side effects (47% vs 10.5%) and the resulting high unmet demand for appropriate follow-up care.

Among the socio-demographic variables studied for association with person centred care, only number of living children was significantly associated. Women who had only one living child had lower PCC-FP scores as compared to women with two or more children. Even this difference became non-significant when stratified analysis was done by method of contraception adopted. The most common method of contraception adopted was IUD among women with only one child, while sterilization was the common method adopted by women of higher parity. Being an acceptor of IUD was identified to be the confounding variable predisposing women with only one living child to lower PCC-FP scores.

Other socio-demographic variables such as age, education status, occupation, socioeconomic status, religion and age at marriage were not found to be significantly associated with PCC-FP scores. This is a positive finding, as it implies that these women were not discriminated based on their socio-economic backgrounds, during the provision of family planning services, which is in line with the aim of equitable service provision. Overall, person centredness of family planning services was found to be influenced only by health system related factors in the study and not by socio-economic factors.

Strengths

1. The study approaches quality of care in family planning from a multidimensional person-oriented aspect, giving an entirely new perspective to a previously well researched subject. This approach to the programme is much needed at this juncture, where Tamil Nadu has achieved a TFR of 1.6, but continues to lapse in the quality of services provided under the programme.
2. This study is community based, unlike related studies on quality of care in family planning, most of which are facility-based exit interviews. Not only does this allow us to explore the outreach component of the programme, this also enables measurement of Information and Accessibility aspects of the programme unbiasedly among contraceptive users and non-users alike.
3. The development of the measurement tool used in this study was guided and content validated by renowned experts in the subject, namely Dr.T.K. Sundari Ravindran and Dr.Subha Sri Balakrishnan.
4. The community based nature of the study eliminates courtesy bias to a great extent, allowing women to respond more openly regarding their experiences of family planning care, without fear of offending their provider.

Limitations

1. Although care was taken to ensure representativeness during sampling, the limited geographic expanse of the study may affect the generalizability of the study results.
2. The contraceptive experiences of newly married women have been intentionally excluded, as the demand for contraception among newly married couples is low in our country reflected by the CPR of 5.3%. The decision to exclude them was taken after the results of the pilot study showed that there was limited information to be gained from this sub-population regarding contact with healthcare for family planning. However, their experiences might provide a different context to the study of person centred care and needs to be examined in future studies.
3. A critical analysis of quality of care is incomplete without a dual perspective from beneficiaries and providers, as providers may be unable to deliver high quality services despite a desire to do so, due to constraints in infrastructure and other resources. Hence provider needs also have to be addressed to ensure provision of high quality services, which could not be done in this study.
4. Despite restricting the study to women's experiences with family planning services in the preceding 5 years, after asserting good recall for this period during the pilot study, there is a possibility of recall bias especially with respect to short acting contraceptives such as Oral pills and Injectables.
5. Although the community based nature of the study precludes courtesy bias, a remote possibility exists, as the researcher was a doctor from the public sector.

Conclusion

This community based survey conducted in Kancheepuram aimed to elucidate the quality of family planning services among married women, with emphasis on person centred approach to care. Women's experiences with family planning services were analysed from the standpoint of each of the seven domains of person centred care, identified from existing guidelines. The results suggest that only one third of the women received care that satisfied more than 50% of the essential criteria characterizing person centred family planning services. Access to need-based, person centred care was found to be influenced by the choice of health facility, level of health care, method of contraception adopted and also the number of living children.

This study was an attempt to provide scientific grounds for discussion of a well-known field reality that, an overriding concern for numbers as opposed to quality care continues to drive service provision, despite policy mandates for provision of client oriented services in family planning. A baseline for a comprehensive measure of quality of care has been established by this study, which must be sought to be improved. While being community based overcomes the biases associated with a facility based study, the limited geographic expanse of the study requires the findings to be confirmed in other settings.

Bridging the policy-implementation gap in promotion of person centred care in family planning is crucial, if we are to ensure India's commitment to the Rights based Family Planning - 2020 initiative. This will not only go a long way in empowering women to achieve their reproductive goals but also greatly reduce preventable maternal and child morbidity and mortality.

Recommendations

1. The study found that that 41(18.5%) women were pushed to adopt a modern method of contraception, PPIUCD and tubectomy in particular, by healthcare providers. This practice of ‘pushing’ family planning services and provider bias in promoting selective methods for achieving quantity based targets needs to be discouraged by mainstreaming indicators pertaining to various dimensions of quality of care, which must be made an integral and crucial part of programme monitoring.
2. Of the 63 women who had recently used an intrauterine device, 33 (52%) women were “pushed” to adopt it in the immediate postpartum period. The programme has to rethink its policy on PPIUCD, given that Tamil Nadu has already achieved below replacement level fertility. The “PPIUCD” initiative needs to be evaluated with respect to follow up and expulsion rates. An explicit consent must be ensured as in the case of sterilization, to ensure that informed choice is in no way compromised in the process.
3. Of the 67 women who adopted modern spacing methods, 22 (33%) women discontinued use within 12 months of start of use. The major reason cited for discontinuation was side effects/health concerns (53%). Guidelines for follow up of “family planning acceptors” must be established under the programme, to address side effects and concerns about switching or removal of methods. This is of vital importance in reducing the high 12-month discontinuation rates, and thereby improve contraceptive prevalence rate (CPR).

4. Tertiary level healthcare facilities shouldered the major burden of family planning services (41%). The primary level care (28%) and especially the secondary level care (12%) facilities needs to be strengthened to provide quality family planning services, thereby sharing the load of the overburdened tertiary care facilities, which suffer from poor individual centred care as a result.
5. While the referral services for high risk pregnancies to higher level care facilities is in place, an efficient back referral system must be developed for facilitating provision of family planning services at the primary care level, so that better follow up care can be ensured. This will also help in addressing the long waiting hours at the tertiary care facilities reported by the study participants.
6. While 5% of the study participants reported inadequate visual privacy, 44% said their interaction with the provider lacked auditory privacy. Privacy during the provision of contraceptive information and services must be improved by employing administrative controls within the feasibility of the existing infrastructure of the health facilities. Privacy must be accorded due importance during the design and construction of new health facilities.
7. Only 31% of the study participants reported receiving family planning information from a multipurpose health worker during outreach sessions. The multipurpose health workers designated for performing outreach family planning services must be trained to reinforce family planning messages during each opportunity for contact with an eligible couple, such as during antenatal care, post-natal care and immunization, all of which boast relatively high coverage.

8. The healthcare providers at the facility level need to be trained to create adequate demand and 'pull' adoption of family planning services through provision of essential information and contraceptive choice, vital to make a voluntary informed decision.
9. Only 36% of the women were offered a choice of more than one modern method of contraception at the time of counselling. Informed choice must be ensured by training providers to give a balanced presentation of positive and negative aspects of a range of contraceptive methods. The "WHO tiered-effectiveness counselling" approach may be advocated for this purpose, after assessing appropriateness to our country context.
10. Training of providers to give respectful, person centred care especially at the tertiary care facilities which fared the worst, will result in better patient satisfaction, which is vital for the success for the programme.
11. The first step in developing a quality of care framework for family planning services is to develop an adequate understanding of the existing standards of care. The dearth of evidence in this respect has to be addressed by further studies and the results should be made widely available in the public domain for use by policy makers, programme managers, service providers and other interested researchers.
12. Addressing provider needs for adequate infrastructure, resources and quality training is of vital importance in ensuring person centred family planning services. The provider perspective in quality of care, unaddressed by the present study, needs to be explored by further studies.

13. There is a need to bridge the policy-implementation gap in delivering person centred family planning services. The reasons contributing to this gap must be analysed and remedied at both the policy and implementation level.

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PATIENT INFORMATION SHEET

Topic: A Community Based Cross sectional study on person centred care in Family planning among women in Kanchipuram District, Tamil Nadu.

I-----am going to undertake the study on the above mentioned topic

The purpose of this study is to assess the quality of person centred care in family planning services among women in Kanchipuram District, Tamil Nadu. I request your enthusiastic participation for the study.

If you are willing to participate in this study you will be asked some questions regarding your socio-demographic details, reproductive and contraceptive history and your experiences with healthcare at time of accessing family planning services. The study is entirely question based. On the whole it will take about 20 min of your time

Though you may not benefit directly from the study, it is possible that the findings of the study based on your response may be of great help in planning strategies for providing better care for you and other people in future.

I assure that all the information provided by you will be kept highly confidential and privacy is assured. The study may be published in a scientific journal, but your identity will not be revealed.

Your participation in this study is voluntary and you can withdraw from the study at any point of time

Signature/left thumb impression of the participant

தகவல் தாள்

தலைப்பு: பெண்கள் மத்தியில் குடும்பத்திட்டமிடுதலுக்கான தனிநபர் மையப்படுத்திய பராமரிப்பு பற்றிய ஆய்வு - காஞ்சிபுரம் மாவட்டம், தமிழ்நாடு

நான் ----- மேற்கூறிய தலைப்பில் ஆய்வை மேற்கொள்ள உள்ளேன்

இந்த ஆய்வின் நோக்கம் தமிழ்நாட்டில் காஞ்சிபுரம் மாவட்டத்தில் பெண்கள் மத்தியில் குடும்பக் கட்டுப்பாடு சேவைகளை தனிநபரை மையமாகக் கொண்டு அதன் தரத்தை மதிப்பிடுவதாகும். இந்த ஆய்வுக்கு உங்கள் ஒத்துழைப்பையும் உதவியையும் நான் கோருகிறேன்.

இந்த ஆய்வில் நீங்கள் பங்கேற்க விரும்பினால், உங்கள் குடும்பம் மற்றும் வருமான விவரங்கள், மகப்பேறு மற்றும் கருத்தடை சார்ந்த விவரங்கள் மற்றும் குடும்பக் கட்டுப்பாடு சேவைகளை அணுகும் சமயத்தில் சுகாதார சேவை மையத்தில் உங்கள் அனுபவங்கள் குறித்து உங்களிடம் சில கேள்விகள் கேட்கப்படும். இந்த ஆராய்ச்சியில் எந்தத் தீங்கும் இல்லை. மொத்தத்தில் உங்கள் நேரத்தில் ஒரு 20 நிமிடம் செலவு ஆகும்

நீங்கள் ஆய்விலிருந்து நேரடியாக பயனடையவில்லை என்றாலும், உங்கள் பதிவை அடிப்படையாகக் கொண்ட ஆய்வின் கண்டுபிடிப்புகள் எதிர்காலத்தில் உங்களையும் மற்றவர்களையும் பாதுகாப்பதற்கான உத்திகளைத் திட்டமிடுவதில் பெரிதும் உதவக்கூடும்.

நீங்கள் வழங்கிய அனைத்து தகவல்களும் மிகவும் ரகசியமாக வைக்கப்படும் என்றும் தனியுரிமை உறுதி செய்யப்படும் என்றும் நான் உறுதியளிக்கிறேன். உங்கள் அடையாளம் யாருக்கும் வெளிப்படுத்தப்படாது. ஆய்வு அறிவியல் இதழில் வெளியிடப்படலாம், ஆனால் உங்கள் அடையாளம் வெளிப்படுத்தப்படாது.

இந்த ஆய்வில் உங்கள் பங்கேற்பு தன்னார்வமானது, எந்த நேரத்திலும் நீங்கள் இதிலிருந்து விலகலாம்

பங்கேற்பாளரின் கையொப்பம் / இடது கட்டைவிரல்

Annexure 2

Informed Consent form

Study Title: **A Community Based Cross sectional study on person centred care in Family planning among women in Kanchipuram District , Tamil Nadu**

The content of the information sheet that was provided have been read carefully by me/explained in detail to me, in a language that I comprehend and fully understand the contents.

The nature and purpose of the study and its potential risks/benefit and expected duration of the study, and other relevant details of the study have been explained to me in detail.

I understand that my participation is voluntary and that I am free to withdraw at any time. I agree to take part in the above study

(Signature/ left thumb
impression)

Name and postal address of the patient

Witness 1

Witness 2

Signature

Signature

Annexure 2

ஓப்புதல்படிவம்

தலைப்பு: பெண்கள் மத்தியில் குடும்பத்திட்டமிடுதலுக்கான தனிநபர் மையப்படுத்திய பராமரிப்பு பற்றிய ஆய்வு - காஞ்சிபுரம் மாவட்டம், தமிழ்நாடு

வழங்கப்பட்ட தகவல் தாளின் உள்ளடக்கம் என்னால் முழுமையாக புரிந்து கொள்ளக்கூடும் மொழியில் இருந்தது அது என்னால் கவனமாகப் படிக்கப்பட்டது / எனக்கு விரிவாக விளக்கப்பட்டுள்ளது, நான் உள்ளடக்கங்களை முழுமையாக புரிந்துகொண்டேன் ஆய்வின் தன்மை மற்றும் நோக்கம் மற்றும் அதன் சாத்தியமான அபாயங்கள் / நன்மைகள் மற்றும் ஆய்வின் காலம் மேலும் ஆய்வின் பால் தொடர்புடைய விவரங்கள் எனக்கு விரிவாக விளக்கப்பட்டுள்ளன.

எனது பங்கேற்பு தன்னார்வமானது என்பதையும், எந்த நேரத்திலும் நான் திரும்பப் பெற சுதந்திரமாக இருப்பதையும் புரிந்துகொள்கிறேன். மேற்கண்ட ஆய்வில் பங்கேற்க ஒப்புக்கொள்கிறேன்

பெயர்.....

முகவரி.....

சாட்சி-1

கையொப்பம்

சாட்சி 2

கையொப்பம்.....

A COMMUNITY BASED CROSS SECTIONAL STUDY ON PERSON - CENTRED CARE IN FAMILY PLANNING
AMONG WOMEN IN KANCHIPURAM DISTRICT, TAMIL NADU.

Department of Community Medicine, Govt. Stanley Medical College, Chennai

Duration of interview:

Date of data collection :

QUESTIONNAIRE:

Section I : Background information

1. Id Number:
2. Name:
3. Age:
4. Area of residence:
5. Education status:
 - 1) Illiterate 2) Primary school 3) Middle school 4) High school 5) Higher Secondary school 6) Graduate 7) Postgraduate 8) Professional 9) Others - specify
6. Occupation:
7. Monthly income(individual):
8. Monthly income(family):
9. No. of household members:
10. Religion:
 - 1) Hindu 2) Christian 3) Muslim 4) Others - Specify
11. Who usually decides on how to use your earnings?
 - 1) Yourself 2) Your husband 3) Jointly 4) Others – specify
12. Who usually decides about healthcare for yourself?
 - 1) Yourself 2) Your husband 3) Jointly 4) Others – specify
13. Are you allowed to go to a health facility by yourself? 1) Yes 2) No
14. Age at marriage:
15. Age at first conception:

Pregnancy order (including abortions)	Spacing / Any contraception used prior	Unintended pregnancy (UW/MS/No)	Place of delivery (PHC/GH/Pr)	Pregnancy outcome (N/CS/SA/IA)	Age/Sex of child	Whether currently alive (Y/N)

16. Do you want to have more children? 1) Yes 2) No
17. If yes, do you want to space your next childbirth? 1) Yes 2) No

Section II : Socio-cultural Accessibility:

18. What according to you is the ideal number of children in a family?
19. If number of living children different from what you desired, why?
20. Whose decision was it on how many children to have?
 - 1) Yours 2) Your husband 3) Mutual consent 4) Parents/in-laws 5) Others – Specify
21. How many years spacing between two children do you consider ideal?
22. Who usually decides on birth spacing?
 - 1) Yours 2) Your husband 3) Mutual consent 4) Parents/in-laws 5) Others – Specify
23. Do you talk about family planning with your spouse? 1) Yes 2) No
24. What is the attitude of your spouse towards?
 - i. Temporary methods:
 - ii. Permanent methods:
 - 1) Consider essential 2) Lack of favourable environment 3) Restrict usage 4) Coercive 5) Contraception is a taboo 6) Others –specify
25. What is the perception of other family members regarding ?
 - i. Temporary methods:
 - ii. Permanent methods:
 - 1) Consider essential 2) Lack of favourable environment 3) Restrict usage 4) Coercive 5) Contraception is a taboo 6) Others –specify

Section III : Access to Contraceptive Information

26. Did a healthcare provider ever talk to you about?
 - i. The need for spacing childbirth 1) Yes 2) No 3) Don't remember
 - ii. Temporary methods of contraception for spacing 1) Yes 2) No 3) Don't remember
 - a) If yes, what methods were you told about?
 - iii. The importance of limiting family size 1) Yes 2) No 3) Don't remember
 - iv. Sterilization 1) Yes 2) No 3) Don't remember
27. If yes, who was the healthcare provider? 1) Doctor 2) UHN 3) Nurse 4) Others-specify
28. Were you and your spouse ever counselled together by a healthcare provider regarding contraception?
 - 1) Yes we were counselled together 2) Only I was counselled 3) We were counselled separately
 - 4) No counselling was given
29. What methods of contraception are you aware of?
 - 1) Male Condom 2) Female condom 3) Oral pills 4) Intrauterine device 5) Injectables 6) Implants
 - 7) Tubectomy 8) Vasectomy 9) Emergency contraceptive pill 10) Abstinence 11) Withdrawal
 - 12) Rhythm/Calendar Method 13) I don't know 14) Others-specify
30. How did you come across this information ?
 - 1) Doctor 2) Nurse 3) Media 4) Friends/relatives 5) Parents 6) IEC materials 7) Others - specify

- ii. How the method prevents pregnancy 1)Yes 2)No
 - iii. Common side-effects of the method 1)Yes 2)No
 - iv. Signs and symptoms that would necessitate a return to the facility 1)Yes 2)No
 - v. The relative effectiveness of the method 1)Yes 2)No
 - vi. Return to fertility after discontinuing use of the method 1)Yes 2)No
 - vii. STI protection 1)Yes 2)No
53. Were you given the above information “prior to use”? 1)Yes 2)No
54. Were you given information regarding other methods that could be used? 1)Yes 2)No
55. Did the provider make sure you understood the given information? 1) Yes 2) No
56. Did the provider allow time for questions? 1) Yes 2) No
57. Were the other clients seated where they could hear your interaction with the provider? 1) Yes 2) No
58. Did he talk about your health issues in a public area? 1) Yes 2) No
59. Were any invasive procedures done in an area secluded/blinded by curtains? 1) Yes 2) No 3) NA
60. Was your consent obtained before any invasive procedures ? 1) Yes 2) No 3) NA
61. Did the provider schedule a follow-up visit? 1) Yes 2) No
62. Did you experience any problems with the given method? 1) Yes 2) No
63. If you experienced side effects, what were they?
64. Did you receive appropriate follow-up care for the side effects? 1) Yes 2) No
65. How long after starting use of the method did you discontinue use ? (applicable only for spacing methods)
66. Reason for discontinuing use of contraception :
- 1)Desire to become pregnant 2) Side effects/health concerns 3) Method failure 4) Infrequent sex/husband away 5) Objection from spouse/family 6) Others - specify
67. Did the service provider comply with your request for removal/switching of methods? 1)Yes 2)No 3)NA
68. Did you have to make informal payments for services that were meant to be available free of cost? 1) Yes 2) No
69. Did you have to take a loan/borrow to afford expenses related to contraception? 1) Yes 2) No
70. On the whole, how would you rate the care you received? 1) Very good 2) Good 3) Satisfactory 4) Poor

Section V: Non-discrimination:

71. i) Was a modern contraceptive method ever given to you by a healthcare provider without your knowledge/consent? 1) Yes 2) No (If no skip to 74)
- ii)If yes, what method? 1) Tubectomy 2) Intrauterine device 3) Injectable 4) Others - specify
- iii)When was it given? 1) After delivery 2) After abortion 3) Others – specify
- iv)Where was it given ? 1) HSC 2) PHC 3) Govt. hospital 4) Private hospital/clinic 5) NGO 6) Others - Specify
72. i)Were you ever compelled to take up a modern contraceptive method ? 1)Yes 2) No (If no, stop here)
- ii)If yes, how were you compelled? 1) Through intimidation 2) Financial/other incentive 3) Made a requirement for other health services 4) Others - specify
- iii)What method was taken up? 1) Tubectomy 2) Intrauterine device 3) Injectable 4) Others - specify
- iv)When was it given? 1) After delivery 2) After abortion 3) Others – specify
- v)Where was it given? 1) HSC 2) PHC 3) Govt. hospital 4) Private hospital/clinic 5) NGO 6) Others - Specify

Annexure 3

கேள்வித்தாள்

பிரிவு I: பின்னணி தகவல்

1. அடையாள எண்:
2. பெயர்:
3. வயது:
4. வசிக்கும் பகுதி:
5. கல்வி நிலை:
 - 1) கல்வியறிவின்மை 2) தொடக்கப்பள்ளி 3) நடுநிலைப்பள்ளி 4) உயர்நிலைப்பள்ளி 5) மேல்நிலைப்பள்ளி 6) பட்டதாரி 7) முதுகலை 8) தொழில்முறை 9) மற்றவை - குறிப்பிடவும்
6. தொழில்:
7. மாத வருமானம் (தனிநபர்):
8. மாத வருமானம் (குடும்பம்):
9. வீட்டு உறுப்பினர்களின் எண்ணிக்கை:
10. மதம்: 1) இந்து 2) கிறிஸ்தவர் 3) முஸ்லிம் 4) மற்றவை - குறிப்பிடவும்
11. உங்கள் வருவாயை எவ்வாறு பயன்படுத்துவது என்பதை பொதுவாக யார் தீர்மானிக்கிறார்கள்?
 - 1) நீங்களே 2) உங்கள் கணவர் 3) கூட்டாக 4) மற்றவர்கள் - குறிப்பிடவும்
12. பொதுவாக உங்களுக்காக சுகாதாரத்தைப் பற்றி யார் தீர்மானிக்கிறார்கள்?
 - 1) நீங்களே 2) உங்கள் கணவர் 3) கூட்டாக 4) மற்றவர்கள் - குறிப்பிடவும்
13. நீங்களே ஒரு சுகாதார வசதிக்கு செல்ல அனுமதிக்கப்படுகிறீர்களா?
 - 1) ஆம் 2) இல்லை
14. திருமண வயது:
15. முதல் கருத்தாக்கத்தில் வயது:

மகப்பேரு வரிசை (கருக்கலைப்பு உட்பட)	கருத்தரிக்காதிருக்க/ கருதரிப்பிர்க்கு இடைவெளி விட இதன் முன் கருத்தடை பயன்படுத்தியிருத்தல்	திட்டமிடப் படாத கர்ப்பம்	குழந்தை பிறந்த இடம்	கர்ப்ப விளைவு	குழந்தை யின் வயது / பாலினம்	குழந்தை தற்போது உயிருடன் இருக்கின்றதா

16. நீங்கள் அதிக குழந்தைகளைப் பெற விரும்புகிறீர்களா? 1) ஆம் 2) இல்லை
17. ஆம் எனில், உங்கள் அடுத்த பிரசவத்திற்கு இடைவெளி அளிக்க விரும்புகிறீர்களா? 1)ஆம் 2) இல்லை

பிரிவு II: சமூக-கலாச்சார அணுகல்:

18. உங்கள் கருத்துப்படி ஒரு குடும்பத்திற்கு ஏற்ற குழந்தைகளின் சிறந்த எண்ணிக்கை என்ன?
19. நீங்கள் விரும்பியதைவிட உங்களின் உயிருள்ள குழந்தைகளின் எண்ணிக்கை வேறுபட்டால், அதன் காரணம்?
20. எத்தனை குழந்தைகள் வேண்டும் என்பது யாருடைய முடிவு?
1) உங்களுடையது 2) உங்கள் கணவர் 3) பரஸ்பர ஒப்புதல் 4) பெற்றோர் / மாமியார், மாமனார் 5) மற்றவர்கள் - குறிப்பிடவும்
21. இரண்டு குழந்தைகளுக்கு இடையில் எத்தனை வருட இடைவெளியை சிறந்ததாக கருதுகிறீர்கள்?
22. குழந்தைகளுக்கு இடையில் உள்ள பிறப்பு இடைவெளியை பொதுவாக யார் தீர்மானிக்கிறார்கள்?
1) உங்களுடையது 2) உங்கள் கணவர் 3) பரஸ்பர ஒப்புதல் 4) பெற்றோர் / மாமியார் 5) மற்றவர்கள் - குறிப்பிடவும்
23. உங்கள் கணவரிடத்தில் குடும்பக் கட்டுப்பாடு பற்றி பேசுகிறீர்களா?
1) ஆம் 2) இல்லை
24. உங்கள் கணவரின் மனப்பான்மை என்ன?

I. தற்காலிக முறைகள்:

II. நிரந்தர முறைகள்:

- (1) அத்தியாவசியமாக கருதுதல் 2) சாதகமற்ற சூழல் 3) பயன்பாட்டைக் கட்டுப்படுத்துதல் 4) வற்புறுத்தல் 5) கருத்தடை ஒரு தவறு 6) மற்றவை - குறிப்பிடவும்)

25. மற்ற குடும்ப உறுப்பினர்களின் கருத்து என்ன?

I. தற்காலிக முறைகள்:

II. நிரந்தர முறைகள்:

- (1) அத்தியாவசியமாக கருதுதல் 2) சாதகமற்ற சூழல் 3) பயன்பாட்டைக் கட்டுப்படுத்துதல் 4) வற்புறுத்தல் 5) கருத்தடை ஒரு தவறு 6) மற்றவை - குறிப்பிடவும்)

பிரிவு III: கருத்தடை தகவலுக்கான அணுகல்

26. ஒரு சுகாதார சேவை வழங்குநர் பின் வருவன பற்றி உங்களுடன் எப்போதாவது பேசினாரா?

I. பிரசவ இடைவெளியின் தேவை 1) ஆம் 2) இல்லை 3) நினைவில் இல்லை

II. இடைவெளிக்கு கருத்தடை செய்வதற்கான தற்காலிக முறைகள்

1) ஆம் 2) இல்லை 3) நினைவில் இல்லை

அ) ஆம் எனில், உங்களுக்கு என்ன முறைகள் கூறப்பட்டன?

III. குடும்ப அளவைக் கட்டுப்படுத்துவதன் முக்கியத்துவம்?

1) ஆம் 2) இல்லை 3) நினைவில் இல்லை

IV. நிரந்தர கருத்தடை முறை 1) ஆம் 2) இல்லை 3) நினைவில் இல்லை

27. ஆம் என்றால், சுகாதார சேவை வழங்குநர் யார்? 1) மருத்துவர் 2) நகர்ப்புற சுகாதார செவிலியர் 3) செவிலியர் 4) மற்றவர்கள்-குறிப்பிடவும்

28. கருத்தடை தொடர்பாக நீங்களும் உங்கள் கணவரும் எப்போதாவது ஒரு சுகாதார சேவை வழங்குநர் ஆலோசனை பெற்றீர்களா?

1) ஆமாம் எங்களுக்கு ஒன்றாக ஆலோசனை வழங்கப்பட்டது 2) எனக்கு மட்டுமே ஆலோசனை வழங்கப்பட்டது 3) எங்களுக்கு தனித்தனியாக ஆலோசனை வழங்கப்பட்டது 4) எந்த ஆலோசனையும் வழங்கப்படவில்லை

29. கருத்தடை முறைகள் நீங்கள் அறிபவை?

1) ஆண் ஆணுறை 2) பெண் ஆணுறை 3) வாய்வழி மாத்திரைகள் 4) கருப்பையக சாதனம் 5) ஊசி மருந்துகள் 6) உள்வைப்புகள் 7) பெண்கள் நிரந்தர கருத்தடை முறை 8) ஆண்கள் நிரந்தர கருத்தடை முறை நிரந்தர கருத்தடை

முறை 9) அவசர கருத்தடை மாத்திரை 10) விலக்கு 11) திரும்பப் பெறுதல் 12) காலண்டர் முறை 13) எனக்குத் தெரியாது 14) மற்றவை-குறிப்பிடவும்

30. இந்த தகவல் உங்களுக்கு எவ்வாறு கிடைத்தது?

1) மருத்துவர் 2) செவிலியர் 3) ஊடகம் 4) நண்பர்கள் / உறவினர்கள் 5) பெற்றோர் 6) விளம்பர பொருட்கள் 7) மற்றவை - குறிப்பிடவும்

31. ஒரு ஜோடியாக நீங்கள் உபயோகித்த கருத்தடை முறைகளை?

1) ஆண் ஆணுறை 2) பெண் ஆணுறை 3) வாய்வழி மாத்திரைகள் 4) கருப்பையக சாதனம் 5) ஊசி மருந்துகள் 6) உள்வைப்புகள் 7) பெண்கள் நிரந்தர கருத்தடை முறை 8) ஆண்கள் நிரந்தர கருத்தடை முறை நிரந்தர கருத்தடை முறை 9) அவசர கருத்தடை மாத்திரை 10) விலக்கு 11) திரும்பப் பெறுதல் 12) காலண்டர் முறை 13) எனக்குத் தெரியாது 14) மற்றவை-குறிப்பிடவும்

32. கருத்தடை பற்றி பொதுவாக யார் தீர்மானிக்கிறார்கள்?

1) நீங்கள் 2) உங்கள் கணவர் 3) பரஸ்பர ஒப்புதல் 4) பெற்றோர் / மாமியார், மாமனார் 5) மற்றவர்கள் - குறிப்பிடவும்

33. ஒருபோதும் ஆணுறைகளைப் பயன்படுத்தவில்லை என்றால், ஏன்?

34. ஆண்கள் நிரந்தர கருத்தடை முறை எப்போதாவது கருதப்பட்டதா? 1) ஆம் 2) இல்லை (ஆம் என்றால் 36 க்குத் தவிருங்கள்)

35. இல்லை என்றால், ஏன்? 1) அதை குறித்து போதிய தெளிவின்மை 2) பிரபலமில்லை 3) பாதுகாப்பு / ஆண்மைக் குறைவு குறித்த பயம் 4) கருத்தடை என்பது பெண்கள் சார்ந்தது 5) மற்றவை - குறிப்பிடவும்

36. ஆண்கள் நிரந்தர கருத்தடை முறை கருதப்பட்டாலும், அதைச் செயல்படுத்தவில்லை என்றால், ஏன்?

(ஏற்கனவே பெண்கள் நிரந்தர கருத்தடை முறை செய்தவர்க்கு மட்டுமே பொருந்தும்)

1) பெண்கள் நிரந்தர கருத்தடை முறை எளிதானது 2) பிரசவத்திற்கான அறுவைசிகிச்சையுடன் பெண்கள் நிரந்தர கருத்தடை முறை செய்யப்படுகிறது 3) பிரபலமாக இல்லை 4) பாதுகாப்பு / ஆண்மைக் குறைவு குறித்த பயம் 5) மற்றவை - குறிப்பிடவும்

37. ஒருபோதும் கருத்தடை பயன்படுத்தாவிட்டால், ஏன்?

1) கருத்தடை பற்றி தெரியாது 2) பக்க விளைவுகளுக்கு பயம் 3) மத நம்பிக்கைகள் 4) ஆதரவளிக்காத துணை 5) களங்கம் 6) மற்றவை - குறிப்பிடவும்

38. எதிர்காலத்தில் கருத்தடை பயன்படுத்த விரும்புகிறீர்களா?

1) ஆம் 2) இல்லை

39. ஆம் என்றால், எந்த முறை?

பிரிவு IV: மிக சமீபத்தில் அணுகப்பட்ட கருத்தடை சேவை:

40. நீங்கள் எந்த நவீன கருத்தடை முறையைப் பயன்படுத்துகிறீர்கள் / மிக சமீபத்தில் பயன்படுத்தியிருக்கிறீர்களா?

1) பெண்கள் நிரந்தர கருத்தடை முறை 2) கருப்பையக சாதனம் 3) வாய்வழி மாத்திரைகள் 4) ஊசி மருந்துகள் 5) ஆணுறை 6) மற்றவை - குறிப்பிடவும்

41. மிக சமீபத்திய பயன்பாடு எப்போது தொடங்கியது?

42. நீங்கள் தானாக முன்வந்து கருத்தடை எடுத்தீர்களா? 1) ஆம் 2) இல்லை (இல்லை என்றால், 45 க்கு தவிர்)

43. இது உங்களுக்கு விருப்பமான முறையா? 1) ஆம் 2) இல்லை

44. இல்லை என்றால், யார் / எதனால் எடுத்தீர்கள்?

45. மிக சமீபத்தில் கருத்தடை சேவை எங்கு கிடைத்தது?

1) துணை சுகாதார மையம் 2) ஆரம்ப சுகாதார மையம் 3) மாவட்டம் / தாலுகா மருத்துவமனை 4) மருத்துவக்

கல்லூரி மருத்துவமனை 5) தனியார் மருத்துவமனை / மருத்துவ சேவை 6) மற்றவை - குறிப்பிடவும்

46. வசிப்பிடத்திலிருந்து சுகாதார மையத்தின் தோராயமான தூரம்:

47. சேவைகள் 24 * 7 கிடைக்குமா? 1) ஆம் 2) இல்லை 3) தெரியாது

48. சுகாதார சேவை வழங்குநர் சந்திப்புக்கு நீங்கள் எவ்வளவு நேரம் காத்திருக்க வேண்டியிருந்தது?

1) <1/2 மணிநேரம் 2) மணிநேரம் - 1 மணிநேரம் 3) 1 மணிநேரம் - 2 மணிநேரம் 4) > 2 மணிநேரம்

49. உங்களது சுகாதார சேவை வழங்குநரின் பாலினம் ? 1) ஆண் 2) பெண்

50. ஆண் சுகாதார சேவை வழங்குநராக இருப்பின், சேவை அளிப்பவர் ஒரு பெண்ணாக இருந்திருந்தால் நீங்கள் இன்னும் வசதியாக கருதிருப்பீர்களா?

1) ஆம் 2) இல்லை 3) பரவாயில்லை

51. உங்கள் சுகாதார சேவை வழங்குநரின் மனப்பாண்மை எத்தகையது?

1) மரியாதைக்குரிய 2) ஓரளவு மரியாதைக்குரிய 3) மரியாதைக்குரியது அல்ல

52. உங்கள் சுகாதார சேவை வழங்குநர் உங்கள் கருத்தடை முறை குறித்து பின் வருவனவற்றை விளக்கினாரா?

I. முறையின் சரியான பயன்பாடு 1) ஆம் 2) இல்லை

II. இந்த முறை கர்ப்பத்தை எவ்வாறு தடுக்கிறது 1) ஆம் 2) இல்லை

III. முறையின் பொதுவான பக்க விளைவுகள் 1) ஆம் 2) இல்லை

IV. சுகாதார வசதிக்கு திரும்ப வேண்டிய அறிகுறிகள் 1) ஆம் 2) இல்லை

v. முறையின் ஒப்பீட்டு செயல்திறன் 1) ஆம் 2) இல்லை

vi. முறையைப் பயன்படுத்துவதை நிறுத்திய பின் கருவுறுதலுக்குத் திரும்பும் முறை 1) ஆம் 2) இல்லை

vii. பால் வினை நோய் பாதுகாப்பு 1) ஆம் 2) இல்லை

53. "பயன்பாட்டிற்கு முன்"மேல் கண்ட தகவலை உங்களுக்கு வழங்கியிருக்கின்றாரா ? 1) ஆம் 2) இல்லை

54. பயன்படுத்தக்கூடிய பிற முறைகள் குறித்த தகவல்களை உங்களுக்கு வழங்கியிருக்கின்றாரா ? 1) ஆம் 2) இல்லை

55. கொடுக்கப்பட்ட தகவலை நீங்கள் புரிந்து கொண்டீர்கள் என்பதை அவர் உறுதிசெய்தாரா? 1) ஆம் 2) இல்லை

56. சுகாதார சேவை வழங்குநர் உங்களது கேள்விகளுக்கு நேரத்தை அனுமதித்தாரா?

1) ஆம் 2) இல்லை

57. சேவை வழங்குநருடனான உங்கள் உரையடலை கேட்கக்கூடிய அளவில் மற்ற வாடிக்கையாளர்கள் அமர்ந்திருந்தார்களா? 1) ஆம் 2) இல்லை

58. ஒரு பொதுப் பகுதியில் உங்கள் உடல்நலப் பிரச்சினைகள் குறித்து அவர் பேசினாரா? 1) ஆம் 2) இல்லை

59. உங்கள் பால் செய்யப்பட்ட செயல்முறைகள் திரைச்சீலைகளால் மறைக்கப்பட்ட/ ஒதுக்குபுறமான ஒரு பகுதியில் செய்யப்பட்டனவா?

1) ஆம் 2) இல்லை 3) பொருந்தாது

60. எந்தவொரு செயல்முறைகள் முன்பு உங்கள் ஒப்புதல் பெறப்பட்டதா?

1) ஆம் 2) இல்லை 3) பொருந்தாது

61. அடுத்த வருகையை வழங்குநர் திட்டமிட்டாரா? 1) ஆம் 2) இல்லை

62. கொடுக்கப்பட்ட முறையால் ஏதேனும் சிக்கல்களை நீங்கள் சந்தித்தீர்களா? 1) ஆம் 2) இல்லை

63. நீங்கள் பக்க விளைவுகளை அனுபவித்திருந்தால், அவை என்ன?

64. பக்க விளைவுகளுக்கு தேவையான அடுத்த கவனிப்பைப் பெற்றீர்களா?

1) ஆம் 2) இல்லை

65. முறையைப் பயன்படுத்தத் தொடங்கி எவ்வளவு காலம் கழித்து நீங்கள் பயன்பாட்டை நிறுத்தினீர்கள்?

(இடைவெளி முறைகளுக்கு மட்டுமே பொருந்தும்)

66. கருத்தடை பயன்பாட்டை நிறுத்துவதற்கான காரணம்:

1) கர்ப்பமாக ஆசைப்படுதல் 2) பக்க விளைவுகள் / உடல்நலக் கவலைகள் 3) முறை தோல்வி 4) இடைக்கிடை புணர்தல் / கணவர் உடன் இல்லாதது

5) கணவர் / குடும்பத்தினரிடமிருந்து ஆட்சேபனை 6) மற்றவர்கள் - குறிப்பிடவும்

67. முறைகளை அகற்ற / மாற்றுவதற்கான உங்கள் கோரிக்கையை சேவை வழங்குநர் ஒப்புக்கொண்டாரா? 1) ஆம் 2) இல்லை 3) பொருந்தாது

68. இலவசமாக கிடைக்கக்கூடிய சேவைகளுக்கு முறைசாரா கட்டணம் செலுத்த வேண்டுமா? 1) ஆம் 2) இல்லை

69. கருத்தடை தொடர்பான செலவுகளைச் செய்ய நீங்கள் கடன் / கடன் வாங்க வேண்டியிருந்ததா? 1) ஆம் 2) இல்லை

70. மொத்தத்தில், நீங்கள் பெற்ற கவனிப்பை எவ்வாறு மதிப்பிடுவீர்கள்? 1) மிகவும் நல்லது 2) நல்லது 3) திருப்திகரமான 4) மோசம்

பிரிவு V: பாகுபாடு காட்டாதது:

71. i) உங்கள் அறிவு / ஒப்புதல் இல்லாமல் ஒரு சுகாதார வழங்குநரால் உங்களுக்கு நவீன கருத்தடை முறை வழங்கப்பட்டதா? 1) ஆம் 2) இல்லை (74 க்குச் செல்லவில்லை என்றால்)

ii) ஆம் என்றால், என்ன முறை? 1) பெண்கள் நிரந்தர கருத்தடை முறை 2) கருப்பையக சாதனம் 3) ஊசி மருந்துகள் 4) மற்றவை - குறிப்பிடவும்

iii) அது எப்போது வழங்கப்பட்டது?

1) பிரசவத்திற்குப் பிறகு 2) கருக்கலைப்புக்குப் பிறகு 3) மற்றவை - குறிப்பிடவும்

iv) அது எங்கே வழங்கப்பட்டது?

1) துணை சுகாதார மையம் 2) ஆரம்ப சுகாதார மையம் 3) மாவட்டம் / தாலுகா மருத்துவமனை 4) மருத்துவக் கல்லூரி மருத்துவமனை 5) தனியார் மருத்துவமனை / மருத்துவ சேவை 6) மற்றவை - குறிப்பிடவும்

72. i) நவீன கருத்தடை முறையை எடுக்க நீங்கள் எப்போதாவது நிர்பந்திக்கப்பட்டீர்களா?

1) ஆம் 2) இல்லை (இல்லை என்றால், இங்கே நிறுத்துங்கள்)

ii) ஆம் எனில், நீங்கள் எவ்வாறு கட்டாயப்படுத்தப்பட்டீர்கள்?

1) மிரட்டல் மூலம் 2) நிதி / பிற ஊக்கத்தொகை 3) பிற சுகாதார சேவைகள் கிடைக்க ஏற்க வேண்டிய நிலை 4) மற்றவை - குறிப்பிடவும்

iii) என்ன முறை எடுக்கப்பட்டது?

1) பெண்கள் நிரந்தர கருத்தடை முறை 2) கருப்பையக சாதனம் 3) ஊசி மருந்துகள் 4) மற்றவை - குறிப்பிடவும்

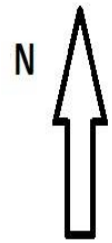
iv) அது எப்போது வழங்கப்பட்டது?

1) பிரசவத்திற்குப் பிறகு 2) கருக்கலைப்புக்குப் பிறகு 3) மற்றவை - குறிப்பிடவும்

v) அது எங்கே வழங்கப்பட்டது?

1) துணை சுகாதார மையம் 2) ஆரம்ப சுகாதார மையம் 3) மாவட்டம் / தாலுகா மருத்துவமனை 4) மருத்துவக் கல்லூரி மருத்துவமனை 5) தனியார் மருத்துவமனை / மருத்துவ சேவை 6) மற்றவை - குறிப்பிடவும்

MAP OF KANCHEEPURAM DISTRICT



1. List Of Block PHC's in Kancheepuram HUD

Name of the HUD	Name of the Block PHCs
Kancheepuram	1. Acharapakkam 2. Parandur 3. Zamin Endathur (Maduranthagam) 4. Thiruputkuzhi (Kancheepuram) 5. Elichur 6. Manamathi 7. Maduramangalam

2. List of PHCs in Elichur Block

Name Of The Block	Name of the PHCs
Elichur Block	1.Mangadu
	2.Elichur
	3.Kundrathur
	4.Paadapai
	5.Somamangalam

3. List of HSCs in Mangadu PHC

Name of the HSC	Population	Contribution to sample size, n (%)
Mangadu I	13,726	79(20)
Mangadu II	13, 908	78(20)
Paraniputhur	15, 880	92(24)
Pattur	10, 563	60(15)
Sikkarayapuram	13, 636	81(21)
Mangadu PHC	67, 713	390(100)

The areas marked in **bold** are the ones selected for the study

KEY TO MASTER CHART

S.No.	Variable	Label	Coding
1.	id_no	Identification number	Alphabets in the ID denotes the following HSCs m1- Mangadu1 m2- Mangadu2 Sp- Sikkarayapuram pp- Paraniputhur pt- Pattur Numbers after that denotes serial numbers
2.	Age	Age of the person	
3.	educ_stat	Education status	1- Illiterate 2- Primary school 3- Middle school 4- High school 5- Higher secondary 6- Graduate 7- Post graduate
4.	Occup	Occupation Categories	0-Unemployed 1- Employed 2- Un employed
5.	indiv_sal	Monthly income of the individual	
6.	fam_sal	Monthly Income of the family	
7.	no_mem	Number of household members	
8.	Pci	Per capita income	
9.	Religion	Religion	1- Hindu 2- Christian 3- Muslim
10.	dec_spend	Who usually decides on how to use your income?	1- Yourself 2- Your husband 3- Jointly 4- Parents/ in laws
11.	dec_health	Who usually decides about healthcare for yourself?	1. Yourself 2. Your husband 3. Jointly 4. Parents/ inlaws

12.	go_urself	Are you allowed to go to health facility by yourself ?	1-Yes 2-No
13.	age_marge	Age at Marriage	
14.	age_cep	Age at first conception	
15.	sterilized	Have you undergone sterilization	0- Not sterilized 1-Sterilized
16.	more_child	Do you want to have more children?	1-Yes, 2- No
17.	spac_child	Do you want to space your next childbirth?	1-Yes 2-No 99- NA
18.	no_preg	Number of pregnancy	
19.	no_liv_ch	Number of living children	
20.	1_spacing	Spacing of first pregnancy in months	
21.	1_contra	Contraception used to delay first pregnancy	0- Not used 1- Copper T 2- Male condom 3- OCP 4- Injectable contraceptive 5- Tubectomy
22.	int_preg1	Was your first pregnancy intended at the time of conception?	0- Intended 1- Mistimed 2- Unwanted
23.	1_outcom	Outcome of first pregnancy	1- Normal 2- LSCS 3- Spontaneous abortion 4- Induced abortion due to unwanted pregnancy 5- Currently pregnant 6- Induced abortion due to fetal abnormalities
24.	1_pl_del	Place of delivery of first child	1-PHC 2-District/Taluk GH 3-Medical college 4-Private hospital 6- Govt.Hospital (if they can't categorize)
25.	1_age	Age of first child in months	
26.	1_sex	Sex of first child	1-Male, 2-Female

27.	2_contra	Contraception used to delay/ limit second pregnancy	0- Not used 1- Copper T 2- Male condom 3- OCP 4- Injectable contraceptive 5- Tubectomy
28.	int_preg2	Was your second pregnancy intended at the time of conception?	0- Intended 1- Mistimed 2- Unwanted
29.	2_outcom	Outcome of second pregnancy	1- Normal 2- LSCS 3- Spontaneous abortion 4- Induced abortion due to unwanted pregnancy 5- Currently pregnant 6- Induced abortion due to fetal abnormalities
30.	2_pl_del	Place of delivery of second child	1. PHC 2-District/Taluk GH 3-Medical college 4-Private hospital 6- Govt.Hospital (if they can't categorize)
31.	2_age	Age of second child in months	
32.	2_sex	Sex of second child	1-Male, 2-Female
33.	2_spacing	Spacing of second pregnancy in months	
34.	3_contra	Contraception used to delay/limit third pregnancy	0- Not used 1- Copper T 2- Male condom 3- OCP 4- Injectable contraceptive 5- Tubectomy
35.	int_preg3	Was your third pregnancy intended at the time of conception?	0- Intended 1- Mistimed 2- Unwanted
36.	3_outcom	Outcome of third pregnancy	1- Normal 2- LSCS 3- Spontaneous abortion 4- Induced abortion due to unwanted pregnancy 6- Currently pregnant 6- Induced abortion due to fetal abnormalities

37.	3_pl_del	Place of delivery of third child	1. PHC 2. District/Taluk GH 3. Medical college 4.Private hospital 6.Govt.Hospital(if they can't categorize)
38.	3_age	Age of third child in months	
39.	3_sex	Sex of third child	1-Male, 2-Female
40.	3_spacing	Spacing of third pregnancy in months	
41.	4_contra	Contraception used to delay/limit fourth pregnancy	0- Not used 1- Copper T 2- Male condom 3- OCP 4- Injectable contraceptive 5- Tubectomy
42.	int_preg4	Was your fourth pregnancy intended at the time of conception?	0- Intended 1- Mistimed 2- Unwanted
43.	4_outcom	Outcome of fourth pregnancy	1- Normal 2- LSCS 3- Spontaneous abortion 4- Induced abortion due to unwanted pregnancy 5- Currently pregnant 6- Induced abortion due to fetal abnormalities
44.	4_pl_del	Place of delivery of fourth child	1-PHC 2-District/Taluk GH 3-Medical college 4-Private hospital 6-Govt.Hospital (if they can't categorize)
45.	4_age	Age of fourth child in months	
46.	4_sex	Sex of fourth child	1-Male, 2-Female
47.	4_spacing	Spacing of fourth pregnancy in months	
48.	5_contra	Contraception used to delay/limit fifth pregnancy	0- Not used 1- Copper T 2- Male condom 3- OCP 4- Injectable contraceptive 5- Tubectomy

49.	ideal_no	Ideal number of children according to you	
50.	dec_no	Decision about number of children to have	
51.	why_diff	Why there is difference in number of living children	1- Unwanted pregnancy 2- Son preference 3- family pressure 4- Economic factors 5- Twins 6- Spousal preference 7- LSCS
52.	ideal_sp	Number of years between two children you consider as ideal	
53.	dec_sp	Who usually decides on birth spacing?	1- Yours 2- Your husband 3- Mutual consent 4- Parents/in laws
54.	sp_com	Do you talk about family planning with your spouse?	1- Yes 2- No
55.	self_temp	Your attitude towards temporary methods	1- consider essential 2- lack of favorable environment 3- Restrict usage 4- Not essential 5- Contraception is a taboo
56.	self_perm	Your attitude towards permanent method	1- consider essential 2- lack of favorable environment 3- Restrict usage 4- Not essential 5- Contraception is a taboo
57.	sp_temp	Your spouse attitude towards temporary methods	1- consider essential 2- lack of favourable environment 3- Restrict usage 4- Not essential 5- Contraception is a taboo
58.	sp_perm	Your spouse attitude towards permanent methods	1- consider essential 2- lack of favourable environment 3- Restrict usage 4- Not essential 5- Contraception is a taboo

59.	hp_spac	Did a healthcare provider ever talk to you about need for spacing childbirth ?	1- Yes 2- No 3- Don't remember
60.	hp_temp	Did a healthcare provider ever talk to you about temporary methods of contraception for spacing?	1- Yes 2- No 3- Don't remember
61.	wat_met	What methods you were told about	1- Copper T 2- Male condom 3- Oral contraceptives 4- Injectable contraceptives 5- No methods used
62.	hp_lim	Did a healthcare provider ever talk to you the importance of limiting family size?	1- Yes 2- No 3- Don't remember
63.	hp_ster	Did a healthcare provider ever talk to you sterilization?	1- Yes 2- No 3- Don't remember
64.	hp	Who was the healthcare provider?	1- Doctor 2- UHN 3- Staff Nurse 4- others
65.	know_1	Knowledge about Male condom	0- Not aware 1- aware
66.	know_2	Knowledge about Female condom	0- Not aware 1- aware
67.	know_3	Knowledge about Oral pills	0- Not aware 1- aware
68.	know_4	Knowledge about intrauterine device	0- Not aware 1- aware
69.	know_5	Knowledge about injectables	0- Not aware 1- aware
70.	know_7	Knowledge about tubectomy	0- Not aware 1- aware
71.	know_8	Knowledge about Vasectomy	0- Not aware 1- aware
72.	know_9	Knowledge about Emergency contraceptive pill	0- Not aware 1- aware
73.	know_10	Knowledge about abstinence	0- Not aware 1- aware

74.	know_11	Knowledge about withdrawal	0- Not aware 1- aware
75.	know_12	Knowledge about rhythm/calendar method	0- Not aware 1- aware
76.	sourc_inf	Source of this information	1- Doctor 2- Nurse 3-Media 4-friends/relative 5-Parents 6- IEC materials 7- UHN 8-AWW 9-Miscellaneous
77.	usedany	Ever used any methods of contraception as a couple	1- Yes 2- No
78.	use_1	Ever used Male condom	1- Yes 2- No
79.	use_2	Ever used Female condom	1- Yes 2- No
80.	use_3	Ever used oral pills	1- Yes 2- No
81.	use_4	Ever used intrauterine devices	1- Yes 2- No
82.	use_5	Ever used injectables	1- Yes 2- No
83.	use_7	Ever used Tubectomy	1- Yes 2- No
84.	use_8	Ever used vasectomy	1- Yes 2- No
85.	use_9	Ever used Emergency contraception	1- Yes 2- No
86.	dec_con	Who usually decides about contraception	1- You 2- Your husband 3-Mutual 4- Parents/ in laws
87.	vas_con	Ever considered vasectomy	1- Yes 2- No
88.	no_why	If No then why ?	1- Limited knowledge 2- Not popular 3- Fear of safety Impotence 4- Contraception is women's business 5- Stigma 6- Religious belief
89.	nev_used	Reason for never used contraception?	1- Don't know 2- Fear of side effects 3- Religious beliefs 4- Spouse non-

			supportive 5- Not essential 6- Stigma 7- Intended to 8- Don't like
90.	int_fut	Intended to use contraception in future ?	1- Yes 2- No
91.	yes_wat	If Yes , which method you use	1- Tubectomy 2- Vasectomy 3- Intrauterine devices 4- Sterilization 5- Condom
92.	con_serv	Modern contraceptive service recently accessed	0- Not recently accessed 1- Tubectomy 2- Intrauterine device 3- Oral pills 4- Injectables 5- Condom
93.	start_use	When did the most recent episode of use start (in months)	
94.	vol_use	Did you voluntarily take up contraception	1- Yes 2- No
95.	met_choc	Is it the method of your choice	1- Yes 2- No
96.	plac_serv	The place where you seek contraceptive services most recently?	1- PHC 2- District/Taluk hospital 3- Medical college hospital 4- Private hospital 5- Others
97.	apprx_dis	Approximate distance of healthcare centre in Kms	
98.	24_hrs	Are services available 24x7	1- Yes 2- No 3- Don't know
99.	tim_care	Time to wait before you were attended to by the healthcare provider	1- < ½ hour 2- ½ hour -1 hour 3- 1 hour -2 hour 4- >2 hour
100.	gen_prov	Gender of the healthcare provider	1- Male 2- Female 3- Both

101.	mal_mat	Comfortable with Male healthcare provider	1- Yes 2-No 3-Doesn't matter
102.	att_hp	Attitude of the healthcare provider	1- Respectful 2- Somewhat respectful 3- Not respectful
103.	crct_use	Were you explained regarding the correct usage of your contraceptive method	1- Yes 2- No
104.	pvnt_prg	Were you explained regarding how the method prevents pregnancy	1- Yes 2- No
105.	side_eff	Were you explained regarding common side-effects of the method	1- Yes 2- No
106.	signs_ret	Were you explained regarding signs and symptoms that would necessitate a return to the facility	1- Yes 2- No
107.	rel_eff	Were you explained regarding the relative effectiveness of the method	1- Yes 2- No
108.	disc_fert	Were you explained regarding return to facility after discontinuing use of the method	1- Yes 2- No
109.	prior_use	Were given the above information prior to use	1- Yes 2- No
110.	other_met	Were you given information regarding other methods that could be used	1- Yes 2- No
111.	undrstnd	Did the provider make sure you understood the given information	1- Yes 2- No
112.	allow_tim	Did the provider allow time for questions	1- Yes 2- No
113.	clients	Were the other clients seated where they could hear your interaction with the provider	1- Yes 2- No
114.	inv_proc	Were any invasive procedures done in an area secluded/blinded by curtains	1- Yes 2- No
115.	consent	Was your consent obtained before any invasive procedure	1- Yes 2- No
116.	folllw_up	Provider schedule a follow – up visit ?	1- Yes 2- No
117.	probs	Did you experience any problems with the given method?	1- Yes 2- No
118.	wat_se	If experienced, what were they	
119.	app_care	Did you receive appropriate follow-up care for the side effects	1- Yes 2- No
120.	long_use	How long after starting use of method did you discontinue (in months)	
121.	reas_disc	Reason for discontinuing use of contraception	0- still using 1- Desire to become pregnant

			2- side effects/ health concerns 3- Method failure 4- Infrequent sex/husband away 5-Objection from spouse/family 6- Expelled 7-Compelled
122.	swch_rem	Did the service provider comply with your request for removal/ switching of methods	1- Yes 2- No 3-NA
123.	infrml_p	Did you have to pay informal payments for services that were meant to be free of cost	1- Yes 2- No
124.	loan	Did you have to take a loan or borrow to afford expenses related to contraception	1- Yes 2- No
125.	rate_care	On the whole , how would you rate the care you received	1- Very good 2- Good 3- Satisfactory 4- Poor
126.	without_kndge	Was a modern contraceptive method ever given to you by a healthcare provider without your knowledge or consent	1- Yes 2- No
127.	compelled	Were you ever compelled to take up a modern contraceptive method	1- Yes 2- No
128.	method	If yes, what method of modern contraception	1- Tubectomy 2- Intrauterine device 3- Injectables 4- oral pill
129.	when	When was the modern method of contraception given	1- After delivery 2- After abortion
130.	where	Where was it given ?	1-PHC 2-District/Taluk hospital 3-Medical college hospital 4-Private hospital 5-Others

id_no	age	edu	occ	indiv_sa	fam_sal	no_pci	rel	dec	dec	go	age_age	ste	mor	spac	no	no	1_sr	1_int	1_d	1_ag	1_ide	dec	why	ide	dec	sp	sel	self	sp	hp	hp	wat	hp	hp	hp	kn	kn	kn	kn	kn	kn	kn	kn	kn	sou	us	use	use	use	use							
pp252	27	4	0	99	12000	4	3000	1	99	2	1	19	19	0	2	99	2	2	1	0	1	1	6	119	2	2	3	99	4	3	1	1	1	3	1	2	2	99	1	0	0	1	1	1	1	1	0	1	1	4	0	0	0	0			
pp253	31	3	2	2000	12000	4	3000	1	1	2	1	24	25	1	2	99	2	2	12	0	0	2	2	77	1	2	3	99	3	3	1	2	2	1	1	1	1	1	1	1	1	1	0	1	1	1	1	0	1	1	4	1	0	0	0	0	
pp254	25	4	0	99	12000	3	4000	1	99	3	1	22	22	0	1	1	1	1	1	0	1	2	3	38	1	2	2	99	3	2	1	1	2	1	1	2	2	99	2	2	99	1	0	1	1	1	1	0	0	0	3	1	0	0	0	1	
pp255	25	4	0	99	10000	4	2500	1	99	2	1	21	21	1	2	99	2	2	1	0	0	2	4	180	1	2	2	99	2	2	1	2	1	3	1	2	2	99	1	1	3	1	0	1	1	1	0	0	1	4	1	0	0	0	0		
pp256	23	5	0	99	20000	3	6667	1	99	3	2	22	222	0	1	1	1	2	0	1	2	4	18	1	2	3	99	3	3	1	5	5	0	1	2	2	99	2	2	99	0	0	1	0	1	0	1	1	0	0	0	0	0				
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pp258	26	6	0	99	25000	3	8333	1	99	1	1	23	23	0	2	99	3	1	1	0	0	2	4	35	2	2	3	99	3	3	2	2	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	2,5	0	0	0	0	0	0			
pp259	24	6	0	99	12000	5	2400	1	99	1	1	22	22	0	1	1	1	1	1	0	0	2	4	16	1	2	3	99	3	3	1	1	1	1	1	1	2	99	2	2	99	1	1	1	1	1	1	0	1	0	3	1	1	0	0	0	0
pp260	30	6	0	99	27000	3	9000	2	99	2	1	25	25	0	1	1	1	1	4	0	0	2	3	57	1	2	3	99	3	3	1	1	1	1	1	1	2	99	2	2	99	1	1	1	1	1	1	1	1	1	3,4	0	0	0	0	0	0
pp261	29	6	0	99	20000	4	5000	1	99	1	1	21	21	0	2	99	3	2	1	0	0	1	4	95	1	2	3	99	3	3	1	1	1	1	1	2	1	1	1	1	1	1	0	1	1	1	1	1	0	1	7	1	1	0	0	1	
pp262	37	2	0	99	17000	6	2833	1	99	2	2	25	25	1	2	99	2	3	2	0	0	2	4	132	1,2	2	2	1	5	2	1	0	1	0	1	1	2	99	1	1	1	0	0	1	1	1	1	1	0	0	0	4	1	0	0	0	0
pp263	29	3	2	2500	17500	4	4375	1	3	1	1	18	21	0	2	99	2	2	36	0	0	1	1	90	1	2	1	99	3	3	2	2	1	2	2	2	2	99	1	1	3	1	0	0	1	0	1	1	0	1	1	4	0	0	0	0	0
pp264	27	6	0	99	10000	3	3333	1	99	1	1	18	27	0	2	99	1	1	108	0	0	1	4	26	2	1	3	99	5	3	1	2	1	2	1	1	2	99	2	2	3	1	1	1	1	1	1	0	1	1	4	0	0	0	0	0	
pp265	36	6	0	99	15000	5	3000	1	99	1	1	29	30	0	2	99	2	2	18	0	0	2	4	56	1	2	3	99	2	3	1	2	2	1	1	2	2	99	2	2	99	1	0	1	1	0	1	0	1	1	7	0	0	0	0	0	
pp266	27	6	0	99	45000	5	9000	1	99	1	1	24	25	0	1	1	1	18	0	0	2	2	5	1	1	4	99	3	3	1	1	2	1	1	1	1	1	2	2	99	1	0	0	1	0	1	0	1	1	0	1	7	1	0	0	0	1
pp267	29	4	0	99	17000	4	4250	1	99	1	1	23	23	1	2	99	2	2	4	0	0	2	2	62	1	2	3	99	4	3	1	1	1	1	1	2	99	1	1	10	1	0	0	1	0	1	1	0	1	4	1	0	0	0	1		
pp268	21	4	0	99	7000	6	1167	2	99	1	1	16	16	0	2	99	2	2	1	0	1	1	1	47	2	2	3	99	4	3	1	2	1	1	1	1	1	9	1	1	99	1	0	1	1	0	1	1	0	1	5	1	0	0	1	0	
pp269	25	5	0	99	15000	4	3750	1	99	2	1	21	21	1	2	99	2	2	3	0	1	2	3	45	2	2	1	99	3	1	1	2	1	1	1	1	1	11	1	1	3	1	0	1	1	1	1	0	0	1	2,8	1	0	0	0	1	
pp270	20	5	0	99	30000	4	7500	1	99	1	1	18	18	1	2	99	2	2	1	0	0	1	3	25	2	2	3	99	2	3	1	0	1	1	1	1	2	99	2	2	4	1	1	1	1	1	1	1	1	1	5	1	0	0	0	0	
pp271	29	5	0	99	15000	4	3750	1	99	2	1	24	25	1	2	99	4	2	9	0	0	2	4	65	2	2	2	99	3	2	1	1	1	3	1	1	1	10	1	1	1	1	1	0	1	1	1	1	1	1	3	1	0	0	0	0	
pp272	22	6	0	99	13000	4	3250	1	99	1	1	18	19	1	2	99	2	2	12	0	0	1	4	42	1	1	4	3	3	4	2	2	1	3	1	1	2	99	2	2	99	1	1	1	1	1	1	0	0	0	7	1	0	0	0	0	
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pp274	25	5	0	99	12000	3	4000	1	99	2	1	21	22	0	1	1	1	1	12	0	0	2	3	22	1	2	3	99	4	3	1	2	1	1	1	1	2	99	1	2	7	1	0	1	1	1	1	1	0	1	4	1	1	0	0	0	
pp275	28	4	0	99	15000	4	3750	1	99	2	1	21	21	1	2	99	2	2	3	0	0	2	4	71	1	2	3	99	3	4	2	2	1	3	1	2	2	99	2	2	99	1	0	1	0	0	1	1	0	0	1	3,5	1	0	0	0	0
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pp281	24	4	0	99	20000	6	3333	1	99	2	1	18	19	0	2	99	2	2	12	0	0	1	1	70	2	2	2	99	1	2	1	2	1	3	2	2	99	1	1	5	1	1	1	1	1	1	0	0	1	3	0	0	0	0	0		
pp282	34	6	0	99	20000	4	5000	1	99	1	1	28	29	1	2	99	2	2	11	0	0	1	1	50	2	2	3	99	4	3	1	1	1	1	1	2	99	1	1	3	1	0	0	1	0	1	0	0	2	1	0	0	0	0			
pp283	31	3	0	99	10000	4	2500	1	99	1	1	28	28	1	2	99	3	2	2	0	0	3				2	3	99	3	3	1	2	1	3	1	1	1	1	1	1	1	1	0	0	1	1	1	1	0	1	4	1	0	0	0	0	
pp284	32	6	1	35000	70000	4	17500	1	2	3	1	30	30	0	2	99	2	2	2	0	0	1	4	29	1	2	5	99	2	4	1	2	1	3	1	1	1	1	1	1	1	1	0	1	1	1	1	0	0	1							

id_no	use	us	us	us	ded	va	no	nev	int	yes	cor	star	vol	met	who	plac	appr	24	tim	gen	mal	att	crct	pvnt	side	sign	rel	disc	prior	othe	und	allow	clien	inv	con	folw	prot	wat	app	long	reas	swcl	infr	loan	rate	force	coer	meth	whe	whe								
m2151	0	1	0	0	3	2	5	99	99	99	1	34	1	99	99	99	99	23	1	99	2	99	3	2	2	2	2	2	99	2	99	99	4	4	99	1	1	1	1	1	5	99	99	99	2	99	3	1	2	2	1	3						
m2152	0	0	0	0	3	3	5	99	2	99	3	##	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99							
m2153	0	0	0	0	3	3	5	2	1	1	0	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99						
m2154	0	0	0	0	1	3	5	99	1	1	2	15	1	1	99	4	20	1	99	3	3	1	2	2	2	2	2	1	1	1	1	1	99	2	1	99	1	1	1	1	1,6	1	0	99	99	2	99	3	2	2	2	99	99	99				
m2155	0	0	0	0	2	3	5	99	1	1	2	19	1	2	99	4	20	1	99	1	1	1	1	2	2	2	2	1	1	1	2	2	2	2	1	1	1	1	2	99	99	3	6	1	99	99	2	2	2	2	99	99	99					
m2156	0	1	0	0	4	2	5	99	99	99	1	3	1	99	99	4	10	1	99	3	1	1	1	1	1	1	1	1	1	99	1	99	2	1	2	99	1	2	2	99	99	99	99	99	99	2	99	2	2	2	99	99	99					
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m2158	0	0	0	0	1	4	99	7	1	1	0	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99					
m2159	0	0	0	0	1	4	99	2	1	1	0	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99				
m2160	0	0	0	0	2	3	5	99	1	1	2	32	2	2	1	4	5	1	99	2	99	2	2	2	2	2	2	2	2	2	2	2	2	2	99	4	4	3	3	1	1	1	2	3	2	1	1	2	3	1	2	2	1	3				
m2161	0	1	0	0	2	2	5	99	99	99	1	84	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99				
m2162	0	0	0	0	1	3	5	2,8	1	1	0	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99			
m2163	0	0	0	0	1	1	99	99	1	1	2	15	2	2	1	4	22	1	99	2	99	1	2	2	2	2	2	2	2	2	2	2	2	99	4	4	99	2	2	1	4	1	1	2	1	2	99	3	1	2	2	1	3					
pt164	0	1	0	0	2	2	4	99	99	99	1	30	1	99	99	2	4	1	99	2	99	1	2	2	2	2	2	2	2	2	2	2	99	1	1	99	1	1	2	99	99	99	99	2	99	1	2	2	2	99	99	99						
pt165	0	1	0	0	2	2	3	99	99	99	1	48	1	99	99	2	4	1	1	1	3	1	2	2	2	2	2	2	2	2	2	2	2	99	2	1	99	2	1	1	1	1	99	99	99	2	99	3	2	2	2	99	99	99				
pt166	0	0	0	0	3	4	99	99	1	1	2	48	2	2	1	2	4	1	1	3	1	2	2	2	2	2	2	2	2	2	2	2	99	2	1	1	2	2	2	99	99	0	99	99	2	99	2	1	2	2	1	1						
pt167	0	1	0	0	1	1	99	99	99	99	1	18	1	99	99	4	23	1	99	2	99	1	2	2	2	2	2	2	2	2	2	2	99	2	99	99	2	1	99	2	2	2	99	99	99	99	2	99	2	2	2	99	99	99				
pt168	0	0	0	0	1	4	99	99	1	1	2	16	2	2	1	5	5	1	2	2	99	3	2	2	2	2	2	2	2	2	2	2	99	2	1	2	2	2	1	1	5	0	99	99	99	1	4	1	2	2	1	4						
pt169	0	0	0	0	1	3	5	99	1	1	2	24	1	1	99	4	22	1	99	1	1	3	2	2	2	2	2	2	2	2	2	2	2	99	2	1	1	2	2	1	1	1	8	2	1	1	99	4	2	2	2	99	99	99				
pt170	0	1	0	0	5	4	99	99	99	99	1	24	1	99	99	3	5	1	99	2	99	1	2	2	2	2	2	2	2	2	2	2	99	1	2	99	1	1	1	1	2	99	99	99	99	2	2	2	2	99	99	99						
pt171	0	0	0	0	3	3	5	5	1	1	0	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99			
pt172	0	0	0	0	3	3	5	1	1	0	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99		
pt173	0	0	0	0	3	3	6	99	2	99	5	1	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99		
pt174	0	0	0	0	3	3	6	3	2	99	0	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99		
pt175	0	1	0	0	3	2	4	99	99	99	1	36	1	99	99	2	3	1	1	1	3	1	2	2	2	2	2	2	2	2	2	2	99	2	2	99	1	2	2	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	
pt176	0	0	0	0	1	3	4	99	1	1	2	2	2	2	1	4	20	1	1	2	99	1	2	2	2	2	2	2	2	2	2	2	99	2	1	1	2	2	1	7	2	10 d	6	1	1	99	1	2	1	2	1	3						
pt177	0	1	0	0	1	1	99	99	99	99	1	5	1	99	99	5	5	1	3	2	99	1	2	2	2	2	2	2	2	2	2	99	2	99	99	2	1	99	1	1	2	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99		
pt178	0	1	0	0	1	2	4	99	99	99	1	4	1	99	99	5	5	1	4	2	99	1	2	2	2	2	2	2	2	2	2	99	2	99	99	2	4	99	1	1	2	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99		
pt179	0	0	0	0	3	3	5	8	1	1,3	0	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	
pt180	0	0	0	0	2	1	99	99	1	1	2	12	2	2	1	4	28	1	2	2	99	1	2	2	2	2	2	2	2	2	2	2	99	2	4	1	2	1	1	7	2	3 da	6	99	1	99	99	99	99	99	99	99	99	99	99	99	99	
pt181	0	0	0	0	99	#	99	3	1	1,5	0	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	
pt182	0	0	0	0	99	#	99	2	1	1	0	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99
pt183	0	1	0	0	2	4	99	99	99	99	1	60	1	99	99	4	22	1	1	2	99	1	2	2	2	2	2	2	1	99																												

Urkund Analysis Result

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Submitted: 10/17/2019 6:48:00 PM
Submitted By: shrutheesg@gmail.com
Significance: 6 %

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Instances where selected sources appear:



GOVERNMENT STANLEY MEDICAL COLLEGE & HOSPITAL, CHENNAI -01
INSTITUTIONAL ETHICS COMMITTEE

TITLE OF THE WORK : A COMMUNITY BASED STUDY ON PERSON CENTERED CARE
IN FAMILY PLANNING AMONG WOMEN AVAILING
REPRODUCTIVE HEALTHCARE IN KANCHIPURAM DISTRICT
PRINCIPAL INVESTIGATOR : DR. SHRUTHEE S.G
DESIGNATION : THIRD YEAR PG IN COMMUNITY MEDICINE,
DEPARTMENT : DEPARTMENT OF COMMUNITY MEDICINE,
GOVT. STANLEY MEDICAL COLLEGE.

The request for an approval from the Institutional Ethical Committee (IEC) was considered on the IEC meeting held on 21.11.2017 at the Council Hall, Stanley Medical College, Chennai-1 at 10am.

The members of the Committee, the secretary and the Chairman are pleased to approve the proposed work mentioned above, submitted by the principal investigator.

The Principal investigator and their team are directed to adhere to the guidelines given below:

1. You should inform the IEC in case of changes in study procedure, site investigator investigation or guide or any other changes.
2. You should not deviate from the area of the work for which you applied for ethical clearance.
3. You should inform the IEC immediately, in case of any adverse events or serious adverse reaction.
4. You should abide to the rules and regulation of the institution(s).
5. You should complete the work within the specified period and if any extension of time is required, you should apply for permission again and do the work.
6. You should submit the summary of the work to the ethical committee on completion of the work.


MEMBER SECRETARY,
IEC

LIST OF EXPERTS

S.no	Name of the expert	Designation
1.	Dr. T.K. Sundari Ravindran, M.Sc, Ph.D	Retired Professor of Public Health, Sree Chitra Tirunal Institute for Medical Sciences and Technology, Trivandrum.
2.	Dr. Subha Sri Balakrishnan, M.D. (OG)	Senior Technical Officer, Liverpool School of Tropical Medicine, Liverpool, England.
3.	Mr. Boopathy	Biostatistician, NIE-ICMR, Chennai.