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Original Research Article

Knowledge, practice and factors influencing the use of family planning methods among eligible couples residing in urban slums of Guwahati city: a cross sectional mixed-method study

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ABSTRACT

Background: India became the first country to implement a national population control programme in 1952, yet it is only in the recent decades that the country's population growth has been effectively controlled. While use of contraceptives in India is at par with usage data internationally, yet there is scope for further improvement in contraceptives utilization, especially in rural areas and urban slums. The objective of the study was to estimate the knowledge and practice of the use of family planning methods among the eligible couples residing in urban slums of Guwahati and to find the factors influencing the use of it.
Methods: A community-based cross-sectional study with mixed-methods approach was conducted for a period of two months (25th April to 25th June 2023) among 190 eligible couples (18-49 years) residing in 10 urban slums of Guwahati City, Assam. The participants were interviewed by a predesigned, pretested semi-structured schedule and responses analyzed**.**
Results: Majority (66.84%) of the respondents were in the age group of 20-29 years and majority (99.47%) of the respondents were aware of more than one contraceptive methods, health workers being the dominant source of information on contraceptives.
Conclusion: It was observed that the awareness and acceptance of contraceptives among slum dwellers is gaining traction which is influenced by various socio-economic factors. More researches are however required to understand the interplay of the social barriers and economic considerations and their influence on adoption of family planning practices.

Keywords: Eligible couple, Family planning methods, Urban slums, Guwahati

INTRODUCTION

Human resource is an invaluable asset for a nation's socio-economic growth. However, uncontrolled population growth could be an impediment to the national development. In fact, one of the major problems confronting developing countries is their increasing population which is a strain on their limited resources besides being a serious threat for the planet. Further, global population, which has crossed 8 billion in 2023, presents challenges of food and water security in a climate-changed world.[1]

Use of family planning practices is an effective way to achieve population stabilization. However, myriad socio-economic and cultural factors influence the use of contraceptives among married couples. The case in point is India's population that crossed 1.41 billion in 2023 to surpass that of China's and became the most populous country in the world. This consistent surge (till the late 1990s) is despite the fact that, India is the first country in the world to implement the family planning programme during the year 1951-1952.[2] Although the pace of population growth has declined in the millennium, India's total fertility rate stands at 2.0.[3]

According to the World Health Organization (WHO) Family planning is a way of thinking and living that is adopted voluntarily upon the basis of knowledge, attitude and responsible decisions by individuals and couples in order to promote the health and welfare of the family and thus contribute effectively to the social development of a country.[4] Family planning aids in planned parenthood providing eligible couples the ability to determine the number and spacing of their children. In the context of family planning, an "eligible couple" refers to a currently married couple wherein the wife is in the reproductive age, which is generally assumed between the age of 15 and 49.[5]

Contraceptive prevalence and the unmet need for family planning are key indicators for measuring improvements in access to reproductive health as asserted in the year 2030 agenda for sustainable development goal 3.7.[6] While use of contraceptives in India is at par with usage data internationally, yet there is scope for further improvement in contraceptives utilization among women, especially in rural areas and urban slums. National health and family survey (NHFS-5) conducted in the year 2019-20, revealed 66.7% use of contraceptives among married women (15-49 years) and prevalence of modern method is 56.5%.[7] In comparison, the global contraceptive prevalence of any method was estimated at 65% and of modern methods at 58.7% for married or in-a-union women in 2022.[8] The NHFS-5 further highlighted that 9% of married women in India have an unmet need for family planning, a drop from 13% since 2015-16.

Acceptance of family planning methods is influenced by various factors at the individual, family, and community level. Even though various measures have been taken to encourage the usage of contraception, underlying social and cultural barriers have been impediments to widespread uptake in contraception. Further, social barriers are exacerbated by misconceptions about family planning methods and fear of side-effects.

The NFHS-5 flags the use of contraceptive methods by currently married women (age 15-49 years) in Assam that is below the national average of 66.7%. Additionally, the survey highlights the higher-than-national average unmet need of family planning of currently married women in Assam. Assam also features among states with lowest use of the public health sector as a source for modern contraceptives. NFHS-5 has highlighted that 77% of users of modern contraceptive methods were ever told by a health worker or family planning worker about different methods they could use.

With this background, the present study was undertaken in the urban slums of Guwahati city with the objective to estimate the knowledge of family planning methods among eligible couples, to know about the usage of contraceptives among them and to find out the factors influencing the use of it.

METHODS

Study design

A community based cross-sectional study with mixed-methods approach.

Study setting

There are 217 slum pockets in Guwahati city out of which 99 slums are notified with a population of 87,457 and 15,701 household as per 2011 Census of India.[9] The study was conducted in 10 urban slums of Guwahati city.

Study duration

The study was carried out for two months between 25th April 2023 to 25th June 2023.

Study sample

Using the formula, $n = 4pq / l^2$, where

p=Prevalence of current use of any family planning methods amongst eligible married women in the age group of 15-49 years in Kamrup (Metro) as 56.8% from NFHS-5 (Assam data), q =100-p. Allowable (relative) error as 15%, with a design effect (d) of 1.4 and n =135.2, the sample size, N =d×n (1.4×135.2) was calculated to be 189.2 rounded off to 190.

This study was conducted among 190 eligible couples (18-49 yrs), the respondents being the wives, who had given consent to participate in the study. Woman below 18 years and who were pregnant, severely ill or not present at the time of visit were excluded from the study.

Study tool

A predesigned, pretested and semi-structured schedule, a hand-held device (a mobile phone for audio-recording of IDIs), Microsoft office Excel

Data collection

10 slums of Guwahati (both notified and un-notified) were selected randomly and the list of households having eligible couple (18-49 years) years were prepared. For each of the selected slums, a landmark was fixed and by flipping a coin and the direction of the first household to the left of the landmark was decided; the subsequent households were visited till the sample size of 19 from each slum was achieved. For any non-respondent house, the next household having an eligible couple was taken. The respondents were interviewed using a predesigned, pretested and semi-structured schedule.

In addition, a total number of 10 in-depth interviews (IDI) were conducted and open-ended questions were asked to the respondents to understand in depth the barriers and

challenges faced by the respondents. While a list of logically flowing interview question was developed, the interviewer had the flexibility to adjust the order and flow of questions, suitably probing and altering the dictum to suit the context and respondents' willingness. Audio-recording of the conversations of all the 10 respondents were done using a hand-held device (a mobile phone).

The conversations of the respondents were either in vernacular (Assamese) or in Hindi language. After keen hearing of the recordings, a verbatim transcript with dialect of the audio was created in English language, which was further analysed and summarized individually by two evaluators. A mutual consensus between the two summaries were formed to smoothen any discrepancies among the factors influencing the use of family planning methods and thereafter, the most commonly stated barriers were taken into consideration.

Statistical analysis

Data were entered and analysed using Microsoft office Excel and represented using appropriate tables and figures. Chi-square test was applied for testing the significance of association between variables.

RESULTS

Demographic characteristics of the respondents

Table 1 shows that the highest (66.84%) number of the respondents were in the age group of 20-29 years. Majority (91.05%) of them were Hindu by religion and majority (51.05%) of the respondents were homemaker by occupation.

Knowledge of contraception

Table 2 shows that the most cited family planning methods known by the respondents were Condoms (100%, n=189), OCPs (79.36%), CuT (75.66%) and Tubectomy (67.72%). It is encouraging to note that majority (99.47%) of the respondents were aware of more than one method of contraception.

The dominant source of information on contraceptives were health workers (76.71%) and 23.68% of respondents have mentioned peers as their source of information. The respondents have highlighted that they trust health workers (ASHA and ANMs) and that they are able to clarify their doubts on reproductive health without inhibitions. All the respondents in the IDI mentioned that health workers often guide them with the required information and steer them to the concerned healthcare units for further guidance.

Usage of contraception

74.21% (n=141) of the participants use contraception methods, where Figure 1 shows Condoms (30.49%) is the most used method, followed by CuT (26.64%) and Tubectomy (14.89%). There was limited mention of use of injectables (1.41%) and implants (6.38%) among the respondents despite health workers being their primary source of information on family planning methods. Additionally, the respondents were reluctant to mention about the usage of emergency contraception (9.21%) despite repeated probing. A plausible explanation regarding it could be that they use such methods clandestinely and fear unfavourable reaction from their family members.

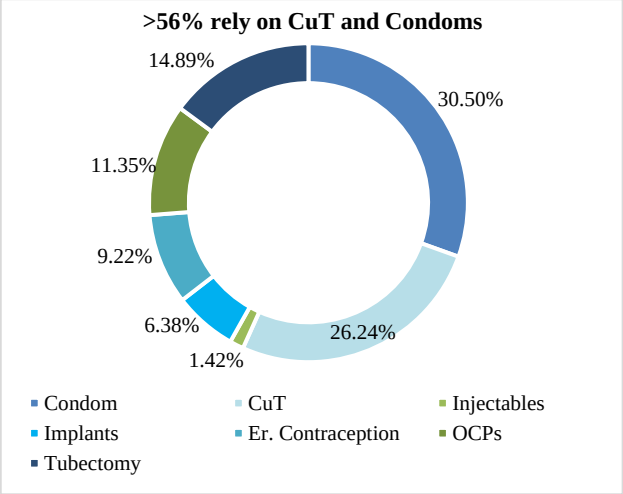

Figure 1: Condoms and CuT are the most preferred methods.

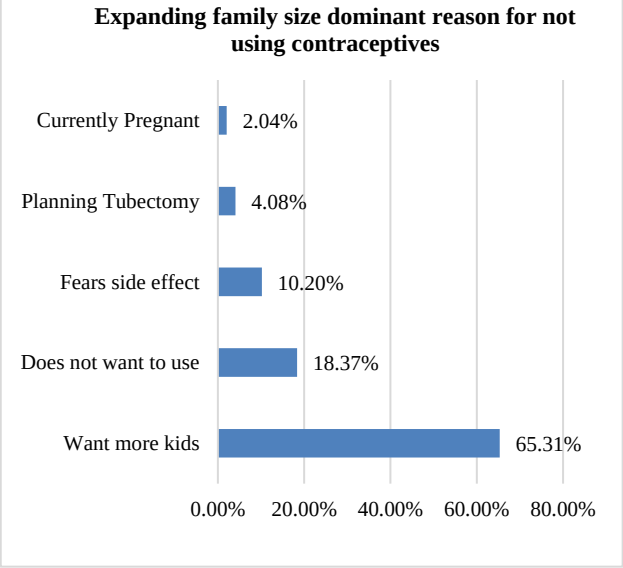

Figure 2: Need to expand family prohibits contraception use.

Table 3 highlights that 66.27% of respondents having at least one child (n=86) use contraceptive methods while 33.33% of respondents not having children (n=12) use contraceptive methods. One of the key reasons that was highlighted by respondents for using contraception was spacing of pregnancy.

Although majority of the respondents of the study are homemakers, proliferation of nuclear families in urban settings and the apparent absence of (otherwise available) support from members in a joint family setting have influenced spouse' decision making in favour of planned parenthood.

This connotes a noticeable change in generic perceptions around child bearing and rearing in urban India.

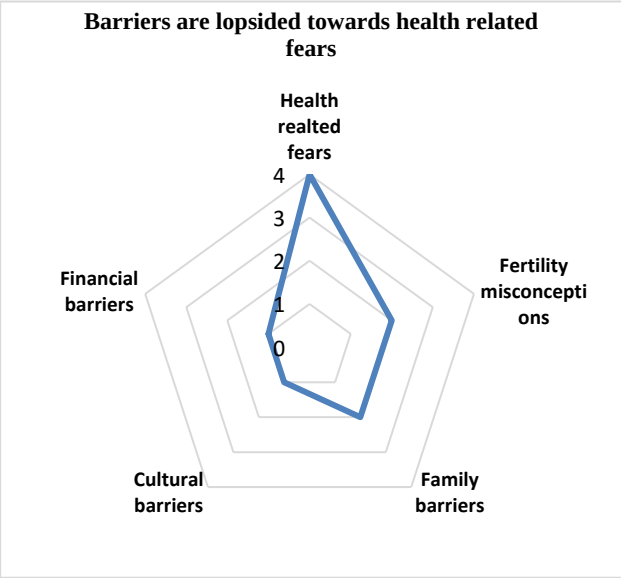

Figure 3: Health related fears key barriers in contraceptive usage.

Figure 2 shows that 65.31% of the non-user respondents (n=49) cited planning for more children as the reason for not using contraceptives.

It could be highlighted that though 6.25% of this subset of respondents already have 3 children, yet they do not use any contraceptive method.

This can be partly explained by the desire to have a male child. Additionally, spouses in this small subset are reluctant to use condoms and the respondents are themselves apprehensive and sceptical of the safety and health implications of the modern contraceptive methods.

Further, 83.68% of the respondents specifically mentioned an active role of the husband in the contraceptive use related decision making, where decision for the types of contraception preferred is taken in consultation with or supported by the spouse (indicating family support).

Respondents highlighted that collective decision-making is being increasingly appreciated by the spouses which is aiding in uptake of planned parenthood.

Barriers to using contraception

Figure 3 shows that fear and mis-conceptions about contraceptive methods have a strong influence on the decision to abstain from its usage.

More specifically, 60.0% (n=10) of the respondents, expressing barriers to contraceptive usage have cited fears of its side-effects on general health and decrease in the fertility as major deterrents for using contraceptives.

While the mis-conceptions are fed by hearsay, health workers have played a critical role in allaying scepticisms on modern contraception. Interestingly, 50% of literate respondents (n=8) in the IDI have cited these fears and apprehensions.

Also, only 20.0% of respondents (n=10) mentioned societal and cultural beliefs as additional barriers to contraceptive usage.

This bodes well with the involvement and support of spouses as mentioned in the afore mentioned para, that aids in diminishing the sphere of influence of customs and beliefs.

Examples of some select responses in vernacular language from the IDIs that are indicative of the awareness, usage of contraception and the role of ASHAs are mentioned below along with their English translation.

A working women using contraception has opined

"ASHA aur ANM didi se 'parivar niyojan' ke bare mein suna hain aur unke saath hum hamare samasyayon ke bare mein khul ke baat kar sakte hain". The English translation is - We have heard about 'family planning methods' from ASHA and ANMs and we can talk to them about our problems without any inhibitions.

A wage earner not using contraception said in Assamese language

"CuT use korile besike bleeding hoi buli moi xunisu… xei karone bhoi lage aaru beleg upai bur mur husband e nibisare". The English translation is - I have heard that use of CuT leads to excessive bleeding...I am scared to use it and My husband refuses to use other available methods.

A homemaker not using contraception anymore cited in Assamese language

"Moi xunisu je Mala bori byabohar kori thakile bule baccha huwa tu xodai r karone bondho hoi jai". The English translation is - I have heard that if I continue to use Mala tablet, I will never be able to bear a child further.

Table 1: Majority of the respondents are in the age group between 20-29 years (n=190).

Variables		Number	%	Using contraceptives	Not using contraceptive
Age groups (in years)	20-29	127	66.84	90	37
	30-39	53	27.89	44	9
	>39	10	5.26	7	3
Religion	Hinduism	173	91.05	131	42
	Muslim	17	8.94	10	7
Occupation	Homemakers	97	51.05	66	31
	Employed	93	48.94	75	18
Level of education	Illiterate	17	8.94	13	4
	Literate	173	91.05	128	45
Income (Rs/month)	5000-15999	114	60.00	79	35
	16000-25999	65	34.21	54	11
	26000-35999	10	5.26	7	3
	36000-45999	1	0.53	1	0

Note: no significant association was found among the variables; hence the two-sided p values for the same are not mentioned in the table above

Table 2: Condoms, OCPs and CuTs are most popular among respondents and Health workers are the key source of information on contraceptives.

Knowledge of contraceptives		Number	%
Knowledge of multiple contraceptive methods	Yes	189	99.47
	No	1	0.53
Types of contraceptives known*	Condoms	189	100.00
	Cut	143	75.66
	Injectables	5	2.64
	OCPS	150	79.36
	Tubectomy	128	67.72
	Implants	0	0.00
	Emergency	0	0.00
Source of information on contraceptives*	Health worker	145	76.71
	Peers	45	23.68
	Others (internet, radio,tv, books)	32	16.93

*multiple responses

Table 3: Respondents with at least two children use contraceptives the most.

No of children	Respondents using contraceptives	%
None	4	33.33% (n=12)
One	57	66.27% (n=86)
Two	68	89.94% (n= 76)
Three	10	71.42% (n=14)
Four	2	100.00% (n=2)

DISCUSSION

The level of knowledge about family planning methods among the respondents in our study is appreciable. Health workers as the primary source of information on contraceptives indicate their utter significance, robustness of their on-the ground network and sphere of their influence. Finding on the primary source of information on contraceptives for the respondents aligns with the findings by Dixit et al and Verma et al that show health workers as a dominant source (76.71%) of information. Similarly, in another study Kasa et al the major source of information were the health workers (57.5%) and radio (41.5%). In both these studies peers and relatives form a minor source of information while in our study, 23.68% respondents cite peers as a source of information.[10-12]

Our study finds a good knowledge of the different types of contraceptive measures among all the respondents. Although CuT, condom and tubectomy are all known measures, more than a third of the respondents rely on CuT as a contraceptive measure in our study. However, in

Dixit et al awareness and usage of CuT was below 10%. In our study, CuT has featured as a high cause of problem after using the method. The commonly reported problems by the respondents shows that 56.75% of users of CuT (n=37) face issues such as lower abdominal pain, discomfort and increased bleeding.

In our study, the desire to increase family has been cited as the main reason (65.30%, n=49) for respondents to not use contraceptive methods. This is aligned with the study conducted in the slums of South Delhi where two-third of the respondents did not adopt any family planning methods as they wanted more children. However, opposition by husband (31.72%) was found to be the main reason for not using contraceptives in the study by Barman et al. Our study showed greater support and involvement of the husbands in choosing the method of contraceptives and family planning.[13,14]

Another factor that has a bearing on the decision to use contraceptives is the prevalence of the fear of health-related side effects and misconceptions about fertility. 11.64% of the respondents (N=189) cited these fears as barriers for using contraception. This is in line with the findings in the study of Naveen et al and Thacker et al. Similar findings are highlighted in the study by Ghule et al, that cites fears of side effects and fertility related misconceptions as major deterrents for using contraceptives.[15,16]

Our study also found that 6.25% of the subset of respondents not using contraceptives (n=49) have more than three children (n=16) and desire for more children. This could be explained by the desire to have a male child as is highlighted in the study by Kumar et al.[17] Moreover, among respondents (n=49) not using contraceptives, fear of usage and socio-cultural barriers have been cited as major barriers to usage. This is over and above the need to have more kids that influence their decision to not use contraceptives.

Women in the age group 20-29 years were more likely to use contraceptives compared to the other age groups. This is similar to the findings in the study by Gothwal et al that showed higher likelihood of practicing family planning methods by women in the age group 20-30 years than those more than 30 years.[18] Employed women (81%) were more likely to use contraceptives than unemployed (homemaker) women (68%) This trait may be linked to attaining financial freedom by employed women by having a manageable family size through planned parenthood.

It is seen in our study that education, religion and monthly household income of the respondents do not show any significant association with the usage of contraceptive methods. However, significant association was found in the study by Mansi et al, between education and use of different contraceptive methods by married women of reproductive age having <= 2 children and residing in Ahmedabad.[19]

Limitations of the study

Being a cross-sectional study, it captures contraceptive practices and perceptions at a single point in time, thereby limiting the ability to assess temporal changes, causal relationships, or behavioural shifts over time. Further, the direction of household selection was based on a coin toss and proceeded in one direction, which might have introduced directional sampling bias. Non-responses were replaced with the next household, which could introduce systematic exclusion of certain types of households (e.g., more mobile or working respondents).

While in-depth interviews (IDIs) add rich context, the number (10) may be insufficient for thematic saturation, especially in a culturally diverse setting like Guwahati. Also, while care has been taken, translation of local dialects into English could lead to loss of nuance or misinterpretation, affecting the validity of qualitative findings.

The participants' responses around contraceptive use and decision-making may be biased. For example, the respondents may underreport sensitive behaviour or overstate knowledge due to social desirability, especially in the context of discussions on contraception and reproductive health. Fear of stigma or judgment may have led to underreporting of use of emergency contraception or other socially sensitive methods.

Excluding pregnant women, those under 18, and those not present or severely ill may have removed important subgroups from the study who could provide critical insights on family planning gaps. Additionally, the decision to focus only on wives as respondents, without complementary input from husbands, may overlook critical dimensions of male involvement in family planning decisions.

While the study touches on misconceptions, religious beliefs, and gender norms, these were not deeply explored or quantified. Given their importance in shaping reproductive behaviour, a more in-depth cultural lens would have strengthened the findings. Additionally, while the study acknowledges that no significant associations were found among variables like income, education, and occupation, yet deeper statistical probing might have yielded more nuanced results.

No mechanisms were in place to track whether knowledge translated into action over time. A follow-up or repeat cross-sectional study could provide insights into behaviour change over time.

CONCLUSION

From our study, it was observed there is general awareness of family planning methods and the acceptance of contraceptives among urban slum dwellers in is gaining traction. Acceptance of the contraceptive methods

is influenced by various socio-economic factors at the individual, family, and community level. More research is however needed to understand the interplay of the social barriers and economic considerations and their influence on adoption of family planning.

The study highlighted the importance of health workers as vital conduits for disseminating information on family planning and the relative ease slum dwelling women find in seeking trusted information on contraceptive use. Well-trained health workers are critical for Assam to improve the current rates of usage of public health sector as a source of modern contraceptives. Greater engagement and guidance from the health workers will also allay the existing health-related fears and misconceptions on fertility that dissuade many from using contraceptives. In light of this, further impetus should be put on training the trainers and thereby strengthen the family planning education and counselling programs through on-the-field health workers and certified NGOs.

Prospects of having an improved economic condition by having an ideal family with two children can serve as a strong incentive to adopt family planning. It should be clearly relayed to the families that besides enhancing the health of the women and children, family planning can aid in improving the economic condition of the household.

As the country progresses for the next phase of growth, family planning underpinned by well-trained health workers will play a critical role in ensuring maternal and child well-being in the country. A good family planning program thus, not only helps in preserving the good health and well-being of women and children at the family level but also aids in uplifting the overall progress of the nation as a whole.

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REFERENCES

1. Brida JG, Alvarez E, Cayssials G, Mednik M. How does population growth affect economic growth and vice versa? An empirical analysis. Review Eco Pol Sci. 2024;9(3):265-97.
2. Revathy R, Kharat N, Chaurasia H, Shetty S, Begum S, Joshi B. QOL Study Group. Health system cost for providing antiretroviral therapy, family planning, and pregnancy-related services to women living with HIV in public health settings, Mumbai, India. Indian J Pub Health. 2023;67(3):428-34.
3. Chaturvedi S, Gahlawat K, Joshi S, Sharma M, Yadav R, Chaturvedi C. National family health survey-5 (phase-ii) India: a review of selected maternal and child health indicators in India. 2020.
4. Souza JP, Gülmezoglu AM, Carroli G, Lumbiganon P, Qureshi Z, WHOMCS Research Group. The world health organization multicountry survey on maternal and newborn health: study protocol. BMC health services research. 2011;11:1-10.
5. Park JE, Park K. Textbook of preventive and social medicine. 1983.
6. Pedersen CS. The UN sustainable development goals (SDGs) are a great gift to business. Procedia Cirp. 2018;69:21-4.
7. Gahlawat K. National Family Health Survey-5 (Phase-II) India: A review of selected maternal and child health indicators in India. InProceedings of the 2nd ICSSR Conference on "India Towards Viksit Bharat. 2024:2047.
8. Family planning/contraception methods. Available at: https://www.who.int/news-room/fact-sheets/detail/family-planning-contraception. Accessed on 3 March 2025.
9. Banerjee D, Kayal TK. An analysis of inequality in physical health status of women in India: 2015–2021. Global Health J. 2024;8(4):213-21.
10. Dixit R, Bandhani A. Contraceptive knowledge, practices among women in Garhwal region. Int J Community Med Public Health. 2019;6:793-6.
11. Verma N, Bajpai PK. Knowledge, attitude and practices of contraception among the married women of reproductive age group in urban slums of Lucknow. Int J Res Med Sci. 2021;9(6):1716-21.
12. Semachew Kasa A, Tarekegn M, Embiale N. Knowledge, attitude and practice towards family planning among reproductive age women in a resource limited setting of Northwest Ethiopia. BMC research notes. 2018;11:1-6.
13. Kumar S, Priyadarshni A, Kant S, Anand K, Yadav B K. Kathmandu University Med J. 2005;3(11);259-62.
14. A study of family planning practices among married women of 15-49 years of age in urban slums of Guwahati (Metro) city, Assam. Int J Scientific Res. 2018;15:97-9.
15. Naveen TS. Needs, beliefs and barriers for contraceptive use among women in a low resource setting in Tamil Nadu: a qualitative study; Int J Reprod Contracept Obstet Gynecol. 2019;8(11):4332-6.
16. Mohan G. Barriers to use contraceptive methods among rural young married couples in Maharashtra, India: Qualitative findings. 2018;5:2249-55.
17. Pal R, Maheshwari S, Kaka N, Patel N, Sethi Y. Knowledge, attitude and practices of postpartum females regarding the acceptance of immediate postpartum contraception: a cross-sectional study from North India. Cureus. 2022;14(10):67-9.
18. Gothwal M, Tak A, Aggarwal L, Rathore AS, Singh P, Yadav G, et al. A study of knowledge, attitude, and practice of contraception among nursing staff in All India Institute of Medical Sciences, Jodhpur, Rajasthan. J Family Med Prim Care. 2020;9:706-10.

19. Brahmbhatt MM, Sheth JK, Balaramanamma DV. A study of knowledge, attitude & practice towards contraception among married women of reproductive age group having≤ 2 Children residing in Vasna ward, Ahmedabad, Gujarat, India.

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