

Contraceptive use and its consistency among eligible couples in a peri-urban area of Delhi, India: A secondary data analysis

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ABSTRACT

Background: Contraceptive use is important to stabilize population growth by reducing the net reproduction rate. The effectiveness of a contraceptive method is decided mainly by its consistent and correct use. **Methods:** A record-based study was undertaken with the aim to study the contraceptive usage and its consistency among eligible couples in a peri-urban area of Delhi, India. Data of 946 eligible couples were analysed. Descriptive analysis was performed and odds ratios were calculated. **Results:** Mean age of females was found to be 30.3 ± 5.5 years and males was 33.5 ± 6.4 years. About 56.2% (532) eligible couples have used contraceptive at least once in the past 6 months and 54.7% (517) used them consistently for 6 months of the study period. There were 12.3 pregnancies per 100 non-users, 2.2 pregnancies per 100 ever users and 1.9 per 100 consistent users (1.7 for condoms and 0.2 for OCPs). Couples having two or more children, having two or more male children and with less than five years of age difference between husband and wife were found to have significantly higher odds of ever and consistent contraceptive use compared to other eligible couples ($P < 0.05$). **Conclusion:** More than half of the eligible couples were found to be using contraceptives ever in past 6 months, and 54.7% of eligible couples were using them consistently. There is a need to explore social, cultural factors, awareness levels associated with the ever and consistent use of contraceptives for improving overall couple protection rate and enhancing the consistency in usage.

Keywords: Consistency, contraceptive use, eligible couples, vasectomy

Introduction

The population in the world is currently growing at a rate of over 1% per year.^[1] India houses almost 17.3% of the world's protected couples and 20% of the world's eligible couples with unmet needs.^[2] The large population size of India not only impacts its own health outcomes but also the global health indicators.^[3] Contraceptive use is one of the major factor to stabilize the population growth and couple protection rate (CPR) is the proxy measure used to ascertain the contraceptive use by

eligible couples. The current CPR among the eligible couples in the age group of 15-49 years in India is 53.5, which reduced from 56.3 in a decade while in Delhi CPR reduced from 66.9 to 54.8 over the same period (2005 to 2016). The decline in CPR is worrisome as it can lead to increase in population growth rate of India.^[4,5] An average estimate of nearly 63 million births would have been averted by the use of contraception as per the disaggregated district level data analysis of NFHS-4.^[6]

Using contraceptive method is not enough as though intrinsic effectiveness of a contraceptive method is cardinal, this effectiveness is eventually decided mainly by its consistent and correct use. The failure rates of contraceptive methods are higher with normal use compared to consistent and correct use.^[7] Most of the unintended pregnancies can be attributed to inconsistent

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Received: 21-06-2021

Revised: 18-10-2021

Accepted: 25-11-2021

Published: 18-03-2022

Access this article online

Quick Response Code:



Website:
www.jfmpc.com

DOI:
10.4103/jfmpc.jfmpc_1222_21

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How to cite this article: Mogan KA, Sharma P, Khokhar A, Tiwari P. Contraceptive use and its consistency among eligible couples in a peri-urban area of Delhi, India: A secondary data analysis. J Family Med Prim Care 2022;11:1388-94.

and incorrect use of a contraceptive method or not using any contraception.^[8] In a study conducted across 36 countries by World Health Organization (WHO), it was found that almost two-third women who wanted to space or limit the pregnancies, discontinued contraceptive use due to fear of side effects, health concerns or inconvenience of use. This resulted in 25% of total pregnancies being unintended.^[9] It has been estimated that about 74 million unintended pregnancies occur in developing countries annually and approximately 30% of them can be attributed to failure of traditional or modern contraceptives.^[10] The failure can be due to either due to failure of a method to work as expected or due to incorrect and inconsistent use of a method.^[11] Harmful consequences of unintended pregnancies are innumerable and can span generations.^[9]

Various studies have been conducted in this field to know the determinants of contraceptive use, however, consistency of the contraceptive use has been least explored. Though cross-sectional studies have shown the contraceptive usage at a particular point of time, there are lacunae in literature in consistent contraceptive usage data. Building an understanding of the contraceptive usage, its consistency and factors associated with it are useful for clinicians, primary care physicians and community health workers as the influence of healthcare workers under Reproductive, Maternal, Neonatal and Childhood and Adolescent program (RMNCH + A) on uptake of maternal healthcare services and on the intention to use contraceptives is well documented in the Indian context.^[12] These services are primarily provided at primary care level and primary care physicians are well equipped to assess and counsel the couple about consistent and correct use of contraceptives. Therefore, the present study was undertaken to estimate the CPR, find out the consistency of the contraceptive usage and associated factors amongst the eligible couples of Delhi.

Methodology

Study type and setting

The present study is a records-based study conducted at one of the Rural Health Training Centre (RHTC) affiliated to the authors' institution. Located in South-West Delhi, it is the largest primary health centre (PHC), out of the total 5 existing PHCs in Delhi. It is also one of the oldest PHC in India.

Study population

The PHC covers 33 villages/colonies, which approximates to a total population of 82000. Each village/colony has a population of about 2500 people. The population covered mainly is peri-urban. The study population comprised of eligible couples registered in the eligible couples' register of the PHC.

Sample size

The sample size was calculated using the formula for proportions i.e., $Z\alpha/2 \cdot \sqrt{pq}/1$,^[2] taking couple protection rate of 56.6% for rural area with 95% CI, 80% power and 3.5% absolute

precision.^[5] The minimum sample size came out to be 802 eligible couples.

Study technique

Considering the proportion of eligible couples as 150-180 per 1000 population, three villages/colonies were selected by random sampling (lottery method) out of a total of 33 villages/colonies, to achieve the estimated sample size of 802. All eligible couples, registered in the eligible couple registers of the selected three villages, were included in the study which came out to be 969. Accredited Social Health Activist (ASHA) and Auxiliary Nurse Midwife (ANM) of respective villages maintained the registers and regular reporting was done to National Health Mission (NHM).

The data related to age at marriage, current age, duration of marriage, number of children, contraceptive usage, etc., were collected from the records of selected villages for the past 6 months, that is, April 2018 to September 2018. The CPR was calculated as proportion for each month and in person-months based on the contraceptive use of eligible couples in the study period. Eligible couples who had ever used any modern method of contraceptive during the study period of six months were categorised as ever users and those who had never used were categorised as never users. The couples who had used any modern contraceptive continuously for six months' study period were considered "Consistent users" and those not using contraceptives consistently were classified as inconsistent users.

Data analysis

The data were entered in Microsoft Excel, analysed for completeness, and cleaned for errors and missing values. Data analysis was done using licensed Statistical Package for the Social Sciences (SPSS) software version 21.0. The Chi-square test or Fisher exact test was used in studying significance in qualitative data. A *P* value of less than 0.05 was taken as significant. Multivariable logistic regression was applied to quantify the association between consistent contraceptive usage and covariates. The association was expressed in terms of odds ratios with 95% Confidence Interval (CI). Variables with *P* value <0.05 were considered statistically significant.

Ethical statement

The study was conducted within the boundaries of Helsinki declaration. Permission to conduct the study was obtained from the Director and Medical Officer In-charge of PHC. As this was a secondary data analysis, the ethical clearance was waived off by the department. The privacy of subjects and confidentiality of information was maintained by using pseudonyms.

Results

The selected 3 villages cover a total population of 6366. Total Eligible Couples registered in those villages were 1029. Out of them, 969 Eligible Couples' records were found to be complete.

Out of 969 couples, 23 couples were pregnant and their records were excluded from further analysis. Therefore, data of 946 couples were analysed.

Socio-demographic profile

The mean age of females was found to be 30.3 ± 5.5 years (range 18 to 49) and males were 33.5 ± 6.4 years (range 20 to 60). The mean age of marriage among females was 21.4 ± 2.9 years (range 12 to 33) and males was 24.7 ± 3.7 years (range 16 to 36). Almost half of the eligible couples had 2 children (45.2%). The median number of total children was 2 (range 0 to 7) and the median number of male and female children was 1 with range 0 to 5 and 0 to 7, respectively [Table 1].

Contraceptive usage, its types and consistency

The couple protection rate ranged from a minimum of 54.0 (511) and a maximum of 55.0 (520) over the study period of 6 months (Mean = 54.7%, 517). A total of 56.2% (532) eligible couples have used contraceptive at least once in six months i.e., ever contraceptive users and 54.7% (517) were using contraceptives consistently while 414 (43.8%) study participants never used any modern contraceptive method during six months of the study period. Out of 5676 person-months (946 persons followed up for 6 months), the contraceptive method was used for 3101 person-months i.e., on an average of 3.3 months per person.

Out of all the protected couples, 105 (20.3%) were protected by permanent methods and 412 (79.7%) by temporary methods which included male condoms, intrauterine contraceptive device (IUCD) and oral contraceptive pills (OCPs). Only female sterilization was utilized as a permanent method of contraception, which contributed to 105 (20.3%) of all the protected couples, as none of the eligible couple used vasectomy. Male condoms were used by 67.1% (347) of protected couples, IUCD by 5.6% (29) and OCPs by 7% (36). There were 51 couples who got pregnant during the study period of six months. Out of these 51 couples, 39 have never used any contraceptive, nine were using condoms consistently, two were using condoms inconsistently and one couple was using OCP consistently during the study period. Therefore, there were 12.3 pregnancies per 100 non-users, 2.2 pregnancies per 100 ever users and 1.9 per 100 consistent users (1.7 for condoms and 0.2 for OCPs).

Factors associated with contraceptive use

In multivariable analysis, higher number of total and male children and lower age difference between husband and wife were found to have significantly higher odds of ever contraceptive use (p-value <0.05). Age of husband and wife, number of female children and duration of marriage were not associated with ever contraceptive use [Table 2].

Consistent contraceptive use was found to be significantly associated with total number of male children, total number of children and age difference between husband and

Table 1: Socio-demographic Profile of Study Participants (n=946)

| Variable | Frequency | Percentage |
|--|-----------|------------|
| Current age of wife (in completed years) | | |
| <20 | 4 | 0.4 |
| 20-24 | 130 | 13.8 |
| 25-29 | 320 | 33.8 |
| 30-34 | 236 | 24.9 |
| 35-39 | 195 | 20.7 |
| 40-44 | 58 | 6.1 |
| >44 | 3 | 0.3 |
| Current age of husband (in completed years) | | |
| 20-24 | 43 | 4.5 |
| 25-29 | 238 | 25.2 |
| 30-34 | 252 | 26.6 |
| 35-39 | 213 | 22.5 |
| 40-44 | 136 | 14.4 |
| >44 | 64 | 6.8 |
| Age at marriage of females (in completed years) | | |
| <18 | 59 | 6.2 |
| ≥18 | 887 | 93.8 |
| Age at marriage of males (in completed years) | | |
| <21 | 95 | 10.0 |
| ≥21 | 851 | 90.0 |
| Total number of children | | |
| 0 | 95 | 10.0 |
| 1 | 264 | 27.9 |
| ≥2 | 587 | 62.1 |
| Number of male Children | | |
| 0 | 267 | 28.2 |
| 1 | 512 | 54.1 |
| ≥2 | 167 | 17.7 |
| Number of female Children | | |
| 0 | 363 | 38.4 |
| 1 | 431 | 45.6 |
| ≥2 | 152 | 16.0 |
| Duration of marriage (in completed years) | | |
| <5 | 266 | 28.2 |
| 5-10 | 359 | 37.9 |
| >10 | 321 | 33.9 |
| Age difference between husband and wife (in completed years) | | |
| <5 | 693 | 73.3 |
| 5-10 | 236 | 24.9 |
| >10 | 17 | 1.8 |

wife (p-value < 0.05). The odds of consistent use of contraceptive among couples having >10 years of age difference between husband and wife was 0.26 times than couples with less than 5 years of age difference [Table 3].

Discussion

The couple protection rate is an indicator of health, population, development, and women's empowerment. Infrequent and inconsistent contraceptive use is a barrier to the achievement of target related to total fertility rate. This research builds data on earlier studies by the addition of contraceptive use in

Table 2: Factors associated with ever use of contraception in past 6 months (n=946)

| Variable | Contraception | | Total n (%) | Crude OR (95% CI) | P | Adjusted OR (95% CI) | P |
|---|-----------------------------|----------------------------|----------------|----------------------|--------|-------------------------|--------|
| | Never used (n=414) n (%) | Ever used (n=532) n (%) | | | | | |
| Current Age of wife | | | | | | | |
| <30 years | 220 (48.5) | 234 (51.5) | 454 (100) | 1.00 (ref) | | 1.00 (ref) | 0.426 |
| ≥30 years | 194 (39.4) | 298 (60.6) | 492 (100) | 1.44 (1.11-1.86) | 0.01* | 1.18 (0.77-1.82) | |
| Current Age of husband | | | | | | | |
| <30 years | 139 (49.5) | 142 (50.5) | 281 (100) | 1.00 (ref) | | 1.00 (ref) | 0.320 |
| ≥30 years | 275 (41.4) | 390 (58.6) | 665 (100) | 1.28 (1.04-1.83) | 0.000* | 0.79 (0.51-1.24) | |
| Total number of children | | | | | | | |
| 0 | 73 (76.8) | 22 (23.2) | 95 (100) | 1.00 (ref) | | 1.00 (ref) | 0.013* |
| 1 | 134 (50.8) | 130 (49.2) | 264 (100) | 3.21 (1.88-5.49) | 0.000* | 2.49 (1.21-5.14) | 0.019* |
| ≥2 | 207 (35.3) | 380 (64.7) | 587 (100) | 6.09 (3.67-10.1) | 0.000* | 3.66 (1.23-10.86) | |
| Total number of male children | | | | | | | |
| 0 | 160 (59.9) | 107 (40.1) | 267 (100) | 1.00 (ref) | | 1.00 (ref) | 0.125 |
| 1 | 211 (41.2) | 301 (58.8) | 512 (100) | 2.13 (1.57-2.88) | 0.000* | 1.49 (0.89-2.51) | 0.011* |
| ≥2 | 43 (25.7) | 124 (74.3) | 167 (100) | 4.32 (2.82-6.59) | 0.000* | 3.04 (1.29-7.14) | |
| Total number of female children | | | | | | | |
| 0 | 179 (49.3) | 184 (50.7) | 363 (100) | 1.00 (ref) | | 1.00 (ref) | |
| 1 | 176 (40.8) | 255 (59.2) | 431 (100) | 1.41 (1.06-1.86) | 0.017* | 1.09 (0.64-1.86) | 0.747 |
| ≥2 | 59 (38.8) | 93 (61.2) | 152 (100) | 1.53 (1.04-2.25) | 0.030* | 1.26 (0.56-2.83) | 0.563 |
| Duration of marriage (in completed years) | | | | | | | |
| <5 | 146 (54.9) | 120 (45.1) | 266 (100) | 1.00 (ref) | 0.000* | 1.00 (ref) | 0.788 |
| 5-10 | 140 (39.0) | 219 (61.0) | 359 (100) | 1.90 (1.38-2.62) | 0.000* | 1.06 (0.68-1.63) | 0.408 |
| >10 | 128 (39.9) | 193 (60.1) | 321 (100) | 1.83 (1.32-2.54) | | 0.78 (0.45-1.38) | |
| Age difference between husband and wife (in completed years) | | | | | | | |
| <5 | 301 (43.4) | 392 (56.6) | 693 (100) | 1.00 (ref) | 0.954 | 1.00 (ref) | 0.515 |
| 5-10 | 102 (43.2) | 134 (56.8) | 236 (100) | 1.01 (0.74-1.35) | 0.090 | 0.89 (0.64-1.24) | 0.047* |
| >10 | 11 (64.7) | 6 (35.3) | 17 (100) | 0.41 (0.15-1.14) | | 0.33 (0.11-0.98) | |

*Significant association

the context of consistency and factors associated with it. The research is of particular importance to primary care physicians as previous literature has showed that intention to use contraceptive among women who were not using any method was 21% higher with the involvement of healthcare workers in comparison to non-involvement of health workers.^[12]

In present study, the couple protection rate ranged from a minimum of 54.0 and a maximum of 55.0 over the study period, which is similar to the National (53.5%) and Delhi (54.9%) state-level estimates of NFHS-4 and other studies.^[4,5,13] However, the CPR of the present study was lower in comparison to other studies conducted in different parts of the country where it ranged from 59.3 to 80.8%.^[14-18] This could be due to differences in study setting as those studies either included older study participants compared to our study or hospital patients while the present study retrieved data from the eligible couples' register which is a community-based record maintained by ASHAs and ANMs. Low CPR rates can decrease the pace of progress towards attainment of Vision Family planning (FP) 2020 and Sustainable development goals (SDGs).^[19,20]

Majority (79.7%, 412) of the protected couples were using a temporary method of contraception in the present study, which is similar to the study findings of Lakshmi MM *et al.*^[16] and NFHS-4 results for National Capital Territory (NCT) Delhi.^[5]

This was different from findings of NFHS-4 results for India and from other studies conducted in different parts of the country where majority eligible couples were protected by permanent methods.^[4,18,21] A comparatively younger population of eligible couples in the present study with majority couples aged less than 35 years might partly explain this lower usage of permanent methods of contraception. The most common temporary method of contraception among contraceptive users in the present study was a male condom. The present study results were comparable to the findings of the studies conducted by Gore S *et al.*, Osborn JA *et al.*, Ewerling F *et al.* and NFHS-4 results for NCT Delhi and India.^[4,5,18,21,22]

The present study shows that none of the eligible couple was using vasectomy as a method of contraception. This was in tune with the findings of NFHS-4 for both India and NCT Delhi and another study conducted by Osborn JA *et al.*^[18] in Tamil Nadu, where male sterilization was used by less than 0.5% of eligible couples.^[4,5] Male participation in family planning is vital for the achievement of targets for population control as mostly they are the decision-makers for desirable family size and adoption of contraceptive methods.^[23,24] It also affects maternal and child health in the long term. India's family planning programme has incentivised the adoption of tubectomy and vasectomy as contraceptive methods and incentives are higher for vasectomy compared to tubectomy. Still low rates of vasectomy in the Indian

Table 3: Factors associated with consistent contraceptive use in past 6 months (n=946)

| Variable | Consistent contraceptive use | | Total n (%) | Crude OR (95% CI) | P | Adjusted OR (95% CI) | P |
|---|------------------------------|-------------------|-------------|----------------------|--------|-------------------------|--------|
| | No (n=429) n (%) | Yes (n=517) n (%) | | | | | |
| Age of wife (in completed years) | | | | | | | |
| <30 | 231 (50.9) | 223 (49.1) | 454 (100) | 1.00 (ref) | 0.001* | 1.00 (ref) | 0.318 |
| ≥30 | 198 (40.2) | 294 (59.8) | 492 (100) | 1.53 (1.18-1.99) | | 1.24 (0.81-1.90) | |
| Age of husband (in completed years) | | | | | | | |
| <30 | 146 (52.0) | 135 (48.0) | 281 (100) | 1.00 (ref) | 0.008* | 1.00 (ref) | 0.316 |
| ≥30 | 283 (42.6) | 382 (57.2) | 665 (100) | 1.46 (1.10-1.93) | | 0.79 (0.51-1.24) | |
| Total number of children | | | | | | | |
| 0 | 76 (80.0) | 19 (20.0) | 95 (100) | 1.00 (ref) | 0.000* | 1.00 (ref) | 0.014* |
| 1 | 142 (53.8) | 122 (46.2) | 264 (100) | 3.43 (1.96-6.00) | 0.000* | 2.53 (1.20-5.31) | 0.015* |
| ≥2 | 211 (35.9) | 376 (64.1) | 587 (100) | 7.12 (4.19-12.1) | | 3.89 (1.29-11.6) | |
| Total number of male children | | | | | | | |
| 0 | 167 (62.5) | 100 (37.5) | 267 (100) | 1.00 (ref) | 0.000* | 1.00 (ref) | 0.087 |
| 1 | 218 (42.6) | 294 (57.4) | 512 (100) | 2.25 (1.66-3.05) | 0.000* | 1.57 (0.93-2.64) | 0.006* |
| ≥2 | 44 (26.3) | 123 (73.7) | 167 (100) | 4.66 (3.05-7.13) | | 3.29 (1.40-7.75) | |
| Total number of female children | | | | | | | |
| 0 | 188 (51.8) | 175 (48.2) | 363 (100) | 1.00 (ref) | 0.006* | 1.00 (ref) | 0.622 |
| 1 | 181 (42.0) | 250 (58.0) | 431 (100) | 1.48 (1.12-1.96) | 0.011* | 1.14 (0.67-1.95) | 0.456 |
| ≥2 | 60 (39.5) | 92 (60.5) | 152 (100) | 1.64 (1.12-2.42) | | 1.35 (0.61-3.03) | |
| Duration of marriage (in completed years) | | | | | | | |
| <5 | 153 (57.5) | 113 (42.5) | 266 (100) | 1.00 (ref) | 0.000* | 1.00 (ref) | 0.866 |
| 5-10 | 146 (40.7) | 213 (59.3) | 359 (100) | 1.97 (1.43-2.72) | 0.000* | 1.03 (0.67-1.60) | 0.369 |
| >10 | 130 (40.5) | 191 (59.5) | 321 (100) | 1.98 (1.43-2.76) | | 0.77 (0.44-1.35) | |
| Age difference between husband and wife (in completed years) | | | | | | | |
| <5 | 312 (45.0) | 381 (55.0) | 693 (100) | 1.00 (ref) | 0.888 | 1.00 (ref) | 0.494 |
| 5-10 | 105 (44.5) | 131 (55.5) | 236 (100) | 1.02 (0.75-1.37) | 0.046* | 0.89 (0.64-1.23) | 0.020* |
| >10 | 12 (70.6) | 5 (29.4) | 17 (100) | 0.34 (0.11-0.97) | | 0.26 (0.08-0.80) | |

*Significant association

population calls for contemplation of incentive based approach and exploratory research is required to take into consideration factors other than financial incentives to improve these rates.

In the present study, about 54.7% of the eligible couples were using contraceptives consistently which is comparable to the findings of Haldar A *et al.*^[25] in West Bengal (58.4%). Consistent contraceptive use is essential to achieve the effectiveness of a particular contraceptive method, which can further influence the choice, and decision of eligible couples to continue or discontinue the used contraceptive method in future. Inconsistent use leads to unintended pregnancies, which can result in increased unsafe abortions, malnutrition, illness, abuse and increased maternal and neonatal mortality. This can also start an inter-generational cycle of high fertility, lower potential for education and employment and poverty.^[7]

Couples having two or more children and two or more male children were found to have significantly higher odds of consistent use of contraceptives compared to those having no child and having no male child, respectively. Couples with >10 years of age difference between husband and wife had lower odds of consistent contraceptive use compared to couples with <5 years of age difference. Other factors were not found to be associated with consistent use of contraceptives.

Key points: Approximately 56.2% eligible couples ever used modern contraceptives, 54.7% used them consistently and 43.8%

never used any modern contraceptive during the study period. The pregnancy rates were higher among non-users followed by ever users and consistent users. The mean couple protection rate over past six months was found to be 54.7% and majority couples were using temporary methods of contraception. Not even a single couple chose vasectomy as contraceptive method.

Take home messages: Health-care workers need to establish a dialogue with non-users and inconsistent users explaining the higher chances of pregnancies which might be unwanted among non-users and inconsistent users and benefits, including direct and indirect health benefits, of using a contraceptive of their choice consistently and correctly. With no couple adopting vasectomy as method of contraception, it is important for all the stakeholders including primary care physicians, healthcare workers, policymakers, etc., to re-visit the approach to promote it amongst eligible couples who have completed their families and now wish to adopt permanent method of contraception. This will additionally improve the rates of consistent contraceptive usage among eligible couples.

Limitations- As it was a record based study, social, cultural, knowledge and other factors could not be elicited. As the study population comprised of a peri-urban area, findings cannot be generalised to other parts of the country.

Novelty of the study: To the best of our knowledge, this is amongst the few studies from India which estimated consistent

contraceptive use and the factors associated with it. The study also calculated the pregnancy rates among non-users, ever users and consistent users. Moreover, this study analysed data from eligible couples' register which is a community-based record while previous studies were mostly focussed on hospital or clinic attendees. Longitudinal nature of the study adds to its novelty.

Conclusion and Recommendations

Almost more than half of the eligible couples were found to be using contraceptives ever in past 6 months, and 54.7% of eligible couples were using them consistently. There is a need to explore social, cultural factors, awareness levels associated with the ever and consistent use of contraceptives for improving overall couple protection rate and enhancing the consistency in usage as pregnancy rate was found to be higher among non-users and inconsistent users compared to consistent users. Past experiences with used contraceptives can be explored further so that remedial actions can be taken for barriers leading to non-usage or inconsistent usage. Vasectomy was not used by any of the eligible couple as a contraceptive method. Qualitative studies and implementation research is required to identify the bottlenecks in adoption of vasectomy by community which can supplement the incentive based approach.

Acknowledgements

Director, Medical Officer, staffs, ANM and ASHA of Rural Health Training Center, Najafgarh, Delhi.

Financial support and sponsorship

Nil.

Conflicts of interest

There are no conflicts of interest.

References

1. The World Bank. Population growth (annual %). The World Bank Group. 2021. Available from: https://data.worldbank.org/indicator/SP.POP.GROW?name_desc=false. [Last accessed on 2021 Oct 17].
2. Ministry of Health and Family Welfare. National Family Planning Programme. Ministry of Health and Family Welfare, Government of India. 2017. Available from: <https://humdo.nhp.gov.in/about/national-fp-programme/>. [Last accessed on 2021 Oct 17].
3. World Health Organization. The WHO India country cooperation strategy 2019-2023: A time of transition. Ministry of Health and Family Welfare, Government of India. World Health Organization, Regional Office for South-East Asia, New Delhi. 2019. Available from: https://www.who.int/docs/default-source/searo/india/publications/who-india-country-cooperation-strategy-30-sep-2019-low-res.pdf?sfvrsn=6c5152e0_2. [Last accessed on 2021 Oct 17].
4. Ministry of Health and Family Welfare. National Family Health Survey 2015-16. India fact sheet. Ministry of Health and Family Welfare, Government of India. International Institute for Population Sciences. Available from: <http://rchiips.org/NFHS/pdf/NFHS4/India.pdf>. [Last accessed on 2021 Oct 17].
5. Ministry of Health and Family Welfare. National Family Health Survey 2015-16. State fact sheet, NCT Delhi. Ministry of Health and Family Welfare, Government of India. International Institute for Population Sciences. Available from: http://rchiips.org/nfhs/pdf/NFHS4/DL_FactSheet.pdf. [Last accessed on 2021 Oct 17].
6. Srivastava U, Singh KK, Yadav PK. Disaggregated analysis of birth averted due to family planning use in India: An evidence from NFHS-4 (2015-16). *PLoS One* 2020;15:e0239376.
7. Knowledge for Health Project. Family Planning: A Global Handbook for Providers. World Health Organization, Geneva, Switzerland. Johns Hopkins Bloomberg School of Public Health, Baltimore. 2018 update. Available from: <https://apps.who.int/iris/bitstream/handle/10665/260156/9780999203705-eng.pdf?sequence=1>. [Last accessed on 2021 Oct 17].
8. Centers for Disease Control and Prevention. Reproductive health. Unintended pregnancy. Division of Reproductive Health, National Center for Chronic Disease Prevention and Health Promotion. Centers for Disease Control and Prevention. 2021. Available from: <https://www.cdc.gov/reproductivehealth/contraception/unintendedpregnancy/index.htm>. [Last accessed on 2021 Oct 17].
9. World Health Organization. High rates of unintended pregnancies linked to gaps in family planning services: New WHO study. World Health Organization, Geneva, Switzerland. 2019. Available from: <https://www.who.int/news/item/25-10-2019-high-rates-of-unintended-pregnancies-linked-to-gaps-in-family-planning-services-new-who-study>. [Last accessed on 2021 Oct 17].
10. Singh S, Darroch JE, Ashford LS. Adding it up: The costs and benefits of investing in sexual and reproductive health 2014. Guttmacher Institute, New York. 2014. Available from: https://www.guttmacher.org/sites/default/files/report_pdf/addingitup2014.pdf. [Last accessed on 2021 Oct 17].
11. Polis CB, Bradley SEK, Bankole A, Onda T, Croft T, Singh S. Typical-use contraceptive failure rates in 43 countries with Demographic and Health Survey data: Summary of a detailed report. *Contraception* 2016;94:11-7.
12. Kumar A, Jain AK, Ram F, Acharya R, Shukla A, Mozumdar A, *et al.* Health workers' outreach and intention to use contraceptives among married women in India. *BMC Public Health* 2020;20:1041.
13. Thulaseedharan JV. Contraceptive use and preferences of young married women in Kerala, India. *Open Access J Contracept* 2018;9:1-10.
14. Gummaraj NV, Menzil M, Kurre B, Deepa LN, Meundi AD. Contraceptive practices among the eligible couples from a rural and an urban area of Karnataka. *Natl J Community Med* 2018;9:524-8.
15. Kshirsagar V, Rajderkar S, Dudhbhate B. Family planning practices amongst women of reproductive age groups in field practice area of rural health training centre of Government Medical College, Miraj, Maharashtra. *Int J Community Med Public Health* 2018;5:4735.
16. Lakshmi MM, Neetha, Rai S. Contraceptive practices among reproductive age group of women in Justice K. S. Hegde Medical College Hospital, Mangalore. *Int J Reprod Contracept Obstet Gynecol* 2013;2:39-46.
17. Divedi P, Rawat R, Vishwakarma S, Mittal N, Dwivedi D. Cross sectional study for contraceptive practices in

- antenatal women at tertiary rural institute. *Int J Res Med Sci* 2018;6:618-22.
18. Osborn JA, Sriram R, Karthikeyan S, Ravishankar SL. A study on contraceptive prevalence rate and factors influencing it in a rural area of Coimbatore, South India. *J Family Med Prim Care* 2021;10:2246-51.
 19. Cahill N, Sonneveldt E, Stover J, Weinberger M, Williamson J, Wei C, *et al.* Modern contraceptive use, unmet need, and demand satisfied among women of reproductive age who are married or in a union in the focus countries of the Family Planning 2020 initiative: A systematic analysis using the Family Planning Estimation Tool. *Lancet* 2018;391:870-82.
 20. Dockalova B, Lau K, Barclay H, Marshall A. Sustainable development goals and family planning 2020. International planned parenthood federation, London, United Kingdom. 2016. Available from: <https://www.ippf.org/sites/default/files/2016-11/SDG%20and%20FP2020.pdf>. [Last accessed on 2021 Oct 17].
 21. Ewerling F, McDougal L, Raj A, Ferreira L, Blumenberg C, Parmar D, *et al.* Modern contraceptive use among women in need of family planning in India: An analysis of the inequalities related to the mix of methods used. *Reprod Health* 2021;18:173.
 22. Gore S, Katkuri S. A study to assess contraceptive use among married women in urban and rural areas: A comparative study. *Int J Reprod Contracept Obstet Gynecol* 2016;5:2978-82.
 23. Kaur R, Acharya AS, Yadav V, Dabar D. Male involvement in family planning: A qualitative study of perceptions and practices. *Int J Preven Curat Comm Med* 2016;2:30-6.
 24. Mishra A, Nanda P, Speizer IS, Calhoun LM, Zimmerman A, Bhardwaj R. Men's attitudes on gender equality and their contraceptive use in Uttar Pradesh India. *Reprod Health* 2014;11:41.
 25. Haldar A, Baur B, Das P, Misra R, Pal R, Roy RP. Contraceptive practices and associated social covariates: An experience from two districts of West Bengal, India. *Nepal J Epidemiol* 2012;2:219-25.