Original Article

Family Planning Practices Among Married Women in Rural South Tamil Nadu: A Community-Based Cross-Sectional Study

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Abstract

Background: Kanyakumari district has one of the highest literacy rates in Tamil Nadu. Although literacy generally promotes the adoption of family planning methods, contraceptive use in this region remains comparatively low. Limited data are available on family planning practices in Kulasekharam, a rural area of Kanyakumari district. This study aimed to assess the prevalence of family planning practices and the factors influencing their use among married women of reproductive age. **Material and Methods:** A community-based cross-sectional study was conducted among 350 married women residing in Kulasekharam from October 2023 to March 2024. A multistage random sampling procedure was used to recruit participants. A pretested semi-structured questionnaire was used to gather data, and SPSS version 20.0 was used for analysis. **Results:** The current use of family planning methods among married women was 29.7%. The independent predictors of contraceptive use were socioeconomic status, age at marriage, and age at last childbirth. Women belonging to the lower socioeconomic class (AOR = 0.118; 95% CI: 0.046–0.304), those who married after 21 years (AOR = 0.197; 95% CI: 0.104–0.373), and women whose age at last childbirth was less than 30 years (AOR = 0.355; 95% CI: 0.164–0.767) had significantly lower odds of contraceptive use. **Conclusion:** The current contraceptive use of 29.7% is relatively low despite the region's high literacy rate, highlighting gaps between general literacy and health literacy. Strengthening health literacy through culturally sensitive education and targeted interventions is necessary to promote uptake of family planning methods among married women.

Keywords: Contraceptive use, Family planning, Married women, Prevalence.

INTRODUCTION

The World Health Organisation (WHO) defines family planning as a voluntary approach to thinking and living, based on knowledge, attitudes, and responsible decisions made by individuals and couples. The purpose of this approach is to enhance the health and welfare of the family group, thereby contributing effectively to the country's social development. Family planning methods are strategies employed to achieve the desired number of children and ensure the desired timing of conceptions and the interval between births.[1] Married women worldwide utilise contraceptives extensively. In 2021, 1.1 billion of the 1.9 billion women of reproductive age (15–49 years) worldwide required family planning. Of these, 874 million are currently employing contemporary contraceptive methods, while 164 million continue to have an unmet need for contraception.[2] Approximately 46% rely on short-acting methods such as male condoms, pills, injectables, and other modern methods. Permanent and long-acting reversible methods, including female and male sterilisation, intrauterine contraceptive devices (IUCDs), and implants, account for a nearly equal share of 44%. Traditional methods, such as withdrawal and rhythm, make up a smaller proportion of contraceptive use.[3] In developing countries, there are almost 214 million women of reproductive age who have an unmet need for contraception.[4]

With a population of 1.38 billion, India is the second most populous country in the world. India is home to 17.75% of the global population, despite occupying only 2.4% of the global landmass.[5] As per the data from NFHS-5 (2019-2021), the contraceptive prevalence rate in India is 67%, and in Tamil Nadu it is 68.6%.[6]

India has a long history of promoting family planning; however, it still has the highest number of women with an unmet need for contraceptive methods in the world.[7] The total unmet need for family planning in Tamil Nadu is 7.5%, comprising 4.5% for limiting and 3% for spacing.[8] According to NFHS-5, in Kanyakumari district, the unmet need for spacing methods is 3.4%, for terminal methods is 1.5%, and the total unmet need stands at 4.9%.[8]

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According to the 2011 census, the average literacy rate in Kanyakumari district is 91.75%,[9] with male literacy at 93.65% and female literacy at 89%.[9] Despite this high literacy level, gaps still exist in the adoption of family planning methods, particularly in rural communities. The contraceptive use is not solely determined by medical availability but is shaped by a complex interplay of sociodemographic determinants. Studies across diverse populations consistently show that factors such as age, education, socioeconomic status, religion, marital status, parity, and residence significantly influence both the initiation and continuation of contraceptive practices.[10-13] However, much of this research has focused on urban populations where access to healthcare facilities and awareness programs are more prevalent. In contrast, rural populations often face barriers such as limited decision-making and socio-cultural norms that discourage contraceptive use. In light of these observations, this study was designed to assess the prevalence and the factors influencing the non-use of family planning practices among married women of reproductive age living in Kulasekharam, a rural area in Kanyakumari district.

MATERIALS AND METHODS

This community-based cross-sectional study was conducted to assess family planning practices among married women of reproductive age (18–49 years) residing in Thiruvattar block, Kulasekharam, a rural area of Kanyakumari district, Tamil Nadu, over 6 months from October 2023 to March 2024. The Institutional Ethics Committee approved the study before its start.

Inclusion criteria:
Married women aged 18–49 years.
Women who had been residing in the study area for at least six months.
Women who provided informed consent to participate in the study.

Exclusion criteria:
Separated, divorced, or widowed women.
Women who were unavailable after three repeated visits.
Women who did not consent to participate.

Sample size and sampling technique: The total sample size was calculated based on the contraceptive prevalence rate of 68.6% among currently married women in Tamil Nadu, as reported by NFHS-5 (2019-2021).[6]

The total sample size was estimated with a 95% CI and 5% allowable error by using the formula (n)=Z 2pq/d2 (Z =1.96, p=68.6, q=31.4, absolute precision of 5%); the calculated sample size was 331. The data was collected from 350 participants.

Participants were recruited using a multistage random sampling technique. Kanyakumari district is divided into 4 taluks and 9 blocks. Of these nine blocks, the Thiruvattar block has been selected as the study setting by simple random sampling. Ten village panchayats and six municipal panchayats comprise the Thiruvattar block. The 10 village panchayats were incorporated into the study; as only rural areas were selected. There are approximately 15 constituencies in each village panchayat. One ward was randomly designated using the lottery procedure. One property was selected from each ward using a random number table. As a result, a house-to-house survey was conducted until 35 married women of reproductive age were identified. If no married women of reproductive age were present in the designated household, the next household to the right was approached until a married female meeting the criteria was found.

Data collection tool: Data were collected using a pretested semi-structured questionnaire administered by the interviewer. Face-to-face interviews were conducted in the local language after explaining the study's purpose and obtaining informed consent from participants. Privacy and confidentiality were ensured during the interview.

Information was collected on socio-demographic characteristics and reproductive history, including age at marriage (age in completed years at the time of marriage), age at first childbirth, age at last childbirth, and parity (number of live births). Data were also collected regarding knowledge of modern spacing methods, ever use of temporary contraceptive methods, current use of family planning methods, and attitudes towards future use of family planning methods.

Statistical analysis: The data collected were entered into Microsoft Excel and analysed using IBM SPSS Statistics version 20.0. The descriptive data were analysed using frequencies, mean, SD, and proportions. The Chi-square test was applied to assess the association between categorical variables and contraceptive use. Binary logistic regression was used to identify independent predictors. The strength of the association was reported as an odds ratio (OR) with 95% confidence intervals (CI). A p-value of less than 0.05 was considered statistically significant.

RESULTS

Socio-Demographic Characteristics: The women in the study ranged in age from 18 to 48 years. The mean age of the study participants was 36.33 ± 6.16 years. More than half of the study participants, 225 (64.3%), belonged to the 30-39-year age group. [Table 1].

Reproductive Characteristics: The age at marriage among the women in the study ranged from 18 to 26 years, with a mean age of 22.9 ± 1.78 years. The current number of children per woman was also assessed. Among the 350 study participants, 7 (2%) had no children at the time of the study. Among the 343 parous women, 167 (48.7%) had one child, 149 (43.4%) had two children, and 27 (7.9%) had three children. [Table 2].

Knowledge of Modern Spacing Methods: Almost all participants were aware of commonly used modern spacing methods such as condoms, IUCDs, and oral contraceptive pills. Only 33 (9.4%) had heard of PPIUD. The women who knew about postpartum sterilisation were 273 (78%). About 311 (88.8%) knew of traditional methods such as the rhythm method and withdrawal method. None of the participants reported awareness of injectables. The women who were aware that breastfeeding can act as a natural method of contraception were 282 (80.6%). The women who had misconceptions that contraception can result in infertility were 199 (56.9%). The women who believed that contraceptives are not effective in

preventing childbirth were 134 (38.3%).

Ever Use of Spacing Methods: The women who ever used any form of spacing method were 165 (47.1%). Among the 165 ever users, methods of contraceptives, like condoms, were used by 115 (69.7%), intrauterine devices like Cu-T were used by 37 (22.4%) women, and oral contraceptive pills by 13 (7.9%) women. The traditional methods, such as the rhythm method and withdrawal method, were used by 121 (73.3%) of ever users.

Among the 13 participants who reported side effects from OCP use, the most common was weight gain (6, 46.2%), followed by headaches (4, 30.8%) and mood changes (3, 23%). Among the 37 participants who used intrauterine contraceptive devices (IUCDs), irregular cycles were reported by 7 (18.9%), lower abdominal pain by 20 (54.1%) and excess bleeding by 10 (27%).

Current Use of Family Planning Methods: The current use of family planning methods among the study participants was 104 (29.7%). Among these 104 participants, 81 (77.9%) had undergone permanent sterilisation, while 23 (22.1%) were using an IUCD or a Copper-T. [Figure 1].

None of the participants reported any side effects following permanent sterilisation. Injectable contraceptive use was not reported among the study participants.

Among the 246 participants who were not using contraceptives, the most common reason was their desire for next child 128 (52%), followed by husbands' opposition 61 (24.8%). [Figure 2].

Attitude Towards Future Use of Family Planning Methods

Among the study participants, 145 (41.4%) women were willing to use contraceptives in the future, while 101 (28.9%) were not willing. Among those willing to use contraception, the most commonly preferred method was permanent sterilisation, 96 (66.2%), followed by IUCDs, 49 (33.8%).

Factors Associated with Current Contraceptive Use

The socio-demographic factors associated with the current contraceptive use were analysed using the Chi-square test. Upon bivariate analysis, a statistically significant association was found between socioeconomic status, age at marriage, age at first childbirth, age at last childbirth, and parity with the current family planning practices. [Table 3]

Variables significant in bivariate analysis were entered into a Binary Logistic Regression model to identify independent predictors of contraceptive use. The analysis revealed that middle socioeconomic class, age at marriage ≤21 years, and age at last childbirth ≥30 years were independent predictors of current contraceptive use. Women belonging to the lower socioeconomic class had 88% lower likelihood of contraceptive use compared to women from the middle socioeconomic class. (AOR = 0.118; 95% CI: 0.046–0.304; $p < 0.001$). Women who married after 21 years had 80% lower likelihood of contraceptive use compared with those who married at or before 21 years (AOR = 0.197; 95% CI: 0.104–0.373; $p < 0.001$). Participants whose age at last childbirth was <30 years had 65% lower likelihood of contraceptive use compared with those whose last childbirth occurred at ≥30 years (AOR= 0.355; 95% CI: 0.164–0.767; p = 0.008). However, age at first childbirth and parity were not significantly associated with contraceptive use after adjusting for confounding variables. [Table 4].

Table 1: Socio-demographic characteristics of study participants (n=350)			
Socio-demographic characteristics		**Frequency (n)**	**Percentage (%)**
Age group	18-29 years	17	4.9
	30-39 years	225	64.3
	40-49 years	108	30.9
Type of family	Nuclear family	226	64.6
	3-generation family	124	35.4
Religion	Christian	238	68
	Hindu	71	20.3
	Muslim	41	11.7
Educational status	Postgraduate	22	6.3
	Graduate	95	27.1
	Diploma	20	5.7
	Higher secondary	82	23.4
	High school	127	36.3
	Middle school	4	1.1
Occupation	Homemakers	253	72.3
	Employed	97	27.7
Socioeconomic status (Modified BG Prasad)	Upper middle class	93	26.5
	Middle class	178	50.9
	Lower middle class	72	20.6
	Lower	7	2

Table 2: Reproductive Characteristics of Study Participants			
Characteristics		**Frequency (n)**	**Percentage (%)**
Age at marriage (n=350)	≤21 years	207	59.1
	>21 years	143	40.9
Age at first childbirth (n=343) *	≤25 years	251	73.2
	>25 years	92	26.8
Age at last childbirth (n=343) *	≥ 30 years	58	16.9
	<30 years	285	83.1
Parity (n=343) *	One child	167	48.7

	Two children	149	43.4
	Three children	27	7.9
Mode of delivery (n=343) *	Normal	186	54.2
	LSCS	157	45.8
Pregnancy intention (n=343) *	Planned	281	81.9
	Unplanned	62	18.1

* Only women with at least one child were included in the analysis.
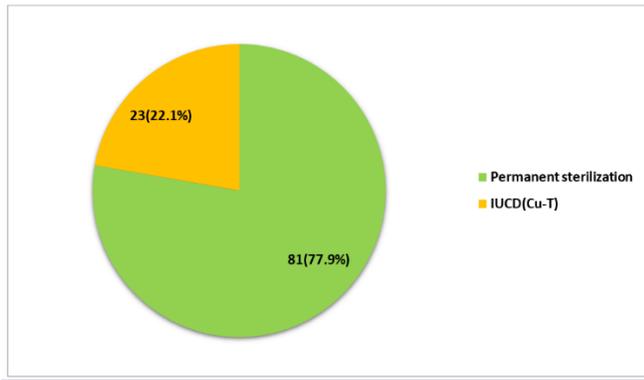

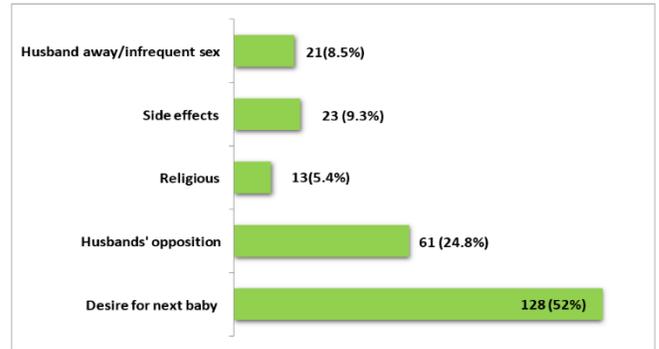Figure 1: Current use of family planning methods (n=104)

Figure 2: Reasons for non-use of family planning methods (n= 246).

Table 3: Bivariate Analysis of Socio-demographic Factors Associated with Current Family Planning Practices (n=350).

Characteristics of participants		Current contraceptive usage		Chi- Square value	COR (95% CI)	p-value
		Yes	No			
Age	≤ 33 years	48(27.1%)	129(72.9%)	1.155	0.777 (0.491–1.231)	0.282
	>33 years	56(32.4%)	117(67.6%)			
Education	Lower education†	57(26.8%)	156(73.2%)	2.273	0.700 (0.439 –1.114)	0.132
	Higher education††	47(34.3%)	90(65.7%)			
Occupation	Housewife	72(28.5%)	181(71.5%)	0.689	0.808 (0.488–1.337)	0.406
	Employed	32(33%)	65(67%)			
SES	Middle class#	98(36.2%)	173(63.8%)	23.902	6.892 (2.892–16.426)	<0.001*
	Lower class##	6(7.6%)	73(92.4%)			
Religion	Christians	72(30.3%)	166(69.7%)	0.103	1.084 (0.661–1.778)	0.748
	Non-Christians	32(28.6%)	80(71.4%)			
Age at marriage	≤ 21 years	87(42%)	120(58%)	36.789	5.374 (3.018–9.566)	<0.001*
	> 21 years	17(11.9%)	126(88.1%)			
Age at first childbirth (n=343)	≤ 25 years	84(33.5%)	167(66.5%)	4.382	1.811 (1.034–3.172)	0.036*
	> 25 years	20(21.7%)	72(78.3%)			
Age at last childbirth (n=343)	≥ 30 years	27(46.6%)	31(53.4%)	8.704	2.353 (1.319–4.195)	0.003*
	< 30 years	77(27%)	208(73%)			
Parity (n=343)	≥ 2 children	69(39.2%)	107(60.8%)	13.504	2.432 (1.505–3.930)	<0.001*
	< 2 children	35(21%)	132(79%)			

†Primary, middle, high and higher secondary level, †† Diploma, graduate and postgraduate,

#Upper middle and middle class, ##Lower middle and lower class.

SES: Socio-economic Status; COR: Crude Odds Ratio; 95% CI: 95% Confidence Interval; (*) denotes statistical significance, (p-value < 0.05)

Table 4: Binary Logistic Regression Analysis of Factors Associated with Current Family Planning Practices.

Characteristics of participants		AOR 95% CI	p-value
SES (n=350)	Lower class	0.118(0.046–0.304)	<0.001*
	Middle class	1	
Age at marriage (n=350)	> 21 years	0.197(0.104–0.373)	<0.001*
	≤ 21 years	1	
Age at first childbirth (n=343)	≤ 25 years	0.894(0.461–1.734)	0.741
	> 25 years	1	
Age at last child birth (n=343)	< 30 years	0.355(0.164–0.767)	0.008*
	≥ 30 years	1	
Parity (n=343)	< 2 children	0.664(0.373–1.183)	0.165
	≥ 2 children	1	

AOR: Adjusted Odds Ratio, 95% CI: 95% Confidence Interval; (*) denotes statistical significance (p-value < 0.05)

The value "1" in the AOR column represents the reference group used for comparison.

DISCUSSION

This study aimed to assess current family planning practices among married women of reproductive age and to identify the factors that influence them. In our study, it was observed that the current family planning practice was 29.7%, which is considerably lower than the national contraceptive prevalence rate of 67%.[6] In our study, although awareness of contraception was high, the prevalence of contraceptive use remained low. This disparity between knowledge and practice may be due to misconceptions about side effects, sociocultural influences, inadequate partner involvement in decision-making, and limited counselling on available family planning methods. Similar findings were reported in studies conducted in West Bengal,[14] and in urban slums of Uttar Pradesh.[15]

In our study, family planning use varied significantly across religious groups, with the highest uptake observed among Christians (72, 30.3%) and the lowest among Muslims (8, 19.5%). This pattern is consistent with previous studies, including those conducted in urban slums of Lucknow,[16] which also reported lower contraceptive prevalence among Muslim women. The differences may be attributed to a combination of religious beliefs, cultural norms, and gender dynamics. Christians have pre-marital counselling that affects family planning practices, and some studies have shown that family planning practices are more common among Christians compared to other religions.[11] In contrast, within the Muslim community, traditional religious prohibitions, cultural preferences for male children, and patriarchal decision-making may act as barriers to contraceptive use.

In the present study, contraceptive use was slightly higher among employed women 32 (33%) compared to homemakers 72 (28.5%). Similar findings were reported in a study from Bangladesh,[17] where contraceptive use was higher among employed women, possibly due to greater empowerment, financial independence, and decision-making autonomy. Employment may also increase exposure to health information and awareness regarding reproductive health services. Additionally, working women may prefer smaller family sizes to balance work and family responsibilities. This highlights the role of women's socioeconomic empowerment in improving the uptake of family planning methods.

In our study, family planning uptake was higher among women from the middle socioeconomic class than among those from the lower class. Our finding is similar to a study conducted in urban slums of Maharashtra,[18] where contraceptive use was less among women from lower socioeconomic groups. Women from the middle socioeconomic class may have better awareness, improved access to healthcare services, and greater autonomy in reproductive decision-making, which can contribute to higher adoption of family planning methods.

In this study, age at marriage was significantly associated with contraceptive use. Women who married at or before 21 years exhibited higher family planning uptake (87, 42%) than those who married after 21 years (17, 11.9%). This finding aligns with studies from South India,[19] which similarly reported that earlier marriage is associated with a greater likelihood of adopting contraceptive methods. One possible explanation is that women who marry earlier tend to complete their desired family size sooner, leading to earlier adoption of contraceptive methods for spacing or limiting births.

In our study, the knowledge of emergency contraceptives was very low at 2.6%. This finding is similar to a study done in the slums of Mumbai, where the knowledge of emergency contraceptives was 12.67%.[20] Low awareness of emergency contraceptives may reflect limited health education campaigns, inadequate counselling by health workers, and cultural taboos surrounding sexual and reproductive health, particularly in conservative or rural settings.

In the present study, none of the participants reported awareness or use of injectable contraceptives, reflecting a complete lack of knowledge about this method. This finding aligns with a study from Kenya,[21] where injectable contraceptive use was also negligible. The lack of awareness likely stems from limited promotion of injectable methods in community health programs and from cultural or informational barriers. Community-based discussions, education campaigns, and inclusion of injectables in routine family planning counselling could enhance uptake, offering women a broader range of contraceptive options.

The study also found that 165(47.1%) reported ever using any contraceptive method, which is substantially lower than the 75% reported in a study from East Delhi.[22] This disparity may reflect differences in service accessibility, sociocultural acceptance, and programmatic outreach across regions.

In our study, the primary reason for non-use of contraceptives was the desire to have more children, reported by 128 (52%) of the women. This is consistent with previous research from Bangalore,[23] highlighting that fertility intentions remain a major determinant of contraceptive non-use. Such preferences reflect not only personal or family goals but also broader sociocultural expectations regarding family size and childbearing. The second most common reason was the husband's opposition, reported in 61 (24.8%), which aligns with studies from Bangalore.[24] This underscores the influence of spousal and household decision-making dynamics on reproductive behaviour. Patriarchal norms and limited female autonomy can constrain women's ability to adopt contraceptives, even when they are aware of available methods. Fear of side effects was another notable barrier, affecting 23(9.3%), similar to findings from Lucknow.[25] Misconceptions regarding adverse effects—such as infertility, menstrual irregularities, or weight gain—may discourage use and highlight the need for accurate information and quality counselling from health providers.

Limitations: The study may be subject to social desirability bias, as contraceptive use is a sensitive issue, and some participants may have provided socially acceptable responses. Interviews conducted in the presence of family members could have influenced responses. However, efforts were made to minimise these biases by ensuring confidentiality and explaining the importance of the study.

CONCLUSION

This study demonstrates that family planning practice in Thiruvattar is low, inadequate, and not primarily informed by

professional guidance. A substantial proportion of women were not using contraceptive methods, highlighting a significant unmet need for family planning services. Findings also emphasise the importance of enhancing women's decision-making autonomy so they can actively participate in reproductive choices. Despite relatively high literacy rates, contraceptive use remains low, indicating that literacy alone does not ensure informed reproductive health behaviour. This paradox can be addressed by future interventions that focus on health literacy rather than literacy alone, to improve practical reproductive health knowledge and informed decision-making.

Reasons for non-use, such as fertility intentions, spousal opposition, and fear of side effects, suggest the influence of sociocultural norms and systemic barriers, which can be deeply analysed by qualitative studies or mixed-methods studies.

Community leaders and influential figures can serve as catalysts for behavioural change by promoting open discussions and reducing stigma around family planning.

Since this study focused exclusively on women, future research should include male participants to evaluate their knowledge, attitudes, and practices regarding contraception and improve uptake of family planning services.

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Conflicts of interest
There are no conflicts of interest.

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