



A Study on Fertility Awareness and Approach towards Family Planning Amongst the Patients Attending the OPD of A Tertiary Care Hospital

Dr. Priyadharshini Rajendran^{1*}, Dr. Mamtha Thirumurugan², Dr. Artheeswari R³

¹ Assistant Professor, Department of Obstetrics & Gynaecology, Arunai Medical College & Hospital, Tiruvannamalai, Tamil Nadu, India

² Assistant Professor, Department of Obstetrics & Gynecology, Vels Medical College & Hospital, Tiruvallur, Tamil Nadu, India

³ Assistant Professor, Department of Obstetrics & Gynecology, Government Tiruvannamalai Medical College, Tiruvannamalai, Tamil Nadu, India

Corresponding Author:

Dr. Priyadharshini
Rajendran

Email:

chvtpriya@gmail.com

Citation:

Rajendran P, Thirumurugan M, Artheeswari R. A study on fertility awareness and approach towards family planning amongst the patients attending the OPD of a tertiary care hospital. *J Contemp Clin Pract.* 2025;11(11):159-165

Received: 20-09-2025

Revised: 07-10-2025

Accepted: 23-10-2025

Published: 08-11-2025

Abstract

Background: Awareness of fertility cycles and access to contraceptive services play a decisive role in reducing unintended pregnancies, limiting unsafe abortions, and improving maternal outcomes. In Assam, where maternal mortality remains high and unmet contraceptive need is above 12%, understanding women's knowledge and practices is essential for effective interventions. **Aim:** To examine fertility awareness and family planning practices among women attending the outpatient department of a tertiary hospital in Assam, and to explore barriers contributing to unmet contraceptive needs. **Methods:** This cross-sectional study involved 300 women aged 15–49 years who attended the Obstetrics and Gynaecology OPD of Assam Medical College between April 2018 and March 2019. Participants were chosen using systematic random sampling. Data were collected through structured interviews covering socio-demographic details, awareness of fertility, knowledge and attitudes toward contraception, and current practices. Ethical approval was obtained from the Institutional Ethics Committee (AMC/EC/PG/2018). Statistical analysis included descriptive measures and Chi-square/t-tests, with $p < 0.05$ considered significant. **Results:** Most participants had limited awareness of fertility periods and misconceptions about contraceptive methods. Educational attainment and parity showed significant associations with contraceptive use ($p < 0.05$). Barriers included fear of side effects, cultural norms, and partner opposition. **Conclusion:** Fertility awareness and contraceptive use remain suboptimal. Integrating culturally sensitive counselling into outpatient services could reduce unmet needs and strengthen maternal health outcomes.

Keywords: fertility awareness, family planning, contraception, unmet need, reproductive health, Assam



© 2025 by the authors; licensee Publishers PLA. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC-BY) license (<http://creativecommons.org/licenses/by/4.0/>).

INTRODUCTION

India accounts for nearly one-sixth of the world's population while occupying less than 2% of the world's land mass. Almost half of its population falls within the reproductive age group, making fertility regulation a critical public health priority (1). The country has a long history of family planning programmes, beginning in 1952 as the world's first national programme for population control and maternal health. Over time, the programme evolved from a target-driven sterilisation approach to one centred on informed choice and reproductive rights (1). Despite this progress, unsafe abortion continues to contribute

substantially to maternal morbidity and mortality worldwide, accounting for an estimated 13% of maternal deaths (2). In India, according to NFHS-5, the contraceptive prevalence rate in Assam is 52.4%, while the unmet need for contraception remains 12.2% (3). Maternal mortality ratios also remain high: nationally at 167 per 100,000 live births, and in Assam at 237 per 100,000 live births, according to the most recent Sample Registration System estimates (4). Contraception has the potential to avert nearly one in four maternal deaths by preventing unintended pregnancies and unsafe abortions (6). Yet despite the availability of

effective methods, nonuse persists due to multiple barriers — ranging from myths about side effects and infertility to inadequate counselling and weak service delivery (5). Research among tribal women and other marginalised populations in India further highlights low fertility awareness and high unmet need, particularly in resource-limited settings (7,8).

MATERIALS AND METHODS

Study design and setting

This hospital-based, cross-sectional study was carried out in the Department of Obstetrics and Gynaecology at Assam Medical College and Hospital, Dibrugarh, a major tertiary-care centre in North-East India that serves both urban and rural populations.

Study period and duration

The research was conducted over one year, from July 2018 to June 2019.

Participants

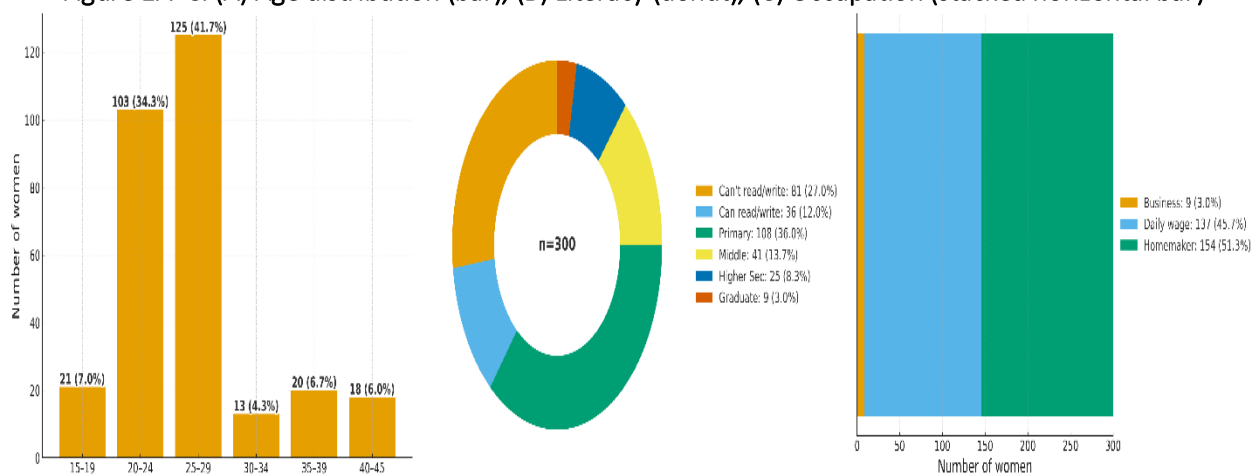
Married women aged 18–45 years attending the outpatient department during the study period were included. Exclusion criteria were refusal to consent, severe illness, or psychiatric conditions.

RESULTS

Socio-demographic profile

The study enrolled 300 women. Ages clustered at 25–29 years (41.7%), followed by 20–24 years (34.3%) (Table 1), consistent with a young, high-fertility cohort. Literacy skewed toward primary schooling (36.0%), while 27.0% reported no formal literacy. Occupation was predominantly homemaker (51.3%), followed by daily-wage work (45.7%). These distributions are visualised in Figure 1A–C (age, literacy, occupation).

Figure 1A–C. (A) Age distribution (bar), (B) Literacy (donut), (C) Occupation (stacked horizontal bar)



Values shown as n (%); legends for pie/donut display n (%); no titles inside images.

Socioeconomic status (modified BG Prasad) concentrated in Class IV (54.7%) and Class III (32.3%) (Table 2), indicating lower-income households in the OPD attendee profile.

Sample Size and Sampling

The sample size was calculated as 300, based on a 95% confidence interval, 15% relative precision, and reference to findings from Alakananda et al. A total of 300 women were selected through systematic random sampling from OPD registers.

Data Collection

Data were collected using a structured, pretested proforma through face-to-face interviews, supported by case record reviews. The proforma captured socio-demographic variables, fertility awareness, contraceptive knowledge, attitudes, and practices.

Statistical Analysis

Data were entered in Microsoft Excel and analysed using SPSS version 20.0 (SPSS Inc., Chicago, IL, USA). Descriptive statistics were used for baseline data. Associations between categorical variables were tested using Chi-square or Fisher's exact test, and continuous variables with t-tests. Statistical significance was defined as $p < 0.05$.

Table 1. Distribution of participants by age group (n=300)

Age (years)	n	%
15–19	21	7.0
20–24	103	34.3
25–29	125	41.7
30–34	13	4.3
35–39	20	6.7
40–45	18	6.0

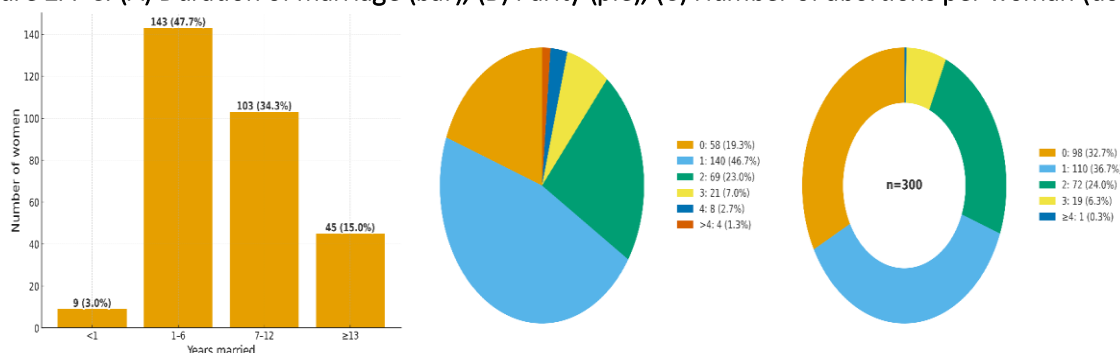
Table 2. Socioeconomic status (BG Prasad)

Class	n	%
II	39	13.0
III	97	32.3
IV	164	54.7

Reproductive History

Nearly half had been married 1–6 years (47.7%), and 34.3% reported 7–12 years of marriage. Parity concentrated at one child (46.7%); 19.3% were nulliparous. Figure 2A–C visualises duration of marriage (A), parity (B), and abortions per woman (C).

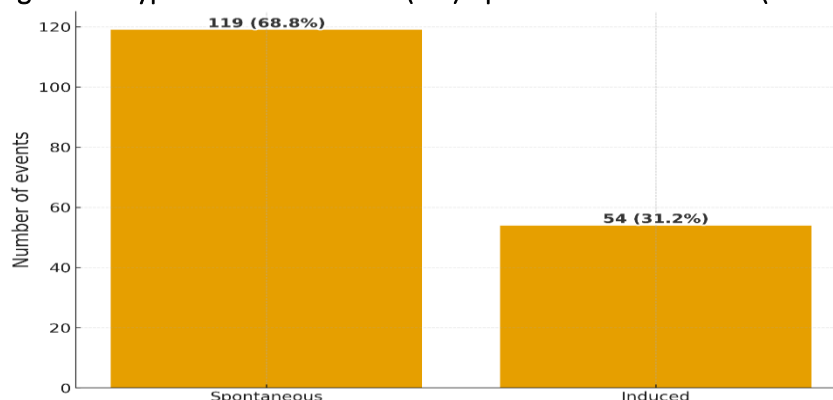
Figure 2A–C. (A) Duration of marriage (bar), (B) Parity (pie), (C) Number of abortions per woman (donut).



Bars/pie/donut labelled *n (%)*; donut centre shows *n*; no titles inside images.

Regarding abortion history, 36.7% reported one abortion, 24.0% reported two, and ≥3 abortions were 6.7% (Table 3). Across 173 total abortion events, 68.8% were spontaneous and 31.2% induced (Table 4). Figure 2D presents the event-type distribution.

Figure 2D. Type of abortion events (bar): spontaneous vs induced (N=173).



Bars labelled *n (%)* of total abortion events; no titles inside images.

Table 3. Number of abortions per participant (n=300)

Abortions	n	%
0	98	32.7
1	110	36.7
2	72	24.0
3	19	6.3
≥4	1	0.3

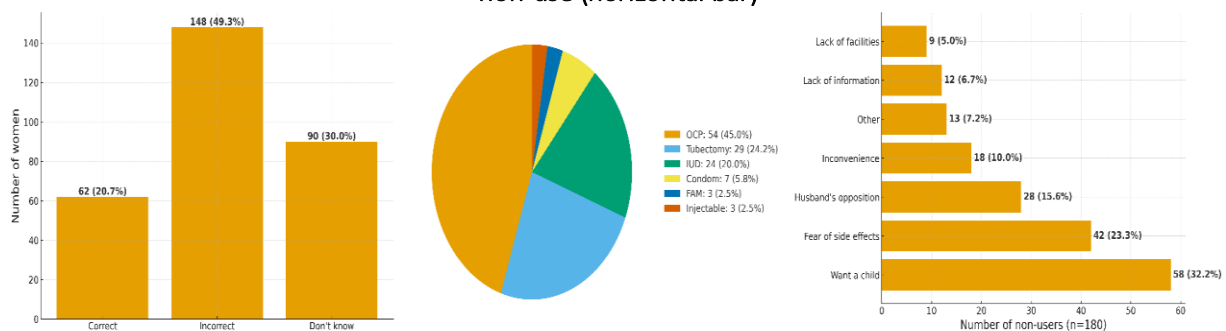
Table 4. Type of abortion events (N=173)

Type	n	%
Spontaneous	119	68.8
Induced	54	31.2

Fertility awareness, contraceptive use, and reasons for non-use

Only 62 women (20.7%) correctly identified the fertile window; 49.3% responded incorrectly, and 30.0% did not know (Table 5). Among current users (n=120), the method mix was OCP 45.0%, tubectomy 24.2%, IUD 20.0%, condom 5.8%, injectable 2.5%, FAM 2.5% (Table 5a). Among non-users (n=180), leading reasons were desire for a child (32.2%), fear of side effects (23.3%), and husband's opposition (15.5%) (Table 6). These domains are depicted together in Figure 3A–C.

Figure 3A–C. (A) Fertility-window awareness (bar), (B) Current contraceptive use (pie, n=120), (C) Reasons for non-use (horizontal bar)



Values shown as n (%); categories in 3C ordered by frequency; no titles inside images.

Table 5. Awareness of fertile period (n=300)

Response	n	%
Correct (mid-cycle)	62	20.7
Incorrect	148	49.3
Don't know	90	30.0

Table 5a. Current contraceptive use (n=120 users)

Method	n	%
OCP	54	45.0
Tubectomy	29	24.2
IUD	24	20.0
Condom	7	5.8
FAM	3	2.5
Injectable	3	2.5

Table 6. Reasons for non-use (n=180)

Reason	n	%
Want a child	58	32.2
Fear of side effects	42	23.3
Husband's opposition	28	15.5
Inconvenience	18	10.0
Lack of information	12	6.7
Lack of facilities	9	5.0
Other	13	7.3

Statistical associations

Educational attainment and parity showed significant associations with contraceptive use (**Chi-square, $p < 0.05$**), whereas socioeconomic class did not. Women with higher literacy were more likely to recognise the fertile window and to report modern method use. (Associations as reported in the thesis results.)

DISCUSSION

Knowledge gaps in fertility awareness

This hospital-based cohort revealed that only one in five women could correctly identify the fertile window. Comparable findings are reported in large-scale analyses of tribal and marginalised groups in India, where knowledge of the ovulatory cycle is consistently low (9). Regional studies likewise document poor awareness and misconceptions about fertility timing among reproductive-age women (10,11). Such gaps matter because an inaccurate understanding of the cycle undermines consistent method use and exposes couples to unintended pregnancies.

Barriers to contraceptive use

Among non-users, leading reasons for non-use were desire for more children, fear of side effects, and opposition from husbands. These findings mirror multi-state evidence showing that myths, male gatekeeping, and weak counselling remain major obstacles to uptake (12,13). Addressing these requires strengthening the quality of counselling, particularly clarifying side-effect profiles, return-to-fertility expectations, and involving male partners.

Education and contraceptive use

The significant association between higher literacy and contraceptive use in this study aligns with prior research demonstrating that education consistently improves uptake, although the strength of this relationship varies across Indian states (14,15). A national analysis also shows substantial heterogeneity in how education interacts with contraceptive use, underlining that

literacy alone does not guarantee equitable access (16).

Trends in unmet need and the Assam context

At the national level, the unmet need for family planning has declined from approximately 21% in 1993 to around 9% in 2021 (16). Yet disparities persist across regions. NFHS-5 highlights that Assam continues to face challenges, with high unmet need and a skewed method mix compared to national averages (17). These contextual factors are consistent with the profile observed in the present study, where knowledge gaps and socio-cultural barriers coexisted with moderate levels of contraceptive uptake.

Clinical and programmatic implications

Nearly one-third of participants reported a history of abortion, with one-third of events being induced. Similar findings from multi-state facility-based studies in India show that provision of post-abortion contraception significantly improves subsequent uptake (18,19). Incorporating structured counselling and ensuring immediate availability of contraceptive methods after abortion could therefore help reduce repeat unintended pregnancies.

Cultural anchors and service delivery in Assam

Husbands and extended families exerted a strong influence on contraceptive decision-making in this study, echoing previous evidence from NFHS-5 state reports (17). Programmatic strategies in Assam should therefore prioritise couple-based interventions, myth-busting tools for common side effects, and supply-chain reliability. Strengthening cycle literacy within existing counselling

frameworks could further enhance informed choice.

Limitations

This was a single-centre, hospital-based study, which limits generalisability to the wider population. OPD attendees may differ systematically from community women in terms of health-seeking behaviour. Reliance on self-reported contraceptive histories also raises the risk of recall and social desirability bias. Finally, the cross-sectional design precludes causal inference. These limitations, however, are typical of clinic-based research and should be interpreted alongside nationally representative data (14–17).

Implications for future research

Follow-up studies that track method continuation, satisfaction, and couple decision-making processes could provide richer insights. Incorporating standardised indicators consistent with NFHS definitions would also improve comparability and policy relevance.

CONCLUSION

This hospital-based study highlights persistent gaps in fertility awareness and contraceptive use among women in Assam. Only one in five respondents correctly identified the fertile window, while misconceptions, partner opposition, and fear of side effects limited uptake. Abortions were common, with nearly one-third being induced, underscoring the unmet need for reliable methods. Improving cycle literacy, integrating post-abortion contraception into routine care, and involving male partners are immediate priorities. Despite limitations of a single-centre, cross-sectional design, the findings align with national surveys and reinforce the need for targeted, couple-centred counselling and sustained supply of modern methods to reduce unmet need.

REFERENCES

1. Muttreja P, Singh S. Family planning in India: The way forward. *Indian J Med Res.* 2018;148(Suppl):S1–S9.
2. World Health Organization. Unsafe abortion: global and regional estimates of the incidence of unsafe abortion and associated mortality in 2008. 6th ed. Geneva: WHO; 2011.
3. International Institute for Population Sciences (IIPS) and ICF. National Family Health Survey (NFHS-5), 2019–21: Assam. Mumbai: IIPS; 2021.
4. Office of the Registrar General, India. Special Bulletin on Maternal Mortality in India 2016–18: Sample Registration System. New Delhi: Government of India; 2020.
5. Moreira LR, Ewerling F, Barros AJD, Silveira MF. Reasons for nonuse of contraceptive methods by women with demand for contraception not satisfied: assessment of 59 low- and middle-income countries using DHS. *Reprod Health.* 2019;16:148.
6. World Health Organization, UNFPA. Trends in maternal mortality: 1990 to 2010. Geneva: WHO; 2012.
7. Prusty RK. Use of contraceptives and unmet need for family planning among tribal women in India and selected hilly states. *J Health Popul Nutr.* 2014;32(2):342–55.
8. Agrawal R, Mishra M, Rehman T, Surendran G, Sinha A, Kanungo S, et al. Utilization of modern temporary contraceptive methods and their predictors among reproductive-aged women in India: insights from NFHS-5 (2019–21). *Front Glob Womens Health.* 2023;4:1219003.
9. Jena SK, Singh K, Yadav AK, Yadav M, Pradhan MR. Demographic and socio-economic correlates of knowledge of the ovulatory cycle among tribal women in India: evidence from NFHS-5. *BMC Public Health.* 2024;24:766.
10. Banerjee S, Mathews E. Fertility awareness and perceptions among women of reproductive age in Western India: a cross-sectional study. *J Pharm Bioallied Sci.* 2021;13(Suppl 2):S1399–S1403.
11. Sharma R, Kaur R, Sharma M. Awareness of fertility and safe period among women attending an urban health center in North India. *J Obstet Gynaecol India.* 2013;63(4):264–7.
12. Mukherjee S, Mahapatra B, Saggurti N. Why women do not use contraceptives: exploring the role of male out-migration. *PLoS One.* 2021;16(3):e0249177.
13. Sen S, Banerjee A, Ali A, Chakma N. Modern contraceptive use among currently married non-pregnant women in West Bengal, India: reflections from NFHS-5. *Contracept Reprod Med.* 2024;9:63.
14. Singh P, Singh KK, Singh A, Pandey A. The levels and trends of contraceptive use before first

- birth in India (2015–16): a cross-sectional analysis. *BMC Public Health.* 2020;20:771.
15. Srivastava S, Sivakami M, Nanda P, Dixit P, Chauhan S. Socio-economic inequalities in non-use of modern contraception in India: a decomposition analysis of national representative data, 1992–2016. *BMC Public Health.* 2023;23:893.
16. Devaraj K, Gausman J, Mishra R, Kumar A, Kim R, Subramanian SV. Trends in prevalence of unmet need for family planning in India: patterns of change across 36 states and union territories, 1993–2021. *Reprod Health.* 2024;21:48.
17. International Institute for Population Sciences (IIPS) and ICF. National Family Health Survey (NFHS-5), 2019–21: India. Mumbai: IIPS; 2021.
18. Banerjee SK, Gulati S, Andersen KL, Acre V, Warvadekar J, Navin D. Associations between abortion services and acceptance of postabortion contraception in six Indian states. *Stud Fam Plann.* 2015;46(4):387–403.
19. Sahoo H, Stillman M, Frost JJ, Acharya R, Hussain R. Availability, practices and acceptance of postabortion contraceptive services in health facilities: a study in six states of India. *Contraception.* 2020;101(2):106–11.
20. International Institute for Population Sciences (IIPS) and ICF. National Family Health Survey (NFHS-5), 2019–21: India Report (Volumes I & II). Mumbai: IIPS; 2021.