Section: Community Medicine

Original Research Article

KNOWLEDGE AND PRACTICE OF MODERN SPACING CONTRACEPTIVE METHODS AND PERCEPTION OF MALE STERILIZATION AMONG MARRIED MALE MIGRANT CONSTRUCTION WORKERS IN CHENNAI: A CROSS-SECTIONAL STUDY

P. Sathya[1], A. Chitra[2]

[1]Tutor, Department of Community Medicine, Government Karur Medical College
[2]Nodal Officer, Multidisciplinary Research Unit, Professor, Institute of Community Medicine, Madras Medical College

Received : 01/07/2025
Received in revised form : 20/08/2025
Accepted : 08/09/2025

Keywords:
Male involvement, Migrant workers, Family planning, Modern contraceptives, Male sterilization.

Corresponding Author:
Dr. P. Sathya,
Email: sathyadivakar2@gmail.com

DOI: 10.47009/jamp.2025.7.5.124

Source of Support: Nil,
Conflict of Interest: None declared

Int J Acad Med Pharm
2025; 7 (5); 642-647

ABSTRACT

Background: Tamil Nadu hosts a large population of migrant labourers who often face challenges in accessing reproductive health services and are at increased risk of sexually transmitted infections. Male involvement in family planning remains limited in India. Improving awareness of contraception among this group is essential to enhance reproductive health and maternal–child outcomes. The objective is to assess the awareness and utilization of modern spacing contraceptive methods among married male migrant construction workers, and to explore their acceptance and perception of permanent male sterilization in Chennai, Tamil Nadu. **Materials and Methods:** A workplace-based cross-sectional study was conducted from January to March 2024 among 170 married male migrant construction workers in three randomly selected zones of Chennai. Data were collected through face-to-face interviews using a pre-tested, semi-structured questionnaire and analysed using SPSS version 25. Descriptive statistics and Chi-square tests were used. **Result:** The mean age of participants was 30 ± 4.9 years. Majority were from Bihar (32.4%) and had completed middle school (61.2%). Awareness of modern spacing contraceptive methods was high (90%), yet utilization was low (15.9%), with condoms being the most commonly used method (70.4%). Educational status and awareness of the ill effects of short birth intervals were significantly associated with contraceptive utilization. Awareness of permanent male sterilization was universal, but none were willing to adopt it, citing that contraception is a woman's responsibility (57.6%), fear of physical weakness (25.3%), and religious beliefs (17.1%). **Conclusion:** Despite high awareness of modern contraceptives, utilization remains low, and acceptance of male sterilization is absent among migrant male construction workers. Educational interventions and workplace-based health programs addressing sociocultural barriers, misconceptions, and gendered norms are essential to improve male participation in family planning, reduce unintended pregnancies, and support maternal–child health outcomes.

INTRODUCTION

Family planning refers to the voluntary choice of couples to control or space their children's births through the use of contraceptive methods.[1] Family planning is an essential component of healthcare that promotes reproductive well-being, reduces maternal, infant and child illness and death, and aids in achieving population stabilization.[2] World population surpassed 7 billion soon after 2010 and is anticipated to rise to 9 billion by 2045.[3] In 2023, India's population was around 1.4 billion, making it one of the most populous countries in the world and accounting for nearly 17% of the global population. Although India was the first country to introduce a national population control program, uncontrolled population growth persists and is projected to continue for several decades, posing significant challenges to economic development, employment, income distribution, poverty reduction, and social welfare. Hence, at both the global and national levels, it is crucial to ensure that all pregnancies are planned and intended. [1,4]

ISSN (O): 2687-5365; ISSN (P): 2753-6556

Men and women are equal partners in both public and private life; to promote sexual and reproductive health, they need mutual understanding and a sense of shared responsibility. However, most reproductive health and family planning programs primarily target women, with health workers largely engaging women when providing related services.[5]

The NFHS-5 report highlights prevailing gender norms in family planning, with 35.3% of men considering contraception to be exclusively a woman's responsibility and 20% believing that women who use contraception may become promiscuous. Despite 99.4% awareness of modern contraceptive methods, only 9.8% of men reported using condoms, and just 0.2% had opted for permanent sterilization. Among women of reproductive age, about 11% reported abortions, with 48% of these due to unintended pregnancies.[6]

Migration has long been a defining feature of human civilization, influencing demographic and socio-economic dynamics. According to the 2011 Census, Tamil Nadu is home to more than 34.87 lakh migrant labourers, many of whom come from eastern and northeastern states such as Bihar, Uttar Pradesh, Odisha, and West Bengal. These workers are mainly employed in the construction industry, textile sector, and manufacturing units. While migration contributes to economic development, it also creates challenges in ensuring equitable access to healthcare, social security, and family welfare services, including sexual and reproductive health.[7,8] As per NFHS-5 the native states of migrant workers have high under5 mortality rate, the reason being short birth interval and high birth order, more than 50% abortion due to unplanned pregnancy.6 Migrants bear a heightened risk of HIV infection. The NACP 2009 report noted that high out migration states of Uttar Pradesh, Odissa, Bihar, West Bengal, Rajasthan, Madhya Pradesh, and Gujarat accounted for 41% of new HIV infections.[9]

Creating awareness among migrant workers about modern contraceptive methods, the importance of birth spacing, and prevention of sexually transmitted infections is vital for improving reproductive health outcomes and reducing the financial burden of maternal and child health morbidities. Very few studies from India have examined male involvement in family planning. Hence, the present study was undertaken to assess awareness and utilization of modern contraceptive methods among married male migrant construction workers, and to explore their acceptance and perception of male sterilization in Chennai, Tamil Nadu.

Objectives:

- To estimate the level of awareness and utilization of modern spacing contraception methods among married male migrant construction workers
- To assess the factors associated with the utilization of modern spacing contraception methods
- To assess the adoption and perception of the permanent male sterilization method.

MATERIALS AND METHODS

This was a workplace-based cross-sectional study conducted among male migrant construction workers in Chennai, Tamil Nadu. Ethical approval for the study was obtained from the Institutional Ethics Committee (IEC), Directorate of Public Health and Preventive Medicine, Tamil Nadu (S. No. DPHPM/SAC/2022/078). The study was carried out from January 2024 to March 2024. A multistage sampling method was used.

The sample size was calculated based on NFHS-5 data, which reported that 9.8% of men were using modern spacing contraceptive methods.6 Considering an absolute precision of 5% and a non-response rate of 20%, the required sample size was estimated to be 170.

Chennai has 15 zones, of which three zones—Anna Nagar, Ambattur, and Thiru Vi Ka Nagar—were selected randomly. From these three zones, three construction sites were randomly chosen based on the advanced tour programme of the Labour Mobile Medical Unit. A list of male migrant workers was obtained from the safety engineers of the selected construction sites. Among a total of 450 workers, 170 were selected using simple random sampling with a computer-generated random number table.

Participants were recruited according to the inclusion and exclusion criteria. Informed consent was obtained prior to data collection. Data were collected through workplace visits using face-to-face interviews with a pre-designed, pre-tested, semi-structured questionnaire. The questionnaire included information on sociodemographic details, childbirth history, awareness and practice of modern spacing contraceptive methods includes injectables, intrauterine devices (IUDs/PPIUDs), oral contraceptive pills, male condom and emergency contraception pills and awareness and perception of permanent male sterilization. All questions were explained in Hindi after establishing rapport with the participants.

Inclusion criteria:

- Adult married male migrant construction workers
- Those working in Tamil Nadu for more than 3 months

Exclusion criteria:

- Those who not willing to participate in the study
- Whose wives have already undergone permanent sterilization.

Statistical analysis: Data were entered in MS Excel and analysed using SPSS version 25. Descriptive statistics were presented as frequencies and percentages. The Chi-square test assessed associations between contraceptive practice and related factors, with $p<0.05$ considered statistically significant. Odds ratios were calculated to measure the strength of associations.

Operational definition: Modern contraceptive methods comprise male and female sterilization, injectables, intrauterine devices (IUDs/PPIUDs), oral

ISSN (O): 2687-5365; ISSN (P): 2753-6556

contraceptive pills, implants, male and female condoms, diaphragms, spermicidal foam or jelly, the standard days method, the lactational amenorrhoea method, and emergency contraception.[6]

RESULTS

The mean age of the respondents was 30 years with a standard deviation of ±4.9. The majority (38.2%) of them belonged to the age group of 33–38 years. Most of the respondents (80%) were followers of the Hindu religion. One-third (32.4%) were from Bihar. More than half (61.2%) had studied up to middle school. Based on the Modified Kuppuswamy Socioeconomic Status Scale 2024[10] almost all respondents (98.8%) belonged to the upper-lower class [Table 1].

Among the study participants, 43.5% were bar benders, 43% were masons, and 7.1% were carpenters [Figure 1].

Regarding childbirth, 31.8% had more than two children. A majority (75.3%) did not know about their spouse's past history of pregnancy loss. More than half (54.1%) did not approve of their wife adopting contraception [Table 2].

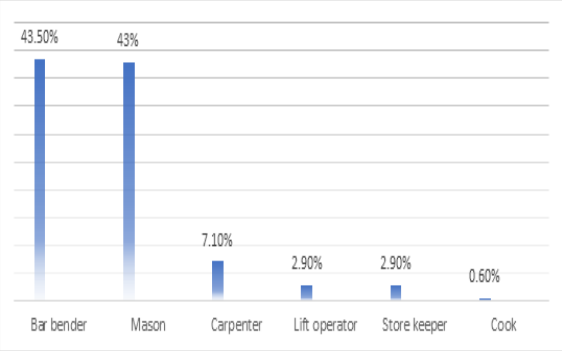

Figure 1: Occupation of the study participants (n-170)

Table 1: Socio-demographic characteristics of the respondents(n-170)

Characteristics	Category	Number	Percentage
Age in years	18-22	8	4.7
	23-27	46	27.1
	28-32	51	30
	33-38	65	38.2
Religion	Hindu	136	80
	Muslim	31	18.2
	Christian	3	1.8
State	Bihar	55	32.4
	Uttar Pradesh	45	26.5
	Odisha	44	25.9
	West Bengal	22	12.9
	Assam	4	2.4
Education	Primary school	34	20
	Middle school	104	61.2
	High school	31	18.2
	Higher secondary school	1	0.6
Socio-economic status	Upper Lower class	168	98.8
	Lower Middle class	2	1.2
Duration of stay in Tamil Nadu for employment in months	3-6months	160	94
	>6months	10	6

Table 2: Child birth details of the participants

Characteristics	Category	Number	Percentage
Number of children	2 children and below	116	68.2
	Above 2 children	54	31.8
H/O Pregnancy loss	No	30	17.6
	Yes	12	7.1
	Don't know	128	75.3
Do you approve your wife to adopt contraception	Yes	78	45.9
	No	92	54.1

Majority (90%) of the study participants aware about modern spacing contraceptive methods. All of them were aware of condoms, while 11.1% knew about intrauterine contraceptive devices (IUCD), 3.9% about oral pills, and none about injectables. The most common source of information was friends and family (44.7%), followed by mass media (38.8%). Only 22.9% were aware of the adverse effects of short birth intervals on maternal and child health [Table 3].

Table 3: Awareness about modern spacing contraceptives methods

Characteristics	Category	Number	Percentage
Awareness (n-170)	Yes	153	90
	No	17	10
Type of method (n-153)	Male condoms	153	100
	IUCD	17	11.1
	Oral pills	6	3.9
	Injectables	0	0

ISSN (O): 2687-5365; ISSN (P): 2753-6556

Source of information	Friends/Family	76	44.7
	Tv/Radio/News paper	66	38.8
	Health care workers	11	6.5
Awareness of ill effect of short birth interval	Yes	39	22.9
	No	131	77.1

Current utilization of modern spacing contraceptives was 15.9%. Among users, the majority (70.4%) used condoms, followed by IUCDs (29.6%). The main reasons cited for non-adoption among non-users were unwillingness to use (74.1%), religious beliefs (14.7%), preference for a male child (8.4%), and lack of knowledge (2.8%) [Table 4].

Table 4: Utilization of modern Spacing contraceptive methods among the study participants

Characteristics	Category	Number	Percentage
Contraceptive utilization	Yes	27	15.9
	No	143	84.1
Adopted method (n-27)	Male condoms	19	70.4
	IUCD	9	29.6
Reason for non-adoption	Don't want to use	106	74.1
	Religious belief	21	14.7
	Need male child	12	8.4
	Lack of knowledge	4	2.8

Based on univariate analysis, utilization of modern spacing contraceptives was significantly higher among participants with education high school level and above, and among those who were aware of the ill effects of short birth intervals. These associations were statistically significant. Participants age was not significantly associated with the contraceptive utilization [Table 5].

Table 5: Association between modern spacing contraceptive utilization and associated factors

Associated Factors	Category	Modern spacing Contraceptive utilization		Chi-Square p value	Unadjusted Odd's Ratio (95%CI)
		Yes	No		
Age	30years and below	9 (10.2%)	79(89.8%)	4.367(0.037)	0.4.5(0.17-0.962)
	Above 30years	18(22%)	64 (78%)		
Education	High school and above	7(36.8%)	12(63.2%)	7.034 (0.008*)	3.821(1.345-10.855)
	Less than high school	20(13.2%)	131(86.8%)		
Awareness about Ill effects of short birth interval	Yes	23(59%)	15(41%)	70.345(<0.001*)	45.641(13.993-148.867)
	No &Dontknow	4 (3.1%)	127 (96.9%)		

*Statistically significant p value <0.05

Knowledge and Perception of Permanent Male sterilization method: All respondents were aware of permanent male sterilization. However, none were willing to adopt it. The main reasons reported were that contraception is the woman's responsibility (57.6%), fear of negative effects on their health / physical weakness (25.3%), and religious beliefs (17.1%).

DISCUSSION

This study assessed the awareness, utilization, and perception of modern contraceptive methods among married male migrant construction workers in Chennai, Tamil Nadu. The findings highlight significant gaps in male involvement in family planning and provide evidence for strengthening targeted reproductive health interventions among this group.

In the present study, awareness of modern spacing contraceptive methods was 90%, while utilization was 15.9%. These findings are comparable to NFHS-5 data, which reported that 99.4% of men were aware of modern contraceptives, yet only 10% reported using them at the national level.[6] This reflects a persistent gap between knowledge and practice. Similar observations have been reported in other studies in Chhattisgarh, where awareness was 98.9% but utilization was only 13.1% and in Varanasi, where utilization was as low as 2.3%.[5,11]

Among the contraceptive users in this study, condoms (70.4%) were the most commonly used method. Similar trends were reported in NFHS-5, where condom use was higher among men, while vasectomy uptake remained as low as 0.2%.[6] Studies from other regions have also shown that condoms remain the major contraceptive method used by men—for example, in Kashmir (47.6%),[1] Chhattisgarh (11.2%),[11] Jammu (55.7%),[12] and Chennai (69%).[13] Despite the availability of permanent methods, the predominant reliance on condoms highlights men's preference for temporary and less invasive options.

The history of pregnancy loss among spouses was not known to the majority (70.8%) of respondents, reflecting inadequate communication between participants and their partners regarding reproductive health. Furthermore, more than half (54.1%) of respondents reported that they would not approve of contraceptive use by their wives. Similar findings have been documented in qualitative studies conducted in Tanzania and Jordan.[14,15] Within India,

ISSN (O): 2687-5365; ISSN (P): 2753-6556

studies from Chhattisgarh and Andhra Pradesh have also reported low levels of male involvement in family planning. [11,16]

Educational status and awareness of the ill effects of short birth intervals were found to be significant predictors of contraceptive utilization in the present study. Similar results have been reported in studies conducted in Jordan,[15] and Chennai,[13] which show that education and health literacy in shaping reproductive health behaviour. Evidence suggests that higher levels of education and reproductive health awareness contribute to better contraceptive uptake and improved maternal child health outcomes. In contrast, studies conducted in Kashmir,[1] and Chhattisgarh,[11] found no significant association between men's education and contraceptive use, highlighting the influence of social and cultural factors on family planning practices.

Migration also increases susceptibility to HIV and other sexually transmitted infections (STIs). Increasing awareness about sexually transmitted diseases and promoting the use of barrier methods, such as condoms, can help reduce the incidence of HIV among the migrant population.

Awareness of permanent male sterilization was high among the study participants; however, none were willing to adopt it. The main reasons reported were the perception that family planning is the woman's responsibility (57.6%), fear of physical weakness (25.3%), and religious beliefs (17.1%). Similar findings have been reported in NFHS-5,6 where 35.3% of men considered contraception solely a woman's responsibility. In Chhattisgarh,[11] fear of physical weakness was the most common reason (85.8%) for reluctance to undergo vasectomy. In Chennai,[13] studies have highlighted stigma (30%) and women's responsibility (23%) as major barriers, while a study in urban slums of Chennai,[17] (2021) reported 73.4% of men were unwilling to adopt sterilization.

These findings indicate that male participation in family planning remains limited, even when awareness is high. Socio-cultural norms, misconceptions about vasectomy, and gendered perceptions of reproductive responsibility continue to hinder male involvement. Promoting education, increasing awareness about the safety and benefits of male sterilization, and addressing misconceptions through targeted interventions could help improve male engagement in family planning, ultimately reducing the burden on women and supporting better reproductive health outcomes.

Strengths and Limitations: Strength of this study is its workplace-based approach, which enabled the inclusion of a hard-to-reach migrant population that is often underrepresented in large-scale surveys. The use of a pre-tested, semi-structured questionnaire administered in Hindi helped to overcome language barriers and improve data quality. However, the cross-sectional design limits causal inferences, and reliance on self-reported data may introduce social desirability bias, particularly in sensitive topics such as contraception and sterilization.

CONCLUSION

Although awareness of modern contraceptive methods was high among migrant male construction workers, actual utilization remained low, and acceptance of male sterilization was absent. Education and awareness of the adverse effects of short birth intervals were significantly associated with contraceptive use. Addressing sociocultural barriers, misconceptions, and gendered norms is essential to improving male involvement in family planning. Strengthening workplace-based health education and services, including targeted health sessions and mobile health units for migrant workers, can help reduce unintended pregnancies, improve maternal and child health, decrease the incidence of sexually transmitted infections, and support national family planning goals.

REFERENCES

1. Wani RT, Rashid I, Nabi SS, Dar H. Knowledge, attitude, and practice of family planning services among healthcare workers in Kashmir – A cross-sectional study. J Fam Med Prim Care. 2019 Apr;8(4):1319–25.
2. Family Planning Division, Ministry of Health and Family Welfare, GOI, Lovely couples-happy couples Importance of Family Planning.
3. Van Bavel J. The world population explosion: causes, backgrounds and projections for the future. Facts Views Vis ObGyn. 2013;5(4):281–91.
4. Ministry of Health and Family Welfare, GOI, Press Information Bureau, understanding population-related issues, tailoring solutions, and Driving progress, 2024.
5. Purwar N, Shankar H, Kumari K. Family Planning Adoption and Unmet Needs: Spousal Agreement in Rural Varanasi. Indian J Community Med Off Publ Indian Assoc Prev Soc Med. 2018;43(4):284–7.
6. Ministry of Health and Family Welfare, GOI, The National Family Health Survey 2019-21 (NFHS-5), India Factsheet.
7. Ministry of Labour and Employment, GOI, Press Information Bureau, Data on seasonal Migrants, 2022. Available from: https://pib.gov.in/pib.gov.in/Pressreleaseshare.aspx?PRID=1814543
8. State Planning Commission, Government of Tamil Nadu, Report on Life and times of Migrant workers in Chennai, 2024-2025.
9. Ministry of Health and Family Welfare, GOI, National AIDS Control Organisation, National AIDS Control Program IV - 2009, Migrant Intervention Strategy for National AIDS Control Program IV.
10. Mandal I, Hossain S. Update of modified Kuppuswamy scale for the year 2024. Int J Community Med Public Health. 2024;2945–6.
11. Parija PP, Pal A, Panigrahi SK, Thakur P, Pal R. Male involvement in family planning in a rural area of India. J Fam Med Prim Care. 2022 May;11(5):1943–8.
12. Khuda P, Gupta NL, Palaka N, Kaur G. Prevalence and determinants of spacing contraceptive use among rural married women of Jammu, India. Indian J Community Fam Med. 2021 Dec;7(2):92.
13. Shruthee S, Deepanchakravarthi V. Family Planning from a Male Perspective: Observations from a Community-Based Cross-sectional Study in Chennai, Tamil Nadu. Indian J Community Med Off Publ Indian Assoc Prev Soc Med. 2023;48(6):930–3.
14. Mosha I, Ruben R, Kakoko D. Family planning decisions, perceptions and gender dynamics among couples in Mwanza,

ISSN (O): 2687-5365; ISSN (P): 2753-6556

Tanzania: a qualitative study. BMC Public Health. 2013 May 30;13(1):523.
15. Hamdan-Mansour AM, Malkawi AO, Sato T, Hamaideh SH, Hanouneh SI. Men's perceptions of and participation in family planning in Aqaba and Ma'an governorates, Jordan [Internet]. World Health Organization - Regional Office for the Eastern Mediterranean.
16. Gayathry D, Reddy MR, Rammana BV. Evaluation of husband–wife communication regarding family planning among the couple of reproductive age group in the field practice area of Prathima Institute of Medical Sciences, Karimnagar. 2018.
17. Chinnaiyan S, Babu B. A Study of Attitude, Awareness, and Knowledge of Vasectomy among Married Men in Urban Slums of Chennai, Tamil Nadu, India. Int J Infertil Fetal Med. 2021 Sep 30;12(3):73–6.

ISSN (O): 2687-5365; ISSN (P): 2753-6556