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Perceptions of reversible and permanent contraception in India

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PERCEPTIONS OF REVERSIBLE AND PERMANENT CONTRACEPTION IN INDIA

by

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ABSTRACT

Background: In 1951 India became the first country to launch a national family planning program focused on promoting reversible and permanent contraception including financial incentives for both method acceptors and providers. Despite governmental provision of the copper intrauterine device (IUD), oral contraceptive pills (OCP) and condoms at no cost, most Indian women choose permanent sterilization after completing childbearing. Whether the predominance of sterilization stemmed from Indian men and women's desire for permanent contraception, from deficient knowledge and access to reversible methods, from public health messages and established norms, or from coercion in the form of incentives is unknown.

Objectives: The primary objective of this study is to understand the perceptions, attitudes and beliefs towards reversible and permanent contraception among Indian women and men in an urban Indian setting. The secondary objective is to determine the extent of interest in potential non-surgical forms of permanent contraception.

Methods: This cross-sectional study used qualitative data collection methods (focus group). The sampling frame included subgroups of married women, married men, mothers-in-law and women's health advocates. Thematic saturation was achieved after three focus groups per subgroup with 9-14 participants per focus group. The discussion guide was developed and modified iteratively to illicit the perceptions, attitudes and beliefs towards family spacing, contraceptive decision making and contraception method preference. Two independent coders analyzed the qualitative data using modified grounded theory. Participants completed a baseline survey containing demographic information, brief obstetric history, and contraceptive use and knowledge.

Results: All subgroups expressed concern about contraceptive side effects and risks, with a preference for non-hormonal methods (female sterilization and condoms). Male sterilization was considered unacceptable by the vast majority of participants in all four subgroups, and perceived as causing a physical weakness that diminishes their ability to work. Among the married women, married men, and mothers-in-law subgroups, male sterilization failure, evidenced by a wife's pregnancy, implies a wife had an extra-martial affair. Women's health advocates believed that women desired a reversible contraceptive method. Many women's health advocates and married women believed that female sterilization was reversible.

Conclusions: Married women and advocates expressed a strong preference for a highly effective reversible and side-effect free method of contraception. Counseling and consent for female sterilization, the dominant contraceptive method, must emphasize the irreversibility of the procedure. While additional reversible methods should be developed, if new permanent methods are developed, their permanence must be stressed.

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Introduction

In 1951 India became the first country to launch a national family planning program (1-3). The goal of the program was to reduce birth rates and "stabilize the population at a level consistent with the requirement of national economy," (4). That role has evolved to "achieve population stabilization" and "promote reproductive health and reduce maternal, infant and child mortality and morbidity," (4). The program continues today and has focused on promoting reversible and permanent contraception, including the use of incentives both to method acceptors and to providers. Through the National Family Planning program a wide variety of contraceptive methods are available at no cost (see table 1). The family planning program's effectiveness and image were negatively impacted in 1975 by Prime Minister Indira Gandhi's policies linking financial assistance to states that performed sterilization (1, 5). From 1975-1977, known as the Indian Emergency, a spike in population growth was met with the introduction of aggressive sterilization policies directed primarily towards Indian men (5). During this period aggressive sterilization camps were held nationally; approximately 8.3 million individuals were sterilized (5).

Table 1: Contraceptive methods available at no cost in India

Spacing Methods	Limiting Methods
Intrauterine devices (IUD or IUCD): IUD 380A, Cu IUD 375	Female sterilization: Laparoscopic, mini-laparotomy
Injectable depot medroxyprogesterone acetate (DMPA)	Male sterilization: Non-scalpel vasectomy (NSV, conventional vasectomy
Combined oral contraceptive	
Selective estrogen receptor modulator (SERM)	
Emergency contraception	
Progesterone-only pill	
Condoms	

Adapted from National Health Mission, Ministry of Health & Family Welfare, Government of India. Available at http://nrhm.gov.in/nrhm-components/rmnch-a/family-planning/background.html

India has the largest number of women with unmet need for contraception in the world and a low diversity of method use; the United Nations estimates this unmet need for contraception at 12.8% (6,7). The population as of 2015 is estimated at 1,251,695,584 with women between 15-54 years of age estimated at 353,390,561 (8). Married and postpartum women have the highest unmet needs at 22% and 65% respectively (9). The diversity of contraceptive methods is low and most women choose sterilization or natural family planning (21). In 2010, 56.3% of Indians reported using any method of contraception: 37.3% used female sterilization, 1% male sterilization, 3.1% the "pill," 1.8% "injectables, implant" or IUD, and 7.8% "rhythm, withdrawal, or other traditional

methods" (6). Tubal sterilization is the most popular primary method of contraception used: 66% of couples in 2005 reported use of female sterilization (5, 10).

Among the available contraceptive methods, it is unclear if the popularity of female sterilization is due to lack of knowledge and access, a proportionally larger promotion of sterilization over other methods for contraception, or a true preference for this method. Of women undergoing induced abortion, only 7.8% report contraceptive failure as their primary reason, indicating a possible lack of knowledge or access to contraceptive diversity (11). Long acting reversible contraceptives (LARC), methods that are both highly effective and not associated with adverse surgical events, could add great benefit to the method mix in India. While LARCs are as effective as permanent sterilization and provided at no cost in India, uptake of such methods remains low with only 1.7-3.3% using the IUD (1, 6).

There is also the potential for coercion due to the monetary incentives provided by the Indian national family planning program. Concerns of reproductive coercion have plagued the program since Prime Minister Gandhi initiated sterilization camps (1, 5). Monetary incentives are provided to both method acceptors, Indian men and women, and method motivators, health workers who counsel and escort Indian men and women to surgical centers, for permanent contraception only, such as tubal sterilization and vasectomy. In rural India, 76.1% of women seeking sterilization procedures had no understanding of the method's failure rate and 93.6% were unaware of possible complications (10). Only 2.8% had thought about the possibility of future sterilization regret (10). In another study, approximately 5% of women reported sterilization regret, with higher rates of regret among women sterilized at age 25 or younger, women who

experienced loss of a child, women of Muslim religion and with daughters only (5). However, the age of female sterilization is decreasing, from 27 to 25 years of age from 1992 to 2005, and female sterilization still accounts for 66% of contraceptive use with 5% of sterilized women between the ages of 15-49 years (5).

It cannot be assumed that reproductive coercion exists in India. There is no denying the history of forced sterilization in India during The Emergency, however permanent contraception in India for women may simply be the preferred contraceptive method due to ease and permanence. If permanent sterilization for women is perceived positively, development of a non-surgical approach could be beneficial in eliminating adverse surgical events and increasing access to this desired method beyond the confines of the operating room. Currently, there is no such method available. However there has been increasing interest in this area with the Bill & Melinda Gates Foundation awarding a $5 million grant for research into the development of a potential non-surgical method of permanent contraception (12). An initial non-surgical permanent contraception perception study was conducted in 2014 with preliminary results indicate interest among reproductive aged women in non-surgical forms of permanent contraception (13). If equally efficacious, a non-surgical form of permanent contraception may increase convenience and access over surgical sterilization beyond the immediate postpartum period with decreased cost.

This qualitative study is expected to generate hypotheses by understanding the perceptions, attitudes and beliefs towards reversible and permanent contraception among Indian women and men in an urban Indian setting. With this study, participants will

identify areas in reproductive healthcare and contraception in which they desire increased empowerment and knowledge.

Objectives for the research are as follows:

1. The primary objective is to understand the perceptions, attitudes, and beliefs towards reversible and permanent contraception among Indian women and men in an urban setting.
2. A secondary objective is to determine if interest exists in potential non-surgical forms of permanent contraception.

Since this study uses qualitative methodologies, the aims are not guided by specific hypotheses. Data and inferences based on the study will permit the generation of hypotheses that can be tested in future studies.

This study will help gain insight on perceptions, attitudes, and beliefs of various forms of contraception available in India. Sociocultural factors are complex and play a significant role in contraceptive decision making. We currently lack knowledge of barriers specific to contraception use and the diverse contraceptive methods used by Indian men and women. This will be the first study in India investigating both why contraceptive diversity is low in India, and if coercion plays a role in decision making among urban Indian men and women's decision to pursue permanent contraception.

Methods

Search strategy

This search strategy focused on queries to PubMed and an additional query to Web of Science performed on March 14, 2016.

In querying PubMed, I proceeded to http://www.ncbi.nlm.nih.gov/mesh. Using the MeSH database in PubMed, I included the following search terms: India, Contraception. I entered, without quotations, "India" in the search bar. Click on "India," and add to the search builder. I then entered, without quotations, "Contraception" in the search bar and add this to the search builder. This initial search resulted in 671 results. Additional restrictions of "Human subjects only" and "English language only" were selected. This subsequent search yielded 317 results.

"India"[Mesh] AND "Contraception"[Mesh] AND ("humans"[MeSH Terms] AND English[lang])

I reviewed the titles for the 317 results and identified items to be included and excluded. Below is a table (Table 2) detailing inclusion and exclusion criteria. Of these results, 198 were excluded for the following reasons: not a research article; focusing on the introduction of new reversible methods; relating primarily to abortion rights, emergency contraception, adolescents or STIs; focusing on medical training, immunizations; dealing mostly with contraceptive methods available outside of India; primarily involving contraception for single women; focus on unrelated medical topics; or focus on legal, ethical, or economic policy. 119 articles were included as relevant.

In querying Web of Science, proceed to https://webofknowledge.com/. Enter "India" without quotations into the first toolbar and select "Topic." In the second toolbar enter "sterilization" without quotations and select "Topic." In the third toolbar enter "regret" without quotations and select "Topic." This query resulted in 12 results. After restricted to "Language – English" there were only 10 results.

The search history is as follows:

You searched for: TOPIC: (india) *AND* TOPIC: (sterilization) *AND* TOPIC: (regret)

Refined by: LANGUAGES: (ENGLISH)

Timespan: All years.

Search language=Auto

Table 2: Exclusion criteria for search strategy

Excluded (198 results)
Reasons for exclusion:

- Introducing new contraceptive methods 19
- Not a research article 38
- Abortion/reproductive rights 5
- Emergency contraception 12
- Adolescents only 8
- STI's/HIV 2
- Medical provider's knowledge/training 5
- Immunizations/vaccines 5
- Contraception outside India 10
- New method for increasing contraceptive use 14
- Single women 1
- Maternal/prenatal/postpartum health 7
- Rabies or tuberculosis 3
- Domestic violence 1
- Quality of care 1
- Unrelated medical topics (dysmenorrhea, menopause, pelvic inflammatory disease, vas deferens) 4
- Research practices 3
- Legal 9
- Ethics 7
- Trends in population control 15
- International policies 4
- Mentally handicapped 3
- Military 3
- Fertility 3
- Childcare and health of children 4
- Economic policy 4
- Psychology/sociology 4
- Other (genetic counseling, sex workers, Gandhi, fetal loss in gas victims, tea estates) 5

Study design and setting

This qualitative study utilizing focus groups was a collaboration between investigators at the University of New Mexico Health Sciences Center and the All Indian Institute of Medical Sciences (AIIMS) in Delhi, India. We chose Delhi as our study site due to the diversity in socioeconomic classes and religion and the research infrastructure our collaborators had in the area.

Research was conducted in Delhi, India in two locations—AIIMS hospital in Delhi and an AIIMS health clinic in Dakshinpuri Extension resettlement colony in South Delhi—from October 2015-November 2015. The University of New Mexico (UNM) Health Science Center Human Research Review Committee, ethics committee of AIIMS, and Indian Council of Medical Research (ICMR) Health Ministry's Screening Committee (HMSC) approved this study. AIIMS is a well-known Indian government hospital with multiple campuses and an established research infrastructure at their Delhi location.

Identification of stakeholders

In defining whom to choose as study participants, stakeholders in the contraceptive decision making process were first defined. Our collaborators in India expressed a concern in including unmarried women in our study as this would imply that unmarried women had had sexual intercourse, a social taboo in India. Therefore we were limited to including only married women. Men's beliefs and how women perceive those beliefs are also influential in the contraceptive decision making process for women. "Husband objected" was the main reason (32.3%) for not accepting post abortal contraception by women undergoing induced abortion in rural India while 42.8% of the

time decision to terminate the pregnancy was made by the husband (11). The contraceptive opinions expressed by mothers-in-law also have a large impact during the decision making process. While mothers-in-law were found to have an important influence on the timing of their daughter-in-laws' sterilization, mothers-in-law did not have the same influence on reversible contraceptive methods (14). Therefore, in addition to married women and married men, mothers-in-law may also be key stakeholders in the contraceptive decisions of their daughters-in-law. We also included women's health advocates, comprised of anyone clinically involved in reproductive health advocacy, among stakeholders as these individuals typically are responsible for some component in contraceptive counseling.

Recruitment

Our focus group participants were recruited directly by Multi-Purpose Health Workers (MPHW) affiliated with AIIMS, who approached participants at a) AIIMS hospital (i.e., outpatient obstetrics, gynecology, and community medicine clinics on-site) and b) Dakshinpuri Extension resettlement colony health clinic, in South Delhi. Dakshinpuri Extension is approximately 8 kilometers from the AIIMS main hospital campus. The population of this colony is approximately 60,000 and enabled the recruitment of participants who are not currently seeking healthcare services from AIIMS and are less likely to seek healthcare at a hospital. The outpatient gynecology department at AIIMS sees between 100-500 patients per week, ensuring adequate recruitment for our proposed research. Participants were recruited through convenience sampling by personal

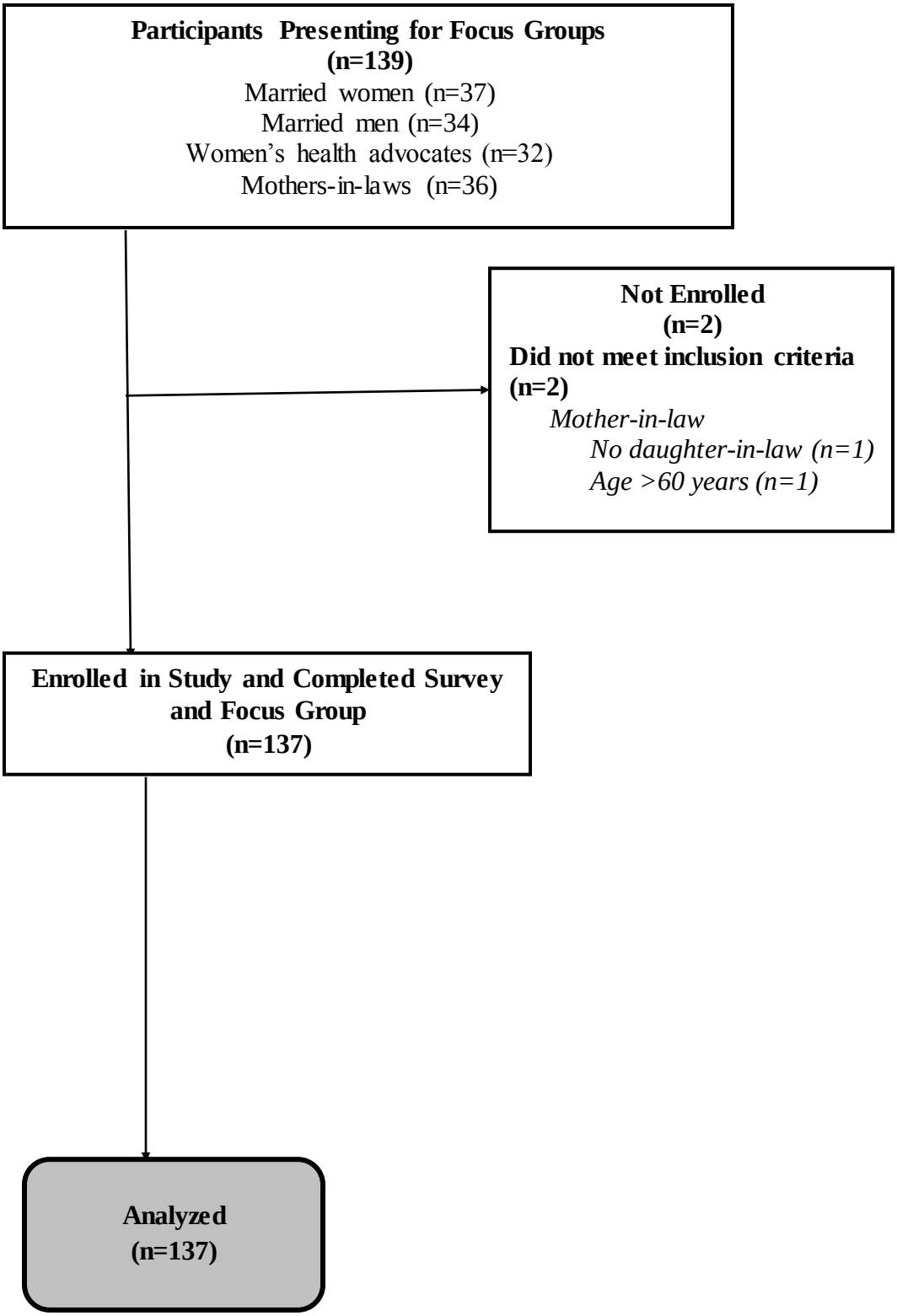
outreach of MPHW and snowball sampling from other recruited participants. Inclusion criteria for the four subgroups were:

1. Married women
    - Aged 18-45 years
    - Have at least one child
2. Married men
    - Aged 21-45 years
    - Have at least one child
3. Women's health advocates
    - Aged 18 years or older
    - Clinically involved in reproductive health advocacy, including access to contraception
4. Mothers-in-laws
    - Aged 40-60 years
    - Must have a living daughter-in-law

Within the married women subgroup, 37 participants presented for participation, all met screening eligibility criteria and were enrolled, completing focus group participation with 12-13 per focus group. Within the married men subgroup, 34 participants presented for participation, met screening eligibility criteria, enrolled, and completed focus group participation with 11-12 per focus group. Within the mother-in-law subgroup, 36 participants presented for participation, 34 met screening eligibility criteria, 34 were enrolled, and 34 completed focus group participation with 12-13 per

focus group. Two mothers-in-law did not meet eligibility criteria: one did not have a daughter-in-law and one was > 60 years of age. For the women's health advocates subgroup, one focus group was completed with lay male providers (community health workers), one with lay female providers (primarily ASHAs and two nurses), and one with OB/GYNs ranging from chief residents to senior physicians. Within this subgroup, 32 participants presented for participation, all met screening eligibility criteria, all were enrolled, and all completed focus group participation with 9-14 per focus group. Please see Figure 1 for detailed study flow of participants.

FIGURE 1: Participant recruitment flow



Each member of a sub-group was recruited independently of the others with only a single participant per nuclear family recruited. The age groups for married men and women are different as the legal age of marriage in India is 18 years for women and 21 years for men. Due to the availability of interpreters and focus group moderators, potential participants were excluded if they were unable to speak English or Hindi, unable or unwilling to provide informed consent, and unable to travel to the focus groups site.

After participants underwent the informed consent process, they were asked to complete a confidential registration form (in either Hindi or English). If participants were unable to read or write or preferred to complete these forms orally, both informed consent and the confidential registration form were completed with the assistance of a research assistant verbally in a private setting. Participants received 300 rupees as compensation for lost wages and inconvenience for participating in the study.

Development of research instruments

Using qualitative methodology, we developed a focus group discussion guide in order to explore contraceptive perceptions of married women, married men, mothers-in-law, and women's health advocates (Appendix A). Our objective was to characterize a full range of participant responses within three domains: family size and spacing, contraceptive decision making, and perceptions of contraception. During the process of conducting the focus groups we observed that the participants' reports of female sterilization reversal was an additional area worth exploring and directly related to our second objective.

Through an iterative process, the principal investigator and co-investigators at both UNM and AIIMS created a discussion guide and registration form to capture themes of high value (contraceptive knowledge, contraceptive decision making process) as well as demographic information (Appendix B). The discussion guide was then continually modified through an iterative process with each focus group conducted. Both the discussion guide and registration form were pilot-tested at AIIMS. One pilot-test of the discussion guide and registration form was conducted among each of the four subgroups of participants. Minor changes were made to these instruments after completion of pilot-testing.

Additionally, an aggregate socioeconomic scale was calculated for each participant using a validated scale used routinely by AIIMS. The Kuppuswamy economic scale is calculated using education, occupation and income of the respondent (15).

Study Implementation

Focus group discussions were moderated by social workers and social scientists from AIIMS, who had undergone training in focus group moderating. Four virtual focus group training sessions via video-conferencing were conducted with the socials workers and social scientists from AIIMS who were selected to serve as the moderators. This training was designed and implemented with the assistance of a social scientist with vast experience in qualitative methodology, leading focus groups, and a prior research background in the Indian sub-continent. The curriculum during these four virtual sessions included: key aspects of a focus group, discussion of qualitative methodology, qualities of good facilitators, potential challenges with focus groups (including discussion of

reactivity, group effects, polarization), varying cultural factors and a competency check list. Mock focus groups were also completed as a part of the training and all moderators reported feeling adequately prepared and trained prior to moderation.

Participants were recruited in each subgroup until thematic saturation was reached in each subgroup. Those that participated in the pilot-test were not included in the study. Within the women's health advocates subgroup three separate focus groups were conducted: one with obstetrician gynecologist (OB/GYN) physicians, one with male multi-purpose health workers, and one with female gynecology nurses and accredited social health activists (ASHAs).

Focus groups took place after completion of consent and registration forms. We conducted 12 focus groups total, 3 per subgroup, at which thematic saturation for each subgroup was achieved. All focus groups were conducted in private settings within closed rooms with minimal interruptions by research staff. Focus groups lasted between 45-90 minutes. Each focus group had between 9-14 participants.

Data analysis

Data was analyzed from both the registration forms and the focus group scripts. All transcripts were transcribed and translated using AIIMS certified translators. The registration forms provided general demographic characteristics. Focus group scripts were analyzed using content analysis, taking an inductive approach, where our observations led to recognition of patterns, resulting in the formulation of general conclusions.

Our primary and secondary objectives were analyzed using qualitative data analysis techniques. After reviewing the focus group transcripts, two members of our research team identified themes, reached consensus on codes, and created a codebook. We coded our 12 focus group scripts using Dedoose (2015), comparing our coding approaches during the analysis stage, and adding additional codes as new concepts emerged. Once coding was completed, we independently wrote up our coding memos and discussed the concepts that emerged from our data.

Quantitative data from the registration forms was obtained. Primary statistical analysis was descriptive. Upon noting a possible relationship between socioeconomic status and choice of contraception used at last intercourse, participant data for all four subgroups was combined and a Kruskal-Wallis equality-of-populations rank test analysis of variance was performed. Subsequent Mann-Whitney tests to compare differences between nonparametric variables were then performed. Contraception choices were collapsed into five broad categories with all methods chosen by participants included and no data excluded: female sterilization (including bilateral tubal ligation and hysterectomy); IUD (including post-partum IUD – PPIUD and levonorgestrel IUD); oral contraceptive pills (including emergency contraception); condoms (including withdrawal, rhythm method, and female condom given similar efficacy rates); nothing. Given that ten Mann-Whitney tests were conducted to determine differences between each of the five categories, a p-value of 0.005 was considered statistically significant. Kuppuswamy aggregate score was as socioeconomic scale marker. Data analysis was completed using Stata/SE 13.1 for Mac (StataCorp LP, College Station, TX).

Results

Quantitative results

Demographic information from the registration forms is summarized in Table 3. The median age range among married women, married men and women's health advocates was relatively similar (33.3, 37.7, and 35.2 years respectively). The median age at marriage varies between married women and men, and mothers-in-law; married women and men had a median marriage age of 22.7 and 23.0 years, while mothers-in-law had a median marriage age of 16.8 years. Additionally, mothers-in-law median number of pregnancies was 4.5 whereas married women and men median number was 2.6 and 2.5. Mothers-in-law also had a lower Kuppuswamy aggregate economic scale while women's health advocates had a higher aggregate scale when compared to all other subgroups.

Table 3: Participant Characteristics

Characteristic	Median (range)
Age (years)	
Married women (n=37)	33.0 (24-41)
Married men (n=34)	40.0 (26-46)
Mothers-in-laws (n=34)	58.5 (43-60)
Health advocates (n=32)	33.0 (23-45)
Kuppuswamy Economic scale*	
Married women (n=37)	9.0 (5-28)
Married men (n=33)	11.0 (4-28)
Mothers-in-laws (n=34)	7.0 (3-23)
Health advocates (n=32)	24.5 (10-29)
Age married (current or in past)	
Married women (n=37)	22.0 (14-32)
Married men (n=33)	23.0 (6-30)
Mothers-in-laws (n=34)	15.0 (12-28)
Health advocates (n=27)	27.0 (17-35)
Age at 1st pregnancy	
Married women (n=35)	23.0 (19-34)
Married men (n=33)	24.5 (18-39)
Mothers-in-laws (n=34)	20.0 (12-28)
Health advocates (n=23)	27.0 (19-36)
Number of pregnancies	
Married women (n=37)	2.0 (1-6)
Married men (n=31)	2.0 (1-7)
Mothers-in-laws (n=34)	4.0 (1-10)
Health advocates (n=29)	2.0 (0-5)
Number of live births	
Married women (n=37)	2.0 (1-4)
Married men (n=33)	2.0 (1-6)
Mothers-in-laws (n=34)	3.0 (1-9)
Health advocates (n=30)	1.5 (0-3)
Number of induced abortions	
Married women (n=37)	0.0 (0-4)
Married men (n=23)	1.0 (0-4)
Mothers-in-laws (n=34)	0.0 (0-2)
Health advocates (n=28)	0.0 (0-2)

*Kuppuswamy scale: (15)

26-29 Upper, 16-25 Upper Middle, 11-15 Lower Middle, 5-10 Upper Lower, <5 Lower

The majority of focus group participants identified as Hindu (93.4%) (results not shown in table). Two married women (5.4%) and two mothers-in-laws (5.9%) identified as Sikh, two married men (6.1%) identified as Jain, one mother-in-law (2.9%) and one women's health advocate (3.1%) identified as Muslim, and on women's health advocate (3.1%) identified as Christian. The majority of mothers-in-law reported living with their son (94.1%), while 35.1% of married women, 47% of married men, and 28.1% of women's health advocates reported living with their husband's mother.

All subgroups were asked about what method of contraception used the last time they had sex, with the results summarized in Table 2. No participant among all the subgroups reported using male sterilization. Mothers-in-law also relied on female sterilization more than other subgroups while no women's health advocates reported using this method; 35.3% of mothers-in-law, 18.9% of married women, 14.7% of married men, and 0% of women's health advocates reported using female sterilization as their method of contraception the last time they had sex. Of note, two women in the women's health advocates group reported using a 52 mg levonorgestrel IUD (LNG-IUD) for contraception and this method was included in the "other" category. This was not included in the "IUD or PPIUD" category as the LNG-IUD is not included by the Indian National Family Planning Program and is not consistently covered by private insurance.

Table 4: Method of contraception used during last sexual intercourse

Method	Number (%)
None – trying to get pregnant	
Married women (n=37)	6 (16.2%)
Married men (n=34)	6 (17.7%)
Mothers-in-laws (n=34)	NOT APPLICABLE
Health advocates (n=32)	0 (0%)
Nothing	
Married women (n=37)	3 (8.1%)
Married men (n=34)	0 (0%)
Mothers-in-laws (n=34)	19 (55.9%)
Health advocates (n=32)	4 (12.5%)
Female sterilization	
Married women (n=37)	7 (18.9%)
Married men (n=34)	5 (14.7%)
Mothers-in-laws (n=34)	12 (35.3%)
Health advocates (n=32)	0 (0%)
IUD or PPIUD	
Married women (n=37)	5 (13.5%)
Married men (n=34)	1 (2.9%)
Mothers-in-laws (n=34)	1 (2.9%)
Health advocates (n=32)	6 (18.9%)
Pill	
Married women (n=37)	0 (0%)
Married men (n=34)	3 (8.8%)
Mothers-in-laws (n=34)	0 (0%)
Health advocates (n=32)	2 (6.3%)
Emergency contraception	
Married women (n=37)	0 (0%)
Married men (n=34)	1 (2.9%)
Mothers-in-laws (n=34)	0 (0%)
Health advocates (n=32)	0 (0%)
Condom	
Married women (n=37)	15 (40.5%)
Married men (n=34)	18 (52.9%)
Mothers-in-laws (n=34)	0 (0%)
Health advocates (n=32)	12 (37.5%)
Female condom	
Married women (n=37)	0 (0%)
Married men (n=34)	1 (2.9%)
Mothers-in-laws (n=34)	0 (0%)
Health advocates (n=32)	0 (0%)
Rhythm method	
Married women (n=37)	0 (0%)

Married men (n=34)	2 (5.9%)
Mothers-in-laws (n=34)	0 (0%)
Health advocates (n=32)	1 (3.1%)
Withdrawal	
Married women (n=37)	0 (0%)
Married men (n=34)	1 (2.9%)
Mothers-in-laws (n=34)	0 (0%)
Health advocates (n=32)	1 (3.1%)
Other	
Married women (n=37)	0 (0%)
Married men (n=34)	0 (0%)
Mothers-in-laws (n=34)	1 (2.9%) – hysterectomy
Health advocates (n=32)	2 (6.3%) – LNG-IUD**
Never had sex	
Health advocates (n=32)	5 (15.6%)

*methods not reported as no participants used these methods: male sterilization, arm implant, spermicidal gel/foam, lactational amenorrhea (LAM), and injectables
**LNG-IUD – levonorgestrel intrauterine device

In examining a possible relationship between socioeconomic status and contraception method choice, a Kruskal-Wallis equality-of-populations rank test was performed for the five broad contraception categories with a statistically significant p-value of 0.005. Mann-Whitney test was then completed between each contraception category. Participants relying on female sterilization compared to those relying on the IUD had a lower socioeconomic score ($p=0.0028$). Also, participants relying on female sterilization compared to those relying on condoms had a lower socioeconomic scale ($p=0.0014$). No other comparisons were statistically significant.

Qualitative Analysis

The themes of the qualitative analysis are reported by objective for clarity.

Primary Objective: understand the perceptions, attitudes, and beliefs towards reversible and permanent contraception among Indian women and men in an urban setting.

Theme #1: Non-hormonal contraceptive methods are preferred

Across all subgroups, non-hormonal methods of contraception were viewed the most favorably. The primary concern with using contraceptive methods was side effects, and non-hormonal methods were believed to have the least amount of side effects or to have no side effects. Among non-hormonal methods there is a preference for condoms and female sterilization across all subgroups as well. Heavy bleeding during menses, severe uterine cramping, or traveling beyond the confines of the uterus were frequently listed concerns about the copper IUD. A conversation between two physicians in the provider focus group highlights this preference and also a belief that these concerns are myths perpetuated by the uneducated:

Respondent #1: "If she is not well educated there are lots of myth about the IUCD, then they want this permanent method."

Respondent #2: "But usually uneducated people…"

Respondent #1: "They prefer sterilization."

Among non-hormonal methods, condoms were viewed more positively than the IUD. One mother-in-law stated:

"My husband told me he would use condoms. He asked me not to use the Copper T or pills, he really cares for me and feared that I would have side effects from these."

The copper IUD, while non-hormonal, was viewed unfavorably due to perceived side effects ranging from increased menses to "poking." Among a focus group of married women, the following discussion took place:

Respondent #1: "I have noticed that if somebody bleeds heavily, then with the Copper T she will bleed more. I have experienced this as well. Before my second pregnancy I got it removed."

Respondent #2: "My sister-in–law used the Copper T, but it used to poke her."

Respondent #3: "After consulting with medical staff we also learn about side effects and also about a possible hormonal imbalance."

Women's health advocate's also expressed that women do not like the copper IUD as a contraceptive method due to perceptions of "myths." Among a group of obstetrician gynecology physicians the following interaction took place:

Moderator: "What are some other reasons women state for not wanting or liking this method?"

Respondent #1: "They have heard about perforation."

Respondent #2: "That it will go into rectum. They have many stories they heard about. They come and tell very interesting stories. It goes into bladder, rectum…"

Moderator: "So stories they have heard from others?"

Respondent #2: "Yeah, yeah, they have many myths about that"

ASHA's also discuss the "myths" people have about the IUD:

Respondent #1: "We tell them about copper IUD mostly. But women do not like this method - if one woman does not like the then she tells a hundred people that it is not a good method."

Respondent #2: "But If the woman is happy with the method, then she sits quietly and does not tell any one."

Mixed voices: "If she has back pain, she will tell four people that she has a copper IUD and that her back pain is because of the copper IUD and she is going to get it removed. She will not realize her age and what other reasons her back pain can be from."

Theme #2: Male sterilization is not accepted

Male sterilization, or vasectomy, was not a method of contraception deemed to be acceptable by any subgroup. When prompted to describe why this method was not accepted, most described concerns of perceived side effects of a generalized "weakness," with some expressing concern for sexual impotency. The concern for generalized weakness carried with it a potential impact on the ability of a husband to make money as many men were physical laborers and a generalized weakness may mean they would be able to carry less and would therefore make less money. One married man describes how he volunteered for a vasectomy, but due to a concern for "weakness" his wife refused to let him get one:

"…I asked my wife if I could go for [a] vasectomy. My wife said that she would get it done…she stays at home and there is not much work which requires physical hard work. I have to do AC (air conditioning) loading.

She did not want me to face any problems like becoming weak and not being able to do physical hard work, she got herself sterilized."

When prompted and asked if there were any other additional reasons why male sterilization was not a popular method of contraception, participants in all subgroups began to described the problematic social implications from a vasectomy failure. They began to describe how if a woman became pregnant after her husband underwent a vasectomy, there was an assumption that woman may have committed adultery and the child was not her husband's biological child. A marred woman describes:

"…one of my husband's friend along with his colleague got a vasectomy for the incentive money, they are drunks and wanted the money. But his vasectomy failed and now he is not accepting the child and blaming his wife."

Theme #3: Husbands and wives are the primary contraception decision makers

The majority of participants in the married women, married men, and mothers-in-law subgroups responded that the husband and wife are the primary decision makers. Most stated that while others in the family, such as mothers-in-law, may have an opinion and share this opinion with their son and daughters-in-law, the primary decision makers are the husband and wife. Most mothers-in-law expressed that their daughters-in-law are more educated than they were and thus are more informed about contraception than they were when they were younger. Below is a conversation among women in a mothers-in-law focus group:

Respondent #1: "Nowadays our children make their own decisions"

Respondent #2: "Now my daughter-in-law says "I know everything"....giggling…In today's time, mothers-in-law should keep quiet in all these matters."

Respondent #1: "That is their life, we should let them be free to make their own decisions."

However, among women's health advocates, most believed that mothers-in-law were the key contraceptive decision makers, holding an almost gatekeeper like role. Women's healthcare advocates described scenarios in which before they were not allowed to discuss contraception with the daughter-in-law unless they had discussed the content of the planned conversation with the mother-in-law:

"Mothers-in-law don't let the woman talk at all. Only when we are able to strike a rapport with the mother-in-law are we able to speak to the woman directly."

Women's health advocates believe that mothers-in-law are large stakeholders in the contraceptive decision making process while married women, men, and mothers-in-law believe that mothers-in-law have much less influence.

Secondary Objective: determine if interest exists in potential non-surgical forms of permanent contraception.

<u>Theme #1: Confusion regarding the success and possibility of female sterilization reversal</u>

Among women's health advocates and married women subgroups, there was confusion regarding the reversibility of female sterilization. In this exchange among married women this confusion can be seen:

Respondent #1: "I only know that women can be get an operation for birth control, but I had no idea about the reopening procedure."

Respondent #2: "I heard that it can be reopened."

Moderator: "From whom?"

Respondent #2: "From where I was previously working. The family had two daughters and one son, their son died so they consulted doctors who assured them it can be reopened."

Respondent #3: "It must be done manually then, that's why it can reopened."

Moderator: "What do you mean manually?"

Respondent #3: "Madam, previously it was done by opening the whole abdomen and then stitched by hands ,so it was possible to reopen."

When posed with the question "If there was a permanent method of birth control for women that would leave no scar and would take 1-3 months to be fully effective, would this be appealing to you?" one married woman asked:

"But the question is, like after a ligation if there is a problem it can be reversed, can this method also be reversed?"

There was a belief among many married women that if there was a problem, female sterilization could be reversed. Among women's health advocates, during the focus group conducted with OB/GYN physicians, one physician stated:

"Even sterilization is reversible, if some mishappening occurs…In our scenario, we want permanent method with some possibility of reversibility."

In exploring reasons for why women would want to pursue a female sterilization reversal, the concept of a "mishappening" was elucidated and explained. Participants defined a "mishappening" as the death of a male child or the death of multiple/all children. When physicians were directly asked about female sterilization reversal, some recognized a lack of counseling or poor counseling done at other institutions, particularly at sterilization camps:

Moderator: "Do they over ask that it can be reversed?"

Respondent #1: "Sometime they ask that- later on if I can have a child."

Respondent #2: "Generally if sterilization is done here, chances are less that they will come again. In other states patients come after a tubectomy done from a camp, then they come to open the sterilization. But in the camps they do it in a very young patient with a very small child."

Respondent #3: "Young child, only one or two years."

The primary theme shown in these quotes is the belief that female sterilization is not irreversible, and may be viewed as a reversible and non-permanent method of contraception with reversal being pursued if a dramatic child event occurred.

Discussion

The results from this study show a preference for side-effect free highly-effective reversible methods of contraception. Additionally, this study refutes previous literature indicating that mothers-in-law are key stakeholders in the contraceptive decision making process for their daughters-in-law. In regards to sterilization, male sterilization was not accepted as a method among participants and there is also a belief among some that female sterilization is not a permanent method of contraception and can be reversed.

In exploring our primary objective for this study, we identified knowledge gaps between women's health advocates and the other participant subgroups. A prevailing theme was that non-hormonal contraceptive methods are viewed the most favorably due to a perceived decreased side effect profile. Women's health advocates described these perceptions as "myths," however many of the side effects mentioned by the other subgroups are known side effects. For example, participants vocalized a concern that the copper IUD may increase menstrual flow. This is a known possible side effect; however, women's health advocates labeled this as a "myth" while other participants frequently had an exaggerated impression on how common this side effect occurred.

Women's health advocates also seem to overstate the importance of mothers-in-law in the contraceptive decision making process. While previous research supports their perceptions that mothers-in-law are important stakeholders in the contraceptive decisions of their daughters-in-law, findings from this study indicate that mothers-in-law have a declining role (14). As women become increasingly educated and methods of disseminating information on contraception diversify, mother-in-law's role in educating her daughter-in-law and son on contraception declines. Women's health advocates should

assess if and how much mothers-in-law are involved in the decision making process before continuing contraceptive counseling with a couple. In identifying these gaps, we highlight a disconnect that likely has an effect on contraceptive counseling and creates barriers in the counseling process.

A recurrent theme across subgroups was that male sterilization is not accepted. While previous literature does describe a concern for "weakness" with vasectomy, this study better explores the nuanced social implications of vasectomy (3). Participants shared that if a woman undergoes a sterilization procedure she may feel weak, but this was acceptable as most women do not work outside the home and do not rely on wages from external employment to support a family, while men do. The concern of "weakness" also may evolve as more women join the workforce.

Equally important, numerous women, men, and mothers-in-law described the difficulty faced by couples experiencing a vasectomy failure and conceiving, with women shouldering the brunt of the social stigma associated with this. Even the possible suggestion of infidelity, however remote, is enough to deter Indian women and men from pursuing this method of contraception. Women described men as denying acceptance of a child or being forced to leave their homes in shame.

The secondary objective of this study was to determine if interest exists in potential non-surgical forms of permanent contraception. Given that female sterilization is the most common contraceptive method in India, if there is interest in a non-surgical form of this method it would allow increased access to a highly desired method particularly in resource-poor settings. There is recent research that also identifies an interest in non-surgical methods of contraception among Indian men (16).

When probed on their perceptions of female sterilization, married women shared a belief that female sterilization is reversible and could be reversed should a "mishappening" occur. OB/GYN physicians report that while female sterilization should only be pursued by women who do not want any additional children, they believe it is not irreversible. When a potential method of non-surgical permanent contraception was discussed with OB/GYN physicians, one physician reported "In our scenario, we want [a] permanent method with some possibility of reversibility" while a non-physician male health worker stated "there are many methods which have very less side effects. It should be reversible also along with permanent, then its good."

In counseling women and men on female sterilization, there is the possibility for non-intentional coercion. Given that those relying on female sterilization for contraception are more likely to be of a lower socioeconomic status than those relying on the IUD or condoms, this non-intentional coercion affects these women the greatest. This may occur in the passage of the belief from provider to method acceptor that it is possibly reversible should a need exist for its reversal. There is a strong preference of a highly effective, reversible and side effect free method of contraception and there is a belief that female sterilization is reversible.

In examining our demographic data, there is a trend towards increased women's age with marriage from the mothers-in-law to the married women (medians of 16.8 years vs. 22.7 years). This may be due to imposed age limits of marriage age by the Indian government for women and men or a generational change. Mothers-in-law also relied on female sterilization for contraception more than any other subgroup and women's health advocates relied on female sterilization the least.

There are numerous strengths and weaknesses of this study. In using local native Indian moderators for our focus group we were able to have a more natural focus group dynamic. This was also a continually iterative process, with identification of sterilization reversal as a theme early on in the process so it could be included in subsequent focus groups. It is limited in that the majority of participants were Hindu and not reflective of the more diverse religious milieu of India. Also, this study is limited in its generalizability to an urban South Asian population.

Implications

This study fills a critical gap in our understanding of the perceptions of contraception and potential interest in a non-surgical method of contraception among married women, married men, mothers-in-law, and women's health advocates in urban India. We were successful in identifying themes that are critical for understanding barriers to contraception use and avenues of non-intentional coercion.

As the age of sterilization decreases in India while the infant mortality stagnate, there is a concern for non-intentional contraceptive coercion among women's health advocates, including physicians, as some believe female sterilization is not an irreversible method of contraception (5). Women of lower socioeconomic statuses are also more affected as they rely on sterilization more than other methods such as the IUD or condoms.

From a public health perspective, women's health advocates and those involved in the National Family Planning program in India should emphasize the permanence of female sterilization. There also exists a need to focus educational interventions to train

women's health advocates in evidence based practices using patient centered models that are contextually appropriate for counseling and consent with patients.

From a contraceptive technology perspective, before pursuing additional methods of permanent contraception, additional research is needed on the potential acceptability of these methods that are culturally aligned. The possibility of a non-surgical method of sterilization, with a possible mechanism of action of causing uterine scarring, to be reversed in comparison with a bilateral tubal ligation is low and this must be explicitly stated to understand the perceptions of and acceptability of such methods. Perhaps methods such as a lower-dose LNG-IUD that would allow for a monthly menses while providing adequate contraception would be more acceptable.

Male sterilization will not be accepted unless risks of failure are better understood and, even then, may never be accepted due to social implications of failure.

Recommendations

1. Educational interventions focused on assisting women's health advocates to perform patient-centered counseling to enhance reproductive autonomy using evidence based practices and focus on perceived side effects of methods.
    - Formalized contraceptive counseling at government affiliated female sterilization centers. Re-frame sterilization camps to contraception camp.
    - Legitimize the concerns of patients and highlight the infrequent of side effects rather than minimizing that side effects exist.
2. Focus on permanence of female sterilization during contraceptive counseling.
3. Development and promotion of highly effective reversible forms of contraception with more acceptable side effect profiles.

APPENDIX A.

Semi-structured focus group guide

Perceptions of Reversible and Permanent Contraception in India (POPI)
Focus Group Discussion: Married Women

Welcome & Overview

Welcome and thank you for participating in this focus group. The purpose of this focus group is to get your feedback on birth control, family size and spacing, and how people decide what birth control method to use.

Information from this focus group is part of a larger study between AIIMS and the University of New Mexico in the United States examining attitudes towards birth control.

A focus group is a group discussion guided by a facilitator. We want to hear your opinions and thoughts. There are no right or wrong answers. While we are audio recording this session, this conversation is confidential and only the research team will listen to the audio recording. One important point: please speak up—one at a time—so we can hear each speaker on the recording. I (AIIMS health worker) will moderate this focus group and Neha is observing and taking notes. This conversation is about what the group thinks, therefore Neha and I will attempt to talk very little and allow you to share your thoughts as much as possible.

At the end of the focus group, we will spend a few minutes giving a brief overview of currently available birth control methods.

This discussion will take approximately 1.5 hours with 11 questions.

Make yourself comfortable. There are food and drinks on the table, feel free to eat during the discussion. However, we ask that you turn your cell phones off during this focus group discussion. We hope you will find the session interesting and enjoyable.

CATEGORY 1: Family Size & Spacing

Lets go in a circle and have everyone say their name and what food they enjoy cooking the most.

1. What is your *ideal* family size? Why is this your ideal family size? [PROMPT: Is it important for you to have a son? What will you do if you continue to have daughters and you don't have a son?]

2. How to do you feel about messages that encourage people to have a particular family size?

[PROMPT: What is your response when you hear the message 'Ladka ladki ek saman'?]
[PROMPT: What is your opinion about the government encouraging 2 children?]
[PROMPT: Is it okay if you don't follow these messages?]

CATEGORY 2: Contraceptive Decision-making

3. How do you make decisions about how many children to have?
   How do you make decision on what birth control method to use?
   [PROMPT: Do you discuss this with your husband? Are any other family members involved, such as mothers-in-law?]

4. Who do you think is responsible for birth control?
   * Moderators, give a long pause here for participants to answer.
   [PROMPT: Women, men, or both?]

CATEGORY 3: Perceptions of Contraception

5. Have you discussed birth control with any medical staff? If so, what was your experience like?
   [PROMPT: Did talking with medical staff provide you with any additional information?]

6. What do you like and dislike about temporary methods of birth control?
   *Moderators, allow participants to list as many methods as possible before prompt
   [PROMPT: Examples of temporary methods of birth control are condoms, birth control pills, Copper T.]

7. Do you have any concerns about birth control? If so, what are they?
   [PROMPT: Do you think men and women have different concerns about birth control?]

8. What do you like and dislike about sterilization?

9. Do you think sterilization procedures have any risks and if so, what are the risks?

10. There are sterilization procedures for men and for women, one procedure is much more common than the other. Why do you think this is?

[PROMPT: Why do you think so many women have sterilization procedure and few men get vasectomies?]

11. If there was a permanent method of birth control for women that would leave no scar and would take 1-3 months to be fully effective, would this be appealing to you?]

Debrief (5-10 minutes)

Brief educational session on birth control types

Perceptions of Reversible and Permanent Contraception in India (POPI)
Focus Group Discussion: Married Men

Welcome & Overview
Welcome and thank you for participating in this focus group. The purpose of this focus group is to get your feedback on birth control, family size and spacing, and how people decide what birth control method to use.

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At the end of the focus group, we will spend a few minutes giving a brief overview of currently available birth control methods.

This discussion will take approximately 1.5 hours with 11 questions.

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CATEGORY 1: Family Size & Spacing
Lets go in a circle and have everyone say their name and what food they enjoy cooking or eating the most.

1. What is your *ideal* family size? Why is this your ideal family size?
   [PROMPT: Is it important for you to have a son? What will you do if you continue to have daughters and you don't have a son?]

2. How to do you feel about messages that encourage people to have a particular family size?
   [PROMPT: What is your response when you hear the message 'Ladka ladki ek saman'?]
   [PROMPT: What is your opinion about the government encouraging 2 children?]
   [PROMPT: Is it okay if you don't follow these messages?]

CATEGORY 2: Contraceptive Decision-making

3. How do you make decisions about how many children to have?
   How do you make decision on what birth control method to use?
   [PROMPT: Do you discuss this with your wife? Are any other family members involved, such as mothers-in-law?]

4. Who do you think is responsible for birth control?
   * Moderators, give a long pause here for participants to answer.
   [PROMPT: Women, men, or both?]

CATEGORY 3: Perceptions of Contraception

5. Have you discussed birth control with any medical staff? If so, what was your experience like?
   [PROMPT: Did talking with medical staff provide you with any additional information?]

6. What do you like and dislike about temporary methods of birth control?
   *Moderators, allow participants to list as many methods as possible before prompt
   [PROMPT: Examples of temporary methods of birth control are condoms, birth control pills, Copper T.]

7. Do you have any concerns about birth control? If so, what are they?
   [PROMPT: Do you think men and women have different concerns about birth control?]

8. What do you like and dislike about female sterilization?
   What do you like and dislike about vasectomy?

9. Do you think sterilization procedures have any risks and if so, what are the risks?

10. There are sterilization procedures for men and for women, one procedure is much more common than the other. Why do you think this is?
    [PROMPT: Why do you think so many women have sterilization procedure and few men get vasectomies?]

11. If there was a permanent method of birth control for women that would leave no scar and would take 1-3 months to be fully effective, would this be appealing to you?]

Debrief (5-10 minutes)

Brief educational session on birth control types

Of all the things we discussed today, what in your opinion was the most important?

Perceptions of Reversible and Permanent Contraception in India (POPI)
Focus Group Discussion: Mothers-in-law

Welcome & Overview
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At the end of the focus group, we will spend a few minutes giving a brief overview of currently available birth control methods.

This discussion will take approximately 1.5 hours with 11 questions.

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CATEGORY 1: Family Size & Spacing
Lets go in a circle and have everyone say their name and what food they enjoy cooking the most.

1. Why is this the *ideal* family size for your son and daughter-in-law?
   [PROMPT: Is it important for your daughter-in-law to have a son? What will you do if your daughter-in-law continues to have daughters and no sons?]

2. How to do you feel about messages that encourage people to have a particular family size?
   [PROMPT: What is your response when you hear the message 'Hum do humare do'?]
   [PROMPT: Is it okay if you don't follow these messages?]

CATEGORY 2: Contraceptive Decision-making

3. How do you make decisions about how many children to have?
   How do you make decision on what birth control method to use?
   [PROMPT: Did you and your husband discuss these topics together? Were any other family members involved?]

4. Looking back, what do you think about the fertility choices you made in the past?
   [PROMPT: What about number of children and when you had children? What about birth control choices you made?]
   [PROMPT: Is there anything you wish you had known more about?]

5. Who do you think is responsible for birth control?
   [PROMPT: Women, men, or both?]

6. Who do you think has the most influence on your daughter-in-law when she makes decisions about how many children to have?

7. In your opinion, what form of birth control should your son and daughter-in-law use? Why?

CATEGORY 3: Perceptions of Contraception

8. Have you discussed birth control with a doctor, ASHA, or health worker? If so, what was your experience like?
   [PROMPT: Do you feel certain methods are prioritized over others? Was it helpful?]

9. Why do you think so many women have sterilization procedure and few men get vasectomies?]

10. Of the people you know who have had a sterilization procedure, do you feel it was the right or wrong decision for them? Why or why not?
    [PROMPT: Would you recommend this procedure to your daughter-in-law if she does not want to have any more children?]

11. Do you think female sterilization procedures have any risks? If so, what are the risks?
    [PROMPT: If there were a permanent method of birth control for women that would leave no scar and would take 1-3 months to be fully effective, do you think this would this be appealing?]

Debrief (5-10 minutes)

Brief educational session on birth control types

Of all the things we discussed today, what in your opinion was the most important?

Perceptions of Reversible and Permanent Contraception in India (POPI)
Focus Group Discussion: ASHAs

Welcome & Overview
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At the end of the focus group, we will spend a few minutes giving a brief overview of currently available birth control methods.

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CATEGORY 1: Role of the ASHA
Lets go in a circle and have everyone say their name and what food they enjoy cooking the most.

1. What do you enjoy about being an ASHA?

2. What is difficult about being an ASHA?
   [PROMPT: Does anything make your job difficult?]

3. How do you talk to women about birth control?
   Are there other family members around when you talk with women, and if so how does this influence your discussion?
   [PROMPT: How do most people respond to your work?]

4. What challenges have you faced when discussing temporary methods of birth control?
   [PROMPT: Cost, accessibility?]
   [PROMPT: What challenges do you find the most difficult?]

5. What challenges have you faced when discussing male vasectomy and female sterilization?
   [PROMPT: Do you think there are different challenges for men and women?]

CATEGORY 2: Contraceptive Education

6. How did you first learn about birth control? At what age?
   [PROMPT: school, hospital, family or friends?]

7. What method of birth control are you most comfortable talking about and why?

8. If you have a question about birth control, who do you talk to? (ANMs, LHVs, and Ob/Gyn providers?)
   [PROMPT: What makes it easy to approach others for help, what makes it hard?]

CATEGORY 3: Perceptions of Contraception

9. What method of birth control do you recommend most often to women? Why?
   [PROMPT: Does your recommendation change depending on the woman's age, class, or number of children?]

10. Why do you think female sterilization is more common than vasectomy?

Debrief (5-10 minutes)
Brief educational session on birth control types

Of all the things we discussed today, what in your opinion was the most important?

Perceptions of Reversible and Permanent Contraception in India (POPI)
Focus Group Discussion: Women's Health Providers

Welcome & Overview
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CATEGORY 1: Perceptions of Contraception

Let's briefly go around the room and introduce ourselves.

1. What challenges come up for you when you discuss contraception with women?

2. Which methods of contraception do you feel are most popular among your patients?
   What methods of contraception do you feel are most popular among your friends and family?

3. What method of contraception do you recommend most often to women?
   [PROMPT: Does your recommendation change if women have a high number of children or if women are older?]

4. Of the temporary methods available, which one do you feel is the most appropriate for Indian women? Why?

CATEGORY 2: Contraceptive Decision-making

5. What influences you to recommend long-acting reversible contraceptive methods over other methods of contraception?
   [PROMPT: Are there specific long-acting reversible contraceptive methods your prefer? Why?]

6. What influences you to recommend female sterilization or vasectomy?
   [PROMPT: Do patients have any concerns about permanent methods of contraception?

7. Do you face any challenges when discussing temporary methods of contraception with your patients, and if so what are their challenges?
   Do you face any challenges when discussing male and female sterilization with your patients, and if so what are the challenges?
   [PROMPT: For example: patient resistance, compliance with method type, inability of patients to access methods]

8. Are there typical characteristics of a patient that requests permanent contraception?
   [PROMPT: For example: age, gender, number of children, class/caste]

CATEGORY 3: Family Size & Spacing

9. Some people believe that it is important to promote family planning and spacing. Do you feel that this notion of family planning and birth spacing important? If so, why?

CATEGORY 4: Perceptions of NSPC

10. How do you think your patients would respond to a non-surgical method of permanent contraception for women that would leave no scar and would take 1-3 months to be fully effective?
    [PROMPT: What characteristics are favorable/unfavorable: surgery and surgical risks, immediate efficacy, need for follow up, pain, men versus women]

Debrief (5-10 minutes)

Of all the things we discussed today, what in your opinion was the most important?

APPENDIX B.

Registration form

Registration Form: Married Women

Please complete this brief registration form. This should take no more than 10 minutes to complete. **Please do NOT write your name.**

Some questions ask about your sexual life in order to gain a better understanding of some family life issues. All of your answers are completely confidential and will not be told to anyone. If you do not want to answer, please skip to the next question. **All information on this sheet will remain confidential.**

Data from this registration form is part of a larger study between AIIMS and the University of New Mexico examining attitudes towards contraception among married women, married men, mothers-in-law and health advocates.

1. How old are you?

_____years

2. What state and district is your family from?

_____state _____district

☐ Don't know

3. What state and district is your husband's family from?

_____state _____district

☐ Don't know

4. Who currently lives in your household, and how are they related to you?

Relation to you

5. What is your current marital status?

☐ Currently married ☐ Separated and/or deserted

☐ Divorced ☐ Widowed

6. How long have you been married (currently married or in the past)?

_____ years

7. What is your level of education?

☐ Profession or honors

☐ Graduate or post graduate degree

☐ Intermediate or post high school diploma

☐ High school certificate

☐ Middle school certificate

☐ Primary school certificate

☐ Illiterate

8. What is your husband's level of education?

☐ Profession or honors

☐ Graduate or post graduate degree

☐ Intermediate or post high school diploma

☐ High school certificate

☐ Middle school certificate

☐ Primary school certificate

☐ Illiterate

9. What is your occupation?

☐ Professional

☐ Semi-Professional

☐ Clerical, Shop-owner, or Farmer

☐ Skilled worker

☐ Semi-skilled worker

☐ Unskilled worker

☐ Unemployed

☐ Homemaker

☐ Other (specify)_____

10. What is your husband's occupation?

☐ Professional

☐ Semi-Professional

☐ Clerical, Shop-owner, or Farmer

☐ Skilled worker

☐ Semi-skilled worker

☐ Unskilled worker

☐ Unemployed

☐ Homemaker

☐ Other (specify)_____

11. What is your family income per month (in Rupees)?

☐ ≥ 39,174

☐ 19,587- 39,173

☐ 14,690- 19,586

☐ 9,794- 14,689

☐ 5,876- 9,793

☐ 1,978- 5,875

☐ ≤ 1,977

12. What is your religion?

☐ Hindu ☐ Muslim ☐ Christian

☐ Sikh ☐ Jain ☐ Other (specify)_____

13. What is your caste or tribe?

☐ General (G) ☐ Other backward caste (OBC)

☐ Scheduled caste/tribe (SC/ST) ☐ No tribe

☐ Other (specify)_____

14. Are you currently pregnant?

☐ Yes ☐ No ☐ Don't know

15. How old were you when you got married?

_____ years

16. What was your age at your first pregnancy?

☐ I have never been pregnant

☐ _____ years

17. How many pregnancies have you had?

_____ pregnancies

18. How many live birth deliveries have you had?

_____ live birth deliveries

19. How many living children do you have?

_____ living children

20. How many induced abortions have you had?

_____ induced abortions

21. How many more children would you like to have?

☐ 5 or above ☐ 4 ☐ 3 ☐ 2 ☐ 1 ☐ 0

22. If you have had an induced abortion, who performed the induced abortion?

☐ Doctor ☐ Nurse/midwife ☐ Family member

☐ Self ☐ Other (specify)_____

☐ I have never had an induced abortion

☐ I don't know who performed my induced abortion

23. There are many methods of birth control. Please check the methods you have heard of and which methods you have used.

Method Type	Have you heard of this?	Have you used this?
Female Sterilization (tubal ligation, "tubes tied")	☐ Yes ☐ No	☐ Yes ☐ No
Male Sterilization (vasectomy)	☐ Yes ☐ No	☐ Yes ☐ No
IUD or PPIUD ("Copper T," loop or coil in uterus)	☐ Yes ☐ No	☐ Yes ☐ No
Injectables ("Depo Provera" or DMPA)	☐ Yes ☐ No	☐ Yes ☐ No
Pill (daily birth control pill)	☐ Yes ☐ No	☐ Yes ☐ No
Emergency Contraception ("i-pill")	☐ Yes ☐ No	☐ Yes ☐ No
Condom or Nirodh	☐ Yes ☐ No	☐ Yes ☐ No
Female condom	☐ Yes ☐ No	☐ Yes ☐ No
Lactational Amenorrhea (LAM)	☐ Yes ☐ No	☐ Yes ☐ No
Rhythm Method	☐ Yes ☐ No	☐ Yes ☐ No
Withdrawal	☐ Yes ☐ No	☐ Yes ☐ No
Spermicidal gel/foam	☐ Yes ☐ No	☐ Yes ☐ No

Arm implant under the skin (Implanon/Nexplanon/Jadelle)	☐ Yes ☐ No	☐ Yes ☐ No

24. Last time you had sex, what method of birth control did you use?

(check all that apply)

☐ NONE – I am currently trying to get pregnant

☐ Female Sterilization (tubal ligation)
☐ IUD or PPIUD ("Copper T")
☐ Pill
☐ Female condom
☐ Rhythm method
☐ Emergency contraception
☐ Spermicidal gel/foam
☐ Other (specify)_____
☐ Arm implant under the skin (Implanon/Nexplanon/Jadelle)
☐ Male Sterilization (vasectomy)
☐ Injectables (Depo Provera)
☐ Condom or Nirodh
☐ Lactational amenorrhea
☐ Withdrawal
☐ Nothing

Registration Form: Married Men

Please complete this brief registration form. This should take no more than 10 minutes to complete. **Please do NOT write your name.**

Some questions ask about your sexual life in order to gain a better understanding of some family life issues. All of your answers are completely confidential and will not be told to anyone. If you do not want to answer, please skip to the next question. **All information on this sheet will remain confidential.**

Data from this registration form is part of a larger study between AIIMS and the University of New Mexico examining attitudes towards contraception among married women, married men, mothers-in-law and health advocates.

1. How old are you?

_____years

2. What state and district is your family from?

_____state _____district

☐ Don't know

3. What state and district is your wife's family from?

_____state _____district

☐ Don't know

4. Who currently lives in your household, and how are they related to you?

Relation to you

5. What is your current marital status?

☐ Currently married ☐ Separated and/or deserted

☐ Divorced ☐ Widowed

6. How long have you been married (currently married or in the past)?

_____years

7. What is your level of education?

☐ Profession or honors

☐ Graduate or post graduate degree

☐ Intermediate or post high school diploma

☐ High school certificate

☐ Middle school certificate

☐ Primary school certificate

☐ Illiterate

8. What is your wife's level of education?

☐ Profession or honors

☐ Graduate or post graduate degree

☐ Intermediate or post high school diploma

☐ High school certificate

☐ Middle school certificate

☐ Primary school certificate

☐ Illiterate

9. What is your occupation?

☐ Professional

☐ Semi-Professional

☐ Clerical, Shop-owner, or Farmer

☐ Skilled worker

☐ Semi-skilled worker

☐ Unskilled worker

☐ Unemployed

☐ Homemaker

☐ Other (specify)_____

10. What is your wife's occupation?

☐ Professional
☐ Semi-Professional
☐ Clerical, Shop-owner, or Farmer
☐ Skilled worker
☐ Semi-skilled worker
☐ Unskilled worker
☐ Unemployed
☐ Homemaker
☐ Other (specify)_____

11. What is your family income per month (in Rupees)?

☐ ≥ 39,174
☐ 19,587- 39,173
☐ 14,690- 19,586
☐ 9,794- 14,689
☐ 5,876- 9,793
☐ 1,978- 5,875
☐ ≤ 1,977

12. What is your religion?

☐ Hindu ☐ Muslim ☐ Christian
☐ Sikh ☐ Jain ☐ Other (specify)_____

13. What is your caste or tribe?

☐ General (G) ☐ Other backward caste (OBC)
☐ Scheduled caste/tribe (SC/ST) ☐ No tribe
☐ Other (specify)_____

14. Is your wife currently pregnant?

☐ Yes ☐ No ☐ Don't know

15. How old were you when you got married?

_____years

16. How old were you when your wife became pregnant for the first time?

☐ My wife has never been pregnant

☐ _____ years

17. How many pregnancies has your wife had?

_____ pregnancies

☐ Don't know

18. How many live birth deliveries has your wife had?

_____ live birth deliveries

19. How many living children does your wife have?

_____ living children

☐ Don't know

20. How many induced abortions has your wife had?

_____ induced abortions

☐ Don't know

21. How many more children would you like to have?

☐ 5 or above ☐ 4 ☐ 3 ☐ 2 ☐ 1 ☐ 0

22. If your wife has had an induced abortion, who performed the induced abortion?

☐ Doctor ☐ Nurse/midwife ☐ Family member

☐ Self ☐ Other (specify)_____

☐ My wife has never had an induced abortion

☐ I don't know who performed her induced abortion

23. There are many methods of birth control. Please check the methods you have heard of and which methods you have used.

Method Type	Have you heard of this?		Have you used this?	
Female Sterilization (tubal ligation, "tubes tied")	☐ Yes	☐ No	☐ Yes	☐ No
Male Sterilization (vasectomy)	☐ Yes	☐ No	☐ Yes	☐ No
IUD or PPIUD ("Copper T," loop or coil in uterus)	☐ Yes	☐ No	☐ Yes	☐ No
Injectables ("Depo Provera" or DMPA)	☐ Yes	☐ No	☐ Yes	☐ No
Pill (daily birth control pill)	☐ Yes	☐ No	☐ Yes	☐ No
Emergency Contraception ("i-pill")	☐ Yes	☐ No	☐ Yes	☐ No
Condom or Nirodh	☐ Yes	☐ No	☐ Yes	☐ No
Female condom	☐ Yes	☐ No	☐ Yes	☐ No
Lactational Amenorrhea (LAM)	☐ Yes	☐ No	☐ Yes	☐ No
Rhythm Method	☐ Yes	☐ No	☐ Yes	☐ No
Withdrawal	☐ Yes	☐ No	☐ Yes	☐ No
Spermicidal gel/foam	☐ Yes	☐ No	☐ Yes	☐ No
Arm implant under the skin (Implanon/Nexplanon/Jadelle)	☐ Yes	☐ No	☐ Yes	☐ No

24. How many sexual partners, including your wife, have you had in the last 6 months?

☐ 10 ☐ 9 ☐ 8 ☐ 7 ☐ 6 ☐ 5
☐ 4 ☐ 3 ☐ 2 ☐ 1 ☐ 0

25. Last time you had sexual relations, what method of birth control did you use? *(check all that apply)*

☐ NONE – my wife and I am currently trying to get pregnant

☐ Female Sterilization (tubal ligation)
☐ Male Sterilization (vasectomy)
☐ IUD or PPIUD ("Copper T")
☐ Injectables (Depo Provera)
☐ Pill
☐ Condom or Nirodh
☐ Female condom
☐ Lactational amenorrhea
☐ Rhythm method
☐ Withdrawal
☐ Emergency contraception
☐ Nothing
☐ Spermicidal gel/foam
☐ Other (specify)_____
☐ Arm implant under the skin (Implanon/Nexplanon/Jadelle)

Registration Form: Mothers-in-law

Please complete this brief registration form. This should take no more than 10 minutes to complete. **Please do NOT write your name.**

Some questions ask about your sexual life in order to gain a better understanding of some family life issues. All of your answers are completely confidential and will not be told to anyone. If you do not want to answer, please skip to the next question. **All information on this sheet will remain confidential.**

Data from this registration form is part of a larger study between AIIMS and the University of New Mexico examining attitudes towards contraception among married women, married men, mothers-in-law and health advocates.

1. How old are you?

_____years

2. What state and district is your family from?

_____state _____district

☐ Don't know

3. What state and district is your husband's family from?

_____state _____district

☐ Don't know

4. Who currently lives in your household, and how are they related to you?

Relation to you

5. What is your level of education?

☐ Profession or honors

☐ Graduate or post graduate degree

☐ Intermediate or post high school diploma

☐ High school certificate

☐ Middle school certificate

☐ Primary school certificate

☐ Illiterate

6. What is your husband's level of education?

☐ Profession or honors

☐ Graduate or post graduate degree

☐ Intermediate or post high school diploma

☐ High school certificate

☐ Middle school certificate

☐ Primary school certificate

☐ Illiterate

7. What is your occupation?

☐ Professional

☐ Semi-Professional

☐ Clerical, Shop-owner, or Farmer

☐ Skilled worker

☐ Semi-skilled worker

☐ Unskilled worker

☐ Unemployed

☐ Homemaker

☐ Other (specify)_____

8. What is your husband's occupation?

☐ Professional

☐ Semi-Professional

☐ Clerical, Shop-owner, or Farmer

☐ Skilled worker

☐ Semi-skilled worker

☐ Unskilled worker

☐ Unemployed

☐ Homemaker

☐ Other (specify)_____

9. What is your family income per month (in Rupees)?

☐ ≥ 39,174

☐ 19,587- 39,173

☐ 14,690- 19,586

☐ 9,794- 14,689

☐ 5,876- 9,793

☐ 1,978- 5,875

☐ ≤ 1,977

10. What is your religion?

☐ Hindu ☐ Muslim ☐ Christian

☐ Sikh ☐ Jain ☐ Other (specify)_____

11. What is your caste or tribe?

☐ General (G) ☐ Other backward caste (OBC)

☐ Scheduled caste/tribe (SC/ST) ☐ No tribe

☐ Other (specify)_____

12. How old were you when you got married?

_____ years

13. What was your age at your first pregnancy?

☐ I have never been pregnant

☐ _____ years

14. How many pregnancies have you had?

_____ pregnancies

15. How many live birth deliveries have you had?

_____ live birth deliveries

16. How many living children do you have?

_____ living children

17. How many induced abortions have you had?

_____ induced abortions

18. If you have had an induced abortion, who performed the induced abortion?

☐ Doctor ☐ Nurse/midwife ☐ Family member

☐ Self ☐ Other (specify)_____

☐ I have never had an induced abortion

☐ I don't know who performed my induced abortion

19. Have any of your daughters-in-laws had an induced abortion?

☐ Yes ☐ No

20. If any of your daughters-in-laws have had an induced abortion, who performed the induced abortion?

☐ Doctor ☐ Nurse/midwife ☐ Family member

☐ Self ☐ Other (specify)_____

☐ To my knowledge, none of my daughters-in-laws have had an induced abortion

☐ I don't know who performed the induced abortion

21. There are many methods of birth control. Please check the methods you have heard of and which methods you have used:

Method Type	Have you heard of this?		Have you used this?	
Female Sterilization (tubal ligation, "tubes tied")	☐ Yes	☐ No	☐ Yes	☐ No
Male Sterilization (vasectomy)	☐ Yes	☐ No	☐ Yes	☐ No
IUD or PPIUD ("Copper T," loop or coil in uterus)	☐ Yes	☐ No	☐ Yes	☐ No
Injectables ("Depo Provera" or DMPA)	☐ Yes	☐ No	☐ Yes	☐ No
Pill (daily birth control pill)	☐ Yes	☐ No	☐ Yes	☐ No
Emergency Contraception ("i-pill")	☐ Yes	☐ No	☐ Yes	☐ No
Condom or Nirodh	☐ Yes	☐ No	☐ Yes	☐ No
Female condom	☐ Yes	☐ No	☐ Yes	☐ No
Lactational Amenorrhea (LAM)	☐ Yes	☐ No	☐ Yes	☐ No
Rhythm Method	☐ Yes	☐ No	☐ Yes	☐ No
Withdrawal	☐ Yes	☐ No	☐ Yes	☐ No
Spermicidal gel/foam	☐ Yes	☐ No	☐ Yes	☐ No
Arm implant under the skin (Implanon/Nexplanon/Jadelle)	☐ Yes	☐ No	☐ Yes	☐ No

22. Last time you had sex, what method of birth control did you use?

(check all that apply)

- ☐ Female Sterilization (tubal ligation)
- ☐ Male Sterilization (vasectomy)
- ☐ IUD or PPIUD ("Copper T")
- ☐ Injectables (Depo Provera)
- ☐ Pill
- ☐ Condom or Nirodh
- ☐ Female condom
- ☐ Lactational amenorrhea
- ☐ Rhythm method
- ☐ Withdrawal
- ☐ Emergency contraception
- ☐ Nothing
- ☐ Spermicidal gel/foam
- ☐ Other (specify)_____
- ☐ Arm implant under the skin (Implanon/Nexplanon/Jadelle)

Registration Form: Female Women's Health Advocates

Please complete this brief registration form. This should take no more than 10 minutes to complete. **Please do NOT write your name.**

Some questions ask about your sexual life in order to gain a better understanding of some family life issues. All of your answers are completely confidential and will not be told to anyone. If you do not want to answer, please skip to the next question. **All information on this sheet will remain confidential.**

Data from this registration form is part of a larger study between AIIMS and the University of New Mexico examining attitudes towards contraception among married women, married men, mothers-in-law and health advocates.

1. How old are you?

_____years

2. What state and district is your family from?

_____state _____district

3. What state and district is your husband's family from?

_____state _____district

☐ Don't know

4. Who currently lives in your household, and how are they related to you?

Relation to you

5. What is your current marital status?

☐ Currently married ☐ Separated and/or deserted

☐ Divorced ☐ Widowed

☐ Unmarried

6. How long have you been married (currently married or in the past)?

☐ _____years

☐ I have never been married

7. What is your level of education?

☐ Profession or honors

☐ Graduate or post graduate degree

☐ Intermediate or post high school diploma

☐ High school certificate

☐ Middle school certificate

☐ Primary school certificate

☐ Illiterate

8. What is your husband's level of education?

☐ Profession or honors

☐ Graduate or post graduate degree

☐ Intermediate or post high school diploma

☐ High school certificate

☐ Middle school certificate

☐ Primary school certificate

☐ Illiterate

☐ Not applicable, I have never been married

9. What is your occupation?

☐ Professional

☐ Semi-Professional

☐ Clerical, Shop-owner, or Farmer

☐ Skilled worker

☐ Semi-skilled worker

☐ Unskilled worker

☐ Unemployed

☐ Homemaker

☐ Other (specify)_____

10. What is your husband's occupation?

☐ Professional

☐ Semi-Professional

☐ Clerical, Shop-owner, or Farmer

☐ Skilled worker

☐ Semi-skilled worker

☐ Unskilled worker

☐ Unemployed

☐ Homemaker

☐ Other (specify)_____

☐ Not applicable, I have never been married

11. What is your family income per month (in Rupees)?

☐ ≥ 39,174

☐ 19,587- 39,173

☐ 14,690- 19,586

☐ 9,794- 14,689

☐ 5,876- 9,793

☐ 1,978- 5,875

☐ ≤ 1,977

12. What is your religion?

☐ Hindu ☐ Muslim ☐ Christian

☐ Sikh ☐ Jain ☐ Other (specify)_____

13. What is your caste or tribe?

☐ General (G) ☐ Other backward caste (OBC)

☐ Scheduled caste/tribe (SC/ST) ☐ Other (specify)_____

14. Are you currently pregnant?

☐ Yes ☐ No ☐ Don't know

15. How old were you when you got married?

☐ _____years

☐ Not applicable, I have never been married

16. What was your age at your first pregnancy?

☐ I have never been pregnant

☐ _____ years

17. How many pregnancies have you had?

_____ pregnancies

18. How many live birth deliveries have you had?

_____ live birth deliveries

19. How many living children do you have?

_____ living children

20. How many induced abortions have you had?

_____ induced abortions

21. How many more children would you like to have?

☐ 5 or above ☐ 4 ☐ 3 ☐ 2 ☐ 1 ☐ 0

22. If you have had an induced abortion, who performed the induced abortion?

☐ Doctor ☐ Nurse/midwife ☐ Family member

☐ Self ☐ Other (specify)_____

☐ I have never had an induced abortion

☐ I don't know who performed my induced abortion

23. There are many methods of birth control. Please check the methods you have heard of and which methods you have used.

Method Type	**Have you heard of this?**	**Have you used this?**
Female Sterilization (tubal ligation, "tubes tied")	☐ Yes ☐ No	☐ Yes ☐ No
Male Sterilization (vasectomy)	☐ Yes ☐ No	☐ Yes ☐ No
IUD or PPIUD ("Copper T," loop or coil in uterus)	☐ Yes ☐ No	☐ Yes ☐ No
Injectables ("Depo Provera" or DMPA)	☐ Yes ☐ No	☐ Yes ☐ No
Pill (daily birth control pill)	☐ Yes ☐ No	☐ Yes ☐ No
Emergency Contraception ("i-pill")	☐ Yes ☐ No	☐ Yes ☐ No
Condom or Nirodh	☐ Yes ☐ No	☐ Yes ☐ No
Female condom	☐ Yes ☐ No	☐ Yes ☐ No
Lactational Amenorrhea (LAM)	☐ Yes ☐ No	☐ Yes ☐ No
Rhythm Method	☐ Yes ☐ No	☐ Yes ☐ No
Withdrawal	☐ Yes ☐ No	☐ Yes ☐ No
Spermicidal gel/foam	☐ Yes ☐ No	☐ Yes ☐ No
Arm implant under the skin (Implanon/Nexplanon/Jadelle)	☐ Yes ☐ No	☐ Yes ☐ No

24. Last time you had sex, what method of birth control did you use?

(check all that apply)

☐ NONE – I am currently trying to get pregnant

☐ Female Sterilization (tubal ligation)
☐ IUD or PPIUD ("Copper T")
☐ Pill
☐ Female condom
☐ Rhythm method
☐ Emergency contraception
☐ Spermicidal gel/foam
☐ Other (specify)_____
☐ Arm implant under the skin (Implanon/Nexplanon/Jadelle)
☐ Male Sterilization (vasectomy)
☐ Injectables (Depo Provera)
☐ Condom or Nirodh
☐ Lactational amenorrhea
☐ Withdrawal
☐ Nothing
☐ I have never had sex

Registration Form: Male Women's Health Advocates

Please complete this brief registration form. This should take no more than 10 minutes to complete. **Please do NOT write your name.**

Some questions ask about your sexual life in order to gain a better understanding of some family life issues. All of your answers are completely confidential and will not be told to anyone. If you do not want to answer, please skip to the next question. **All information on this sheet will remain confidential.**

Data from this registration form is part of a larger study between AIIMS and the University of New Mexico examining attitudes towards contraception among married women, married men, mothers-in-law and health advocates.

1. How old are you?

_____years

2. What state and district is your family from?

_____state _____district

☐ Don't know

3. What state and district is your wife's family from?

_____state _____district

☐ Don't know

4. Who currently lives in your household, and how are they related to you?

Relation to you

5. What is your current marital status?

☐ Currently married ☐ Separated and or deserted

☐ Divorced ☐ Widowed

☐ Unmarried

6. How long have you been married (currently married or in the past)?

☐ _____years

☐ I have never been married

7. What is your level of education?

☐ Profession or honors

☐ Graduate or post graduate degree

☐ Intermediate or post high school diploma

☐ High school certificate

☐ Middle school certificate

☐ Primary school certificate

☐ Illiterate

8. What is your wife's level of education?

☐ Profession or honors

☐ Graduate or post graduate degree

☐ Intermediate or post high school diploma

☐ High school certificate

☐ Middle school certificate

☐ Primary school certificate

☐ Illiterate

☐ Not applicable, I have never been married

☐ Professional

☐ Semi-Professional

☐ Clerical, Shop-owner, or Farmer

☐ Skilled worker

☐ Semi-skilled worker

☐ Unskilled worker

☐ Unemployed

☐ Homemaker

☐ Other (specify)_____

10. What is your wife's occupation?

☐ Professional

☐ Semi-Professional

☐ Clerical, Shop-owner, or Farmer

☐ Skilled worker

☐ Semi-skilled worker

☐ Unskilled worker

☐ Unemployed

☐ Homemaker

☐ Other (specify)_____

☐ Not applicable, I have never been married

11. What is your family income per month (in Rupees)?

☐ ≥ 39,174

☐ 19,587- 39,173

☐ 14,690- 19,586

☐ 9,794- 14,689

☐ 5,876- 9,793

☐ 1,978- 5,875

☐ ≤ 1,977

12. What is your religion?

☐ Hindu ☐ Muslim ☐ Christian

☐ Sikh ☐ Jain ☐ Other (specify)_____

13. What is your caste or tribe?

☐ General (G) ☐ Other backward caste (OBC)

☐ Scheduled caste/tribe (SC/ST) ☐ Other (specify)_____

14. To your knowledge, is your wife currently pregnant?

☐ Yes ☐ No

☐ Don't know ☐ Not applicable, I have never been married

15. How old were you when you got married?

☐ _____years

☐ Not applicable, I have never been married

16. How old were you when your wife became pregnant for the first time?

☐ My wife has never been pregnant

☐ _____ years

☐ Not applicable, I have never been married

17. How many pregnancies has your wife had?

_____ pregnancies

☐ Don't know

☐ Not applicable, I have never been married

18. How many live birth deliveries has your wife had?

_____ live birth deliveries

☐ Not applicable, I have never been married

19. How many living children has your wife had?

_____ living children

☐ Not applicable, I have never been married

20. How many induced abortions has your wife had?

_____ induced abortions

☐ Don't know
☐ Not applicable, I have never been married

21. How many more children would you like to have?

☐ 5 or above ☐ 4 ☐ 3 ☐ 2 ☐ 1 ☐ 0

22. If your wife or partner has had an induced abortion, who performed the induced abortion?

☐ Doctor ☐ Nurse/midwife ☐ Family member
☐ Self ☐ Other (specify)_____
☐ My wife or partner has never had an induced abortion
☐ I don't know who performed her induced abortion

23. There are many methods of birth control. Please check the methods you have heard of and which methods you have used.

Method Type	Have you heard of this?		Have you used this?	
Female Sterilization (tubal ligation, "tubes tied")	☐ Yes	☐ No	☐ Yes	☐ No
Male Sterilization (vasectomy)	☐ Yes	☐ No	☐ Yes	☐ No
IUD or PPIUD ("Copper T," loop or coil in uterus)	☐ Yes	☐ No	☐ Yes	☐ No
Injectables ("Depo Provera" or DMPA)	☐ Yes	☐ No	☐ Yes	☐ No
Pill (daily birth control pill)	☐ Yes	☐ No	☐ Yes	☐ No
Emergency Contraception ("i-pill")	☐ Yes	☐ No	☐ Yes	☐ No
Condom or Nirodh	☐ Yes	☐ No	☐ Yes	☐ No
Female condom	☐ Yes	☐ No	☐ Yes	☐ No
Lactational Amenorrhea (LAM)	☐ Yes	☐ No	☐ Yes	☐ No
Rhythm Method	☐ Yes	☐ No	☐ Yes	☐ No
Withdrawal	☐ Yes	☐ No	☐ Yes	☐ No
Spermicidal gel/foam	☐ Yes	☐ No	☐ Yes	☐ No
Arm implant under the skin (Implanon/Nexplanon/Jadelle)	☐ Yes	☐ No	☐ Yes	☐ No

24. How many sexual partners, including your wife or partner, have you had in the last 6 months?

☐ 10 ☐ 9 ☐ 8 ☐ 7 ☐ 6 ☐ 5
☐ 4 ☐ 3 ☐ 2 ☐ 1 ☐ 0

25. Last time you had sex with your wife or partner, what method of birth control did you use?

(check all that apply)

☐ NONE – my wife and I am currently trying to get pregnant

☐ Female Sterilization (tubal ligation)
☐ IUD or PPIUD ("Copper T")
☐ Pill
☐ Female condom
☐ Rhythm method
☐ Emergency contraception
☐ Spermicidal gel/foam
☐ Other (specify)_____
☐ Arm implant under the skin (Implanon/Nexplanon/Jadelle)
☐ Male Sterilization (vasectomy)
☐ Injectables (Depo Provera)
☐ Condom or Nirodh
☐ Lactational amenorrhea
☐ Withdrawal
☐ Nothing
☐ I have never had sex

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