

# Determinants of Modern Contraceptive Usage among Married Women: A Mixed-Methods Study in a Rural Community of India

Trina Sengupta<sup>ID</sup>, MBBS\*, Bobby Paul<sup>ID</sup>, DCH, M.D.(PSM)\*\*, Lina Bandyopadhyay<sup>ID</sup>, M.D. (PSM)\*\*\*, Ranjan Das<sup>ID</sup>, M.D.(PSM)\*\*\*\*, Ankush Banerjee<sup>ID</sup>, MBBS, M.D.\*\*\*\*\*

\*Department of Preventive & Social Medicine, All India Institute of Hygiene & Public Health, Kolkata, India, \*\*Department of Occupational Health, All India Institute of Hygiene & Public Health, Kolkata, India, \*\*\*Department of Preventive & Social Medicine, All India Institute of Hygiene & Public Health Kolkata, India, \*\*\*\*Department of Preventive and Social Medicine, All India Institute of Hygiene & Public Health Kolkata, India, \*\*\*\*\*Department of Preventive & Social Medicine, All India Institute of Hygiene & Public Health Kolkata, India.

## ABSTRACT

**Objective:** A woman's multifaceted feelings, knowledge, and perceptions of their intimate relations greatly influence their contraceptive behavior. In addition, women empowerment has been increasingly recognized as a key factor in family planning and reproductive health outcomes. This study aimed to assess modern contraceptive usage and its determinants among currently married women of reproductive-age (WRA) in rural Bengal.

**Materials and Methods:** This mixed-method study was conducted in a rural area of Hooghly District, West Bengal from April to September 2021. The quantitative strand of the study was conducted by interviewing 210 currently married WRA. The qualitative strand was conducted via focussed group discussions among husbands/mothers-in-law and in-depth interviews with healthcare workers. SPSS software was utilized for quantitative data analysis and factors associated with contraceptive usage were analyzed using logistic regression models. Qualitative data were analyzed thematically.

**Result:** Currently 114 (54.8%) study participants were using modern contraceptive methods. Education (aOR=7.65, 95% CI=1.85-31.67), empowerment through freedom from family domination (aOR=5.56, 95% CI=1.30-23.66), attitude on contraception (aOR=4.67, 95% CI=1.26-17.19), and family planning counselling (aOR=4.41, 95% CI=1.12-17.33) were found to be significantly associated with modern contraceptive usage. Lack of couple counselling, family support, and knowledge gap was identified as the major barriers to contraceptive usage.

**Conclusion:** Since a woman's decision-making ability significantly affects their sexual and reproductive health outcomes, effective measures should be undertaken to empower them by creating awareness regarding their rights and freedom to make strategic life choices. Couple counselling should be prioritized to enhance male involvement and eliminate perceived barriers.

**Keywords:** Contraceptive; empowerment; family support; India; mixed-methods (Siriraj Med J 2022; 74: 666-674)

## INTRODUCTION

Family Planning (FP) is a cost-effective investment, the timely intervention of which can help in reducing the impact of high population growth in any country.

India became the pioneer country in the world to launch a National Family Planning Programme in 1952. The current slogan of this program: "Jodi Zimmeder Jo Plan Kare Parivar" (Responsible couples are those who plan

Corresponding author: Ankush Banerjee

E-mail: ankush.banerjee20@gmail.com

Received 3 August 2022 Revised 24 August 2022 Accepted 7 September 2022

ORCID ID: <http://orcid.org/0000-0003-2762-123X>

<http://dx.doi.org/10.33192/Smj.2022.78>



All material is licensed under terms of the Creative Commons Attribution 4.0 International (CC-BY-NC-ND 4.0) license unless otherwise stated.

their family) reflects the broader holistic aspects of family planning rather than just mere achievement of replacement level of fertility.<sup>1</sup> Modern contraceptive services which are available under this program are broadly of two types- spacing methods (condoms, oral contraceptive pills, intrauterine devices), and permanent methods (sterilization techniques). The present aim of this program in India is to emphasize the need for a reduction in the number of unintended pregnancies, proper birth spacing, and attainment of the ideal age of first pregnancy.

This current initiative has helped the country to traverse a long way in achieving its goal of slowing the population growth as recent data as per the National Family Health Survey (NFHS-5) statistics have shown that India's TFR (Total Fertility Rate) has come down to the replacement level of 2. Despite this nationwide laudable achievement, some states in India (Madhya Pradesh, Rajasthan, Uttar Pradesh, Jharkhand) are still lagging behind their desired fertility rates. Moreover, India still houses approximately 9.4% of eligible couples with an unmet need for FP, reflecting a significant gap between their reproductive intentions and contraceptive behavior.<sup>2</sup> Family planning plays a central role in women's health by reducing the mortality rate of unsafe abortions and undesired pregnancies.<sup>3</sup> Previous studies have shown that approximately 15.6 million abortions have been performed in India in the year 2015, which was associated with a high rate of unintended pregnancy (70.1 per 1000 women aged 15-49 years).<sup>4</sup> NFHS-5 also showed that the state of West Bengal deserves special mention as the proportion of total unmet needs is particularly high in rural areas (7.8%) as compared to urban areas (5.2%).

Lower rates of contraceptive usage in India; especially in rural areas are largely driven by gender inequality and lack of female autonomy over family planning choices. A study by Shakya et al done in rural India had shown that women empowerment was higher in those couples who received increasing communication regarding contraception.<sup>5</sup> Women empowerment which has been defined as '*the expansion of people's ability to make strategic life choices in a context where this ability was previously denied to them*' has increasingly been recognized as a key factor affecting FP and reproductive health outcomes among women.<sup>6,7</sup> In developing nations like India where gender discrimination is very prominent (particularly in rural areas), a complete understanding of how gender-based power influences the ability to access and use contraceptives is the need of the hour. Moreover, the influence of family-level stakeholders on a woman's choice of contraceptives as well as deficiencies

at the health sector level needs further exploration, thus mandating the necessity of mixed-method research. With this backdrop, the present study aimed to assess the contraceptive usage patterns and their major determinants (through quantitative strand) among the currently married women of the reproductive age group (WRA). Again the perspective about using modern contraceptives among family-level stakeholders (husbands and mothers-in-law in the case of this particular study) and also the felt barriers of healthcare workers with regards to providing family planning services to the rural community were explored through the qualitative strand of the study.

## MATERIALS AND METHODS

This cross-sectional study with a mixed-methods approach (convergent parallel design) was conducted from April to September 2021 in the rural service area of the Rural Health Unit and Training Centre (RHUTC), Singur, Hooghly District, West Bengal. Two primary health centres and 12 sub-centers are situated in the study area from where family planning services are provided to the community comprising of 64 villages. The quantitative strand of this study was conducted among the currently married WRA (15 to 49 years of age), residing in the study area for at least five years. Those who did not give written informed consent were critically ill or had undergone hysterectomy or oophorectomy were excluded. For the qualitative strand, family members comprising of husbands and mothers-in-law of study participants, as well as healthcare workers working in the study area for at least 1 year, were selected.

### Sampling:

According to the National Family Health Survey 5 (NFHS 5), the prevalence of modern contraceptive usage among currently married women in West Bengal was found to be 60.6%.<sup>2</sup> Considering  $P=0.606$ , an absolute error of precision ( $L$ )=10%, design effect=2 (for cluster sampling in the first stage), and non-response rate=5% (for simple random sampling done in the second stage) the sample size estimated using standard Cochran's formula was 201.<sup>8</sup> Since a two-stage cluster sampling technique was applied comprising 15 clusters, the final sample size came to be 210.

A list of all 64 villages (along with the population of each village) situated in the rural service area of RHUTC, Singur was taken. From that list, 15 villages were selected through a probability proportional to size (PPS) method. From each of those 15 villages, 16 currently married WRA, residing at those villages were selected by Simple Random Sampling. These selected participants were

approached at their residences with help of field-level healthcare workers. For the qualitative strand, participants were selected purposively and data was collected till the point of data saturation.

#### Data Collection, Study Tools, and Parameters used:

The quantitative part of the study was conducted through face-to-face interviews among the currently married WRA. A predesigned, pretested structured questionnaire was prepared [translated into the local language of Bengali] which was face and content validated by a team of public health experts. It consisted of the following domains-

- a) *Socio-demographic characteristics* which included age, religion, educational status, occupation, socio-economic status, type of family, and number of children.
- b) *Knowledge regarding contraceptives and attitude towards their usage:* The knowledge-based section consisted of 12 items where the participants had to respond as “True, False, or Don’t Know” (Cronbach’s alpha=0.73). The correct response was given a score of ‘1’ while the wrong response or “Don’t know” fetched a score of ‘0’. Total scores ranged from 0 to 12 while the cut-off for having satisfactory knowledge was taken to be the 75<sup>th</sup> percentile of the total attained score (=8). Attitude toward using contraceptives consisted of a 10-items questionnaire, distributed across three domains: Attitude towards perceived benefits of contraception, perceived barriers from family-level stakeholders, and perceived self-barriers to contraceptive use (Cronbach’s alpha= 0.67). Each item had three options (Disagree, Neutral, and Agree) with scores ranging from -1 to 1. The total (ranging from -10 to 10) was calculated by adding scores of each domain. Cut-off for having a favorable attitude was taken to be the 75<sup>th</sup> percentile of the total attained score (=5).
- c) *Women’s Empowerment Scale adopted from Compendium of Gender Scale by C-change* (previously applied in a similar demographic setting in Bangladesh): It consisted of 18 items, distributed across three sub-scales: *i) women’s mobility* (8 items) in which each respondent was given a score of ‘1’ for each place she had visited and an additional score of ‘1’ if she had ever gone there alone. Thus, the scores ranged from 0 to 8 [Cut-off for being empowered was taken as 75<sup>th</sup> percentile of the attained total score (=5)] *ii) Freedom from Family Domination* (4 items); the responses were scored as 1 for ‘Yes’ and 0 for ‘No’ response. A woman was classified as “empowered”

if she said that none of the mentioned items ever happened to her or as “not empowered” if any of these items had happened to her, *iii) Economic Security* (4 items): A score of ‘1’ was assigned for each of the following items: if a woman owned her house or land; owned any productive asset; had her cash savings or her savings were ever used for business or money-lending. A woman with a score of  $\geq 2$  was classified as being empowered. Levels of women empowerment were measured separately for each sub-scale.<sup>9</sup>

- d) *The current usage of modern contraceptives by the study participants* was the outcome variable of this study. Participants were asked whether they have used any of the modern contraceptive methods (oral contraceptive pills, IUDs, condoms, injectables, tubectomy) in the past 6 months. Any participant who had utilized at least one of the mentioned methods was considered a modern contraceptive user.

For the qualitative strand of the study, two focus group discussions (FGDs) were conducted among family-level stakeholders of the study participants. One FGD was conducted among six husbands (median age= 30 years) and the other among six mothers-in-law (median age=67 years) to explore their diverse view-point about family planning. Each FGD took place for about 45 minutes and was conducted with the help of an FGD guide. In addition, in-depth interviews of health workers [one public health nurse (56 years), one multipurpose worker female (42 years), and three accredited social health activists (median age=35 years)] were carried out to explore their perceived barriers to providing contraceptive services to the community. They were interviewed with a pre-tested, semi-structured interviewer guide. All FGDs and IDIs were audio-recorded with the prior consent of the study participants.

#### Data analysis

Quantitative data were analyzed by Microsoft Excel (2016) & SPSS software (IBM Corp. Chicago. USA. version 16). Appropriate descriptive statistics were utilized for denoting the outcome variables as well as the independent variables. After excluding multicollinearity (variance inflation factor > 5), factors associated with the current usage of modern contraceptives among the study participants were analyzed by a test of significance (p-value <.05) via univariate logistic regression analysis separately. All the biologically plausible significant variables in the respective univariate analysis were included in the final multivariable models. The data obtained through

FGDs and IDIs were simultaneously processed using a manual thematic analysis approach. The records were listened to and transcribed verbatim in Microsoft Word Version 2016. The transcripts were read thoroughly, the important sentences were underlined and the main ideas derived from them were labeled as codes. Appropriate codes were then placed under appropriate themes.

## RESULTS

### Background characteristics of the study participants

Among 210 study participants, the median age was found to be 28 years (IQR=23-32 years). The majority (82.4%) were in the age group of 20-34 years. 58 (27.6%)

participants had an education level of primary or below while only 6.2% of participants were involved in some other occupation and the rest were home-maker. 84 (40%) belonged to socio-economic class III and 79 (37.6%) belonged to class IV according to Modified B.G. Prasad's Scale 2020.<sup>10</sup> (Table 1)

### Contraceptive usage patterns among the study participants

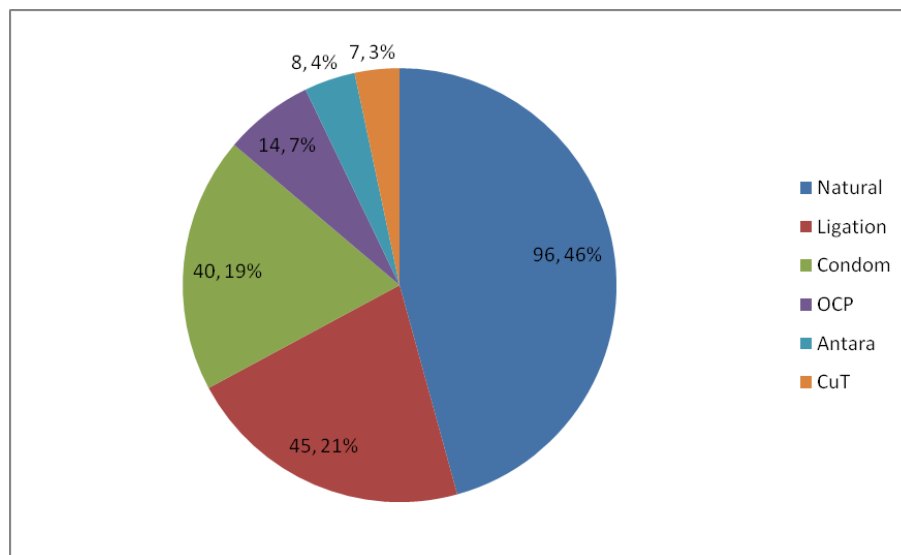
Currently, 114 (54.8%) study participants were using any of the modern methods of contraceptives. Among all participants, ligation was used by 21.4% while condom was utilized by 19% of the participants. (Fig 1)

**TABLE 1.** Descriptive characteristics of the study participants (N=210).

Parameters	Categories	Number (Percentage)
Age (in completed years)	15-19	2 (1.0)
	20-34	173 (82.4)
	35-49	35 (16.6)
Religion	Hindu	190 (90.4)
	Muslim	20 (9.6)
Respondent's education <sup>¥</sup>	Illiterate	19 (9.0)
	Primary or below	58 (27.6)
	Middle	54 (25.7)
	Secondary	43 (20.5)
	Higher Secondary	21 (10.0)
	Graduate or above	15 (7.2)
Husband's education	Illiterate	15 (7.2)
	Primary or below	66 (31.4)
	Middle	51 (24.3)
	Secondary	29 (13.8)
	Higher Secondary	27 (12.9)
	Graduate or above	22 (10.4)
Occupational status of the respondents	Home-maker	197 (93.8)
	Other professionals	13 (6.2)
Type of family	Joint	81 (38.6)
	Nuclear	129 (61.4)
Socio-economic status <sup>£</sup>	Class I (upper class)	3 (1.4)
	Class II (upper middle class)	39 (18.6)
	Class III (middle class)	84 (40.0)
	Class IV (lower middle class)	79 (37.6)
	Class V (lower class)	5 (2.4)
No of children	≤2	143 (68.1)
	>2	67 (31.9)

¥ below primary= below 5<sup>th</sup> standard, primary=passed 5<sup>th</sup> standard, middle= passed 8<sup>th</sup> standard, secondary= passed 10<sup>th</sup> standard, higher secondary= passed 12<sup>th</sup> standard

£ according to modified B.G Prasad's scale 2020



**Fig 1.** Pie-Diagram showing the current pattern of contraceptive usage among the study participants (n=210).

**Knowledge regarding contraceptives and Attitudes toward their usage among the study participants**

51.9% (n=109) of the participants had satisfactory knowledge about contraceptives (median score=7, IQR=6-8) while only 29.5% (n=61) had a favorable attitude towards their usage (median score=3, IQR=1-5).

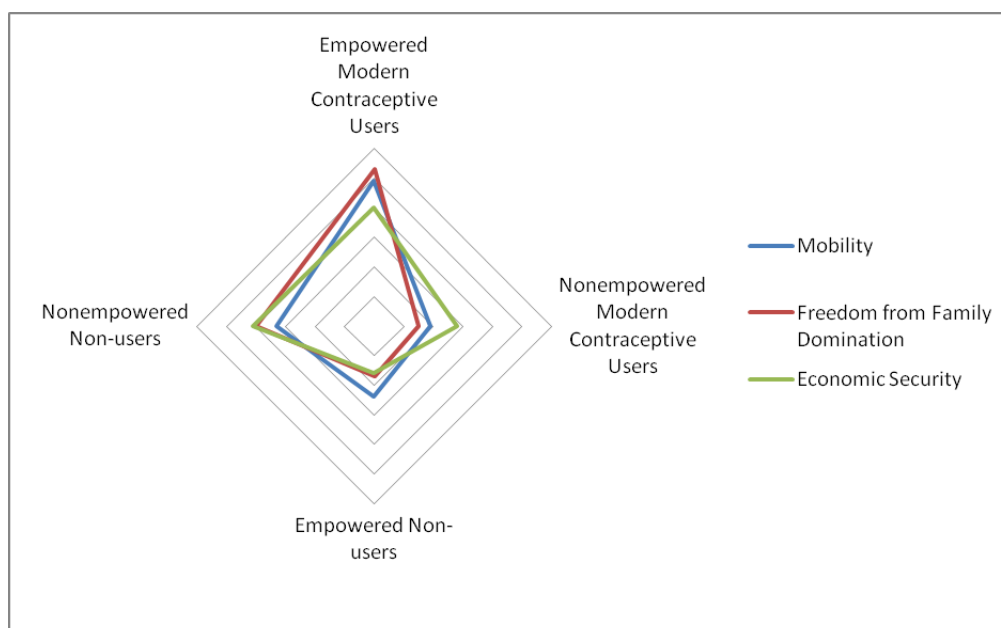
**Women’s Empowerment among the study participants**

58.6% of women were found to be empowered through the ‘Women’s Mobility’ scale whereas 56.2% were empowered on the ‘Freedom from Family Domination’ scale. Only 20% of the participants were found to be empowered through the ‘Economic Security’ sub-scale. It was detected that women who were using any of the

modern contraceptive methods were more empowered in all the three sub-scales compared to those not using any. (Fig 2)

**Factors associated with the current usage of modern contraceptives by the study participants**

Significant factors of modern contraceptives use among study participants were educational status of middle school and above [aOR=7.65, 95% CI = 1.85-31.67], favourable attitude towards modern contraceptive usage [aOR=4.67, 95% CI = 1.26-17.19], empowerment through freedom from family domination [aOR = 5.56, 95% CI = 1.30-23.66], recipients of family planning counselling [aOR = 4.41, 95% CI = 1.12-17.33]. The



**Fig 2.** Radar diagram showing the association of usage and non-usage of modern contraceptive methods with woman empowerment.



multivariable regression model deduced was of good fit (non-significant Hosmer-Lemeshow test, P-value >.05) while 42% to 63% of the variance of the outcome variable could be explained by this model. (Table 2)

### Qualitative exploratory findings

Qualitative exploration from the two FGDs among family-level stakeholders and 5 IDIs among healthcare workers revealed two major themes: a) Perspective about

**TABLE 2.** Factors associated with modern contraceptive usage among the study participants: Logistic Regression Analysis (N=210)

Parameters	Total No.	Usage of Modern Contraceptives n (%)	Unadjusted OR <sup>1</sup> (95% CI)	Adjusted OR (95% CI)
<b>Education</b>				
Below middle school	77	20 (25.9)	1 (Ref)	1 (Ref)
Middle school and above	133	94 (70.6)	6.89 (3.04-15.62)	7.65 (1.85-31.67)
<b>Husband's Education</b>				
Below middle school	81	22 (27.1)	1 (Ref)	1 (Ref)
Middle school and above	129	92 (71.3)	6.73 (3-15.07)	3.21 (0.87-11.7)
<b>Type of Family</b>				
Joint Family	81	28 (34.5)	1 (Ref)	1 (Ref)
Nuclear Family	129	89 (66.7)	3.57 (1.67-7.62)	3.31 (0.96-11.44)
<b>Socio-economic<sup>‡</sup> Status</b>				
Below middle class	84	25 (29.7)	1 (Ref)	1 (Ref)
Middle class and above	126	86 (70.6)	5.62 (2.56-12.29)	1.44 (0.37-5.61)
<b>No. of Children</b>				
≤2	143	65 (45.4)	3.11 (1.37-7.02)	3.24 (0.86-12.24)
>2	67	49 (73.1)	1 (Ref)	1 (Ref)
<b>Knowledge regarding modern contraceptives</b>				
Satisfactory	109	77 (70.6)	4.18 (1.97-8.84)	2.10 (0.58-7.55)
Unsatisfactory	101	37 (36.6)	1 (Ref)	1 (Ref)
<b>Attitude towards usage of contraceptives</b>				
Favorable	81	77 (70.6)	5.95 (2.58-13.70)	4.67 (1.26-17.19)
Unfavorable	129	37 (36.6)	1 (Ref)	1 (Ref)
<b>Women's mobility</b>				
Empowered	123	82 (66.7)	3.54 (1.68-7.48)	1.10 (0.26-4.68)
Non-empowered	87	32 (36.8)	1 (Ref)	1 (Ref)
<b>Freedom from family Domination</b>				
Empowered	118	89 (75.4)	8.31 (3.71-18.62)	5.56 (1.30-23.66)
Non-empowered	92	25 (27.1)	1 (Ref)	1 (Ref)
<b>Economic Security</b>				
Empowered	94	67 (71.2)	3.66 (1.72-7.77)	2.86 (0.69-11.81)
Non-empowered	116	47 (40.5)	1 (Ref)	1 (Ref)
<b>Received FP Counselling</b>				
Yes	136	101 (74.2)	3.66 (1.72-7.77)	4.41 (1.12-17.33)
No	74	13 (17.5)	1 (Ref)	1 (Ref)

<sup>1</sup> OR- Odds Ratio, CI- Confidence Interval

<sup>‡</sup> according to B.G Prasad Scale 2020

Hosmer-Lemeshow test statistic=0.61, Cox and Snell's R<sup>2</sup>=0.42 & Nagelkerke's R<sup>2</sup>=0.63

modern methods of contraceptives and b) Barriers to adopting modern family planning methods. Communication gap, woman's authority in choice of contraception, and lack of couple counselling were the major codes under

the theme 'Barriers to adopting modern family planning methods'. Lack of knowledge and experience emerged as the most important code under the theme of 'Perspective about modern methods of contraception. (Table 3).

**TABLE 3.** Juxtaposed Findings of both Qualitative and Quantitative Inquiry on Modern Contraceptive Usage among study participants.

Associated Survey Themes	Quantitative Components	Qualitative Components with Quotable quotes	Qualitative Codes
Barriers to adopting modern family planning methods	"One can feel embarrassed in discussing contraceptives with spouse"-46.7% responded "YES"	Less interaction about sexual and reproductive life with spouses.	Communication Gap
	"Husband's objection to contraceptive methods can prevent a woman from using it"- 52.3% responded 'YES'	Husband's domination in decision-making.	Women's Authority in Contraceptive Choices
	"Does your partner know about newer contraceptive methods like Antara"-87.4% responded "NO"	Deficient knowledge of husbands about various contraceptive choices. "In our time there was no one to teach us about reproductive health. It is important to teach sex education in schools"- a 35 years old male quoted.	Knowledge Gap
	"Have you received a couple counseling"- 98% replied "NO"	Men do not feel enough empowered for choosing contraceptives due to a lack of couple counseling. "ASHA didi told my wife to use contraceptives, but it would have been better if both of us were counselled in private. We could share more things then"- a 28-year-old husband remarked. "When we visit house to house we only get the women at home, their husbands are at work then. And especially we target the women who come for ANC or PNC clinics at health-centres, for FP counseling"- a 38-year-old ASHA told.	Lack of Couple Counselling
Perspective about Modern methods of Family Planning	"Change in Mother-in-law's attitude may improve contraceptive use"- 46.2% replied "YES"	Preformed notions about harmful side-effects of modern-day methods of contraception and lack of experience. "These modern-day girls don't discuss their lives with us, the elderly. They won't take our advice too. So I don't talk about this with my daughter-in-law and I personally never used any contraceptives in our times"- a 68-year-old mother-in-law remarked.	Lack of knowledge and experience

**DISCUSSION**

The present study tried to address holistically all the aspects of FP and elicited some major determinants of practicing modern FP methods among currently married women of reproductive age group in a rural area of Bengal. A study by Ahirwar RK et al, done in central India showed that 88.5% of study participants had never used any contraceptive methods while the current study found a considerable proportion of reproductive-aged married women using any of the modern contraceptive methods (54.8%).<sup>11</sup> Another research work done in rural Maharashtra, India by Dixit A et al found this percentage to be only 38.3% (more than one-third of the study sample).<sup>12</sup> The current study detected that tubal ligation was the most commonly used method of contraception which was found concordant with a study conducted at the national level in India by Ewerling F et al, where it was found that the majority of the reproductive-aged married women were using modern methods of contraceptives mostly in the form of sterilization. Condom and oral contraceptives were the second and third most commonly used contraceptive methods.<sup>13</sup> Another study done by Talungchit et al in Thailand showed that the most commonly used method of contraception among teenage multigravida and primigravida was oral contraceptive pills, while only 5% among primis and 25% among multigravidas were using contraceptives.<sup>14</sup> A retrospective cohort study conducted at a medical college clinic in Thailand showed that approximately 15% of women had never used any contraceptive methods.<sup>3</sup> A research work conducted by Chopra S et al demonstrated that acceptance of a permanent method of contraception among a tribal population in northern India was only 5%.<sup>15</sup>

Although the status of women in India has improved over time, across different dimensions, gender discrimination and patriarchal social norms still remain a burning issue in this nation, especially in rural areas. Only 20% of participants in the present study were found to be empowered by means of economic security. Moreover, this study found that women who are free from any kind of family domination were more likely to use modern contraceptives. Another study of rural Maharashtra, India by Reed E et al elicited that there was a significant association between woman's access to money and the usage of condoms or other methods of contraceptives. Other significant determinants detected in that research work were women's control over reproductive health decision-making and freedom of movement to seek health care.<sup>16</sup> A study conducted in Egypt by Samari G et al found that determinants of women empowerment

like household decision-making, non-acceptance towards intimate partner violence, and joint decision-making power are significantly associated with modern contraceptive usage.<sup>17</sup>

This mixed-methods study is a strength in itself as the qualitative exploration led to an in-depth understanding of the perspectives of modern contraceptive usage and its important barriers among the family-level stakeholders and healthcare providers. Previous studies in India and abroad had explored some of the major barriers to modern contraceptive usage such as a woman's fear of side effects or other health concerns and the absent cafeteria approach.<sup>18-20</sup> A scoping review on determinants of unmet need of family planning in low and middle income countries by Wulfian et al showed that the reasons behind the non-usage of contraceptives among women were mostly opposition from husbands, their fear of infidelity and fear of side effects.<sup>21</sup> From the health workers' point of view, the barriers that had been explored by prior studies are low prioritization of contraceptive training, disputes over funding, and an overburdened health system.<sup>22,23</sup> In addition to these above findings, the current study found some new emerging barriers like lack of couple counselling, misinformation from peer groups, generalized fear, and misconception about modern contraceptive methods among the elder generation. Hence appropriate and suitable interventions are necessary so that they can gradually adjust to and overcome these pre-existing as well as emerging barriers to modern family planning use.

**Limitations**

As the study participants came from a unique population, the generalizability of the present study had been compromised. Since this study was of cross-sectional nature, a causal relationship between the variables and contraceptive usage could not be established. Moreover, as some information obtained was recall-based, bias might be possible.

**CONCLUSION**

Investing in family planning is the most intelligent step that developing nations like India can undertake to improve their socio-economic and maternal-child health scenario. Thus, in order to improve the overall family planning practice, certain measures like awareness generation, education, extending help for self-empowerment, and most importantly economic independence among women need to be prioritized. Support from healthcare facilities like couple counseling is needed to overcome barriers like the lack of involvement of family-level stakeholders,



especially the husbands in process of making a decision on contraception. Ensuring the availability of all kinds of modern contraceptives in remote and rural health centres should also be done sustainably.

### ACKNOWLEDGMENTS

The authors were grateful to the officer-in-charge and staff of RHUTC, Singur, for their constant support and co-operation during this difficult pandemic phase throughout our study. We extend our heartfelt gratitude to all the participants who participated in this study.

**Declaration of Conflicting Interests:** The authors declared no potential conflicts of interest concerning the research, authorship, and/or publication of this article.

**Funding:** The authors received no financial support for the research, authorship, and/or publication of this article.

**Ethical Issues:** This study was conducted after ethical clearance from the Institutional Ethics Committee of All India Institute of Hygiene and Public Health, Kolkata. Appropriate written informed consent was taken from the participants before conducting the study. They were assured of the confidentiality of the data provided by them. All other ethical principles as per the Declaration of Helsinki were strictly adhered to.

### REFERENCES

1. Centre for Health Informatics of the National Health Portal. National Family Planning Programme [Internet]. New Delhi, India: National Health Portal; 2017 [cited 2022 Mar 23]. Available from: <https://humdo.nhp.gov.in/about/national-fp-programme/>
2. International Institute for Population Sciences. National Family Health Survey-5 [Internet]. Mumbai, India: International Institute for Population Sciences; 2019-21 [cited 2022 May 20]. Available from: <http://rchiips.org/nfhs/>
3. Parkpinyo N, Panichyawat N, Sirimai K. Early Removal of the Etonogestrel Contraceptive Implant and Associated Factors Among Users at the Urban Family Planning Clinic in Siriraj Hospital, Bangkok, Thailand. *Siriraj Med J*. 2021;73(6):399-405.
4. Singh S, Shekhar C, Acharya R, Moore AM, Stillman M, Pradhan MR, et al. The incidence of abortion and unintended pregnancy in India, 2015. *Lancet Glob Health*. 2018;6(1):e111-20.
5. Shakya HB, Dasgupta A, Ghule M, Battala M, Saggurti N, Donta B, et al. Spousal discordance on reports of contraceptive communication, contraceptive use, and ideal family size in rural India: a cross-sectional study. *BMC Womens Health*. 2018;18(1):147.
6. Kaber N. Resources, agency, achievements: Reflections on the measurement of women's empowerment. *Dev Change*. 1999; 30(3):435-64.
7. Blanc AK. The effect of power in sexual relationships on sexual and reproductive health: an examination of the evidence. *Stud Fam Plann*. 2001;32(3):189-213.
8. Saha I, Paul B. *Essential of Biostatistics & Research Methodology*. 3<sup>rd</sup> Edition. Kolkata: Academic Publishers; 2020.
9. Nanda G. *Compendium of Gender Scales* [Internet]. Washington DC, USA: FHI 360/C-Change; 2011 [cited 2022 May 20]. Available from: [http://gender.careinternationalwikis.org/\\_media/c-change\\_gender\\_scales\\_compendium.pdf](http://gender.careinternationalwikis.org/_media/c-change_gender_scales_compendium.pdf).
10. Dalvi TM, Khairnar MR, Kalghatgi SR. An update of BG Prasad and Kuppuswamy socio-economic status classification scale for Indian population. *Indian J Pediatr*. 2020;87(7):567-8.
11. Ahirwar RK, Kumar S, Gupta S, Niranjana A, Prajapati K, Rawal S. A study to assess the socio-demographic factor and knowledge, attitude, and practice of family planning methods in Lohpeeta migrants tribe located in Shivpuri central India. *J Family Med Prim Care*. 2021;10(3):1308-12.
12. Dixit A, Johns NE, Ghule M, Battala M, Begum S, Yore J, et al. Male-female concordance in reported involvement of women in contraceptive decision-making and its association with modern contraceptive use among couples in rural Maharashtra, India. *Reprod Health*. 2021;18(1):139.
13. Ewerling F, McDougal L, Raj A, Ferreira LZ, 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(1):173.
14. Talungchit P, Lertbunnaphong T, Russameecharoen K. Prevalence of repeat pregnancy including pregnancy outcome of teenage women. *Siriraj Med J*. 2017;69(6):363-9.
15. Chopra S, Dhaliwal L. Knowledge, attitude and practices of contraception in urban population of North India. *Arch Gynecol Obstet*. 2010;281(2):273-7.
16. Reed E, Donta B, Dasgupta A, Ghule M, Battala M, Nair S, et al. Access to money and relation to women's use of family planning methods among young married women in rural India. *Matern Child Health J*. 2016;20(6):1203-10.
17. Samari G. Women's empowerment and short-and long-acting contraceptive method use in Egypt. *Cult Health Sex*. 2018;20(4):458-73.
18. Jain M, Caplan Y, Ramesh BM, Isac S, Anand P, Engl E, et al. Understanding drivers of family planning in rural northern India: An integrated mixed-methods approach. *PLoS One*. 2021;16(1):e0243854.
19. McClendon KA, McDougal L, Ayyaluru S, Belayneh Y, Sinha A, Silverman JG, et al. Intersections of girl child marriage and family planning beliefs and use: qualitative findings from Ethiopia and India. *Cult Health Sex*. 2018;20(7):799-814.
20. Shafi S, Mohan U. Perception of family planning and reasons for low acceptance of NSV among married males of urban slums of Lucknow city-A community based study. *J Family Med Prim Care*. 2020;9(1):303-9.
21. Wulifan JK, Brenner S, Jahn A, De Allegri M. A scoping review on determinants of unmet need for family planning among women of reproductive age in low and middle income countries. *BMC Womens Health*. 2016;16:2.
22. Kc H, Shrestha M, Pokharel N, Niraula SR, Pyakurel P, Parajuli SB. Women's empowerment for abortion and family planning decision making among marginalized women in Nepal: a mixed method study. *Reprod Health*. 2021;18(1):28.
23. Walker SH, Hooks C, Blake D. The views of postnatal women and midwives on midwives providing contraceptive advice and methods: a mixed method concurrent study. *BMC Pregnancy Childbirth*. 2021;21(1):411.