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A Pre-Experimentsal Study to Assess the Effectiveness of Structured Teaching Programme On Knowledge Regarding Injectable Hormonal Contraceptive Among Women in Reproductive Age In Selected Areas Of Pune City

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ABSTRACT

Introduction: Unmet family planning needs and misconceptions about contraception contribute to rising fertility rates in India. Injectable hormonal contraceptives are safe and effective, yet their use remains limited due to lack of awareness. Structured teaching programmes can address this gap by improving women's knowledge and promoting informed reproductive choices. Methodology: A pre-experimental one-group pretest–posttest design was employed among 100 women aged 18– 40 years in selected areas of Pune City, chosen through convenience sampling. Data were collected using a structured knowledge questionnaire. Ethical approval and informed consent were obtained. Descriptive statistics were used to describe the data, and inferential statistics (t-test, chi-square) were applied to test significance. Results: In the pretest, most participants had poor to average knowledge, with only a small proportion demonstrating good knowledge. After the structured teaching programme, the majority attained good knowledge scores. The mean knowledge score increased significantly from pre- to post-test, with a t value of 13.25 at $p < 0.0001$, confirming the effectiveness of the intervention. Association analysis showed significant relationships of pretest knowledge with age, education, and source of information, while other demographic factors were not significant. Conclusion: Structured teaching programmes are effective in enhancing women's knowledge regarding injectable hormonal contraceptives. By bridging awareness gaps and dispelling misconceptions, such interventions can empower women in reproductive decision-making and support population stabilization efforts.

KEYWORDS: Structured teaching programme, Injectable hormonal contraceptives, Knowledge, Women, Family planning.

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INTRODUCTION

Overpopulation has emerged as one of the most significant global public health and socio- economic challenges. Defined as a rapid and unsustainable increase in population relative to available resources, it is driven largely by declining mortality rates, improved agricultural productivity, and advances in medical care, which collectively increase life expectancy while sustaining high birth rates.[1] This demographic pressure is closely associated with poverty, unemployment, food insecurity, and poor living conditions, alongside ecological degradation and strain on social infrastructure.[2]

India, the world's most populous country, faces pronounced consequences of overpopulation. Socio-cultural factors such as illiteracy, superstition, lack of awareness, and limited access to reproductive health education contribute to high fertility rates.[3] The country continues to struggle with unmet needs for family planning, early marriage, short birth spacing, and limited contraceptive uptake, particularly among rural and underserved populations.[4] According to the National Family Health Survey (NFHS-5), 9.4% of family planning needs in India remain unmet, while 23.3% of women are married before the legal age of 18, and 47.6% of births occur within less than the recommended three-year interval between pregnancies.[5,6,7] In response, India launched the National Family Planning Program in 1952, becoming the first country to implement a nationwide population control initiative.[8] Initially focused on sterilization, the program has since evolved to address broader reproductive health goals, reduce maternal and child mortality, and promote population stabilization. A range of contraceptive options is now available, including barrier methods, hormonal contraceptives, intrauterine devices (IUDs), and permanent sterilization.[9]

Injectable hormonal contraceptives—such as Depot Medroxyprogesterone Acetate (DMPA) and Norethisterone Enanthate (NET-EN)—are among the most effective temporary contraceptive options. Administered at regular intervals, they provide long-term, reversible protection without

the need for daily compliance. Clinical evidence suggests that DMPA, when used as recommended, has a failure rate of approximately 0.2% in the first year, with additional health benefits including reduced risk of iron-deficiency anaemia, pelvic inflammatory disease, and uterine cancer.[10] Moreover, injectables are suitable for women who cannot use estrogen-based

methods and have minimal drug–drug interaction risk.

Despite these advantages, the uptake of injectable contraceptives in India remains low. Barriers include lack of awareness, misconceptions about side effects, cultural norms, and inadequate counselling by healthcare providers.[11] Studies such as those by Rele et al. (2019) have demonstrated that contraceptive choice is influenced by socio-demographic characteristics, parity, education level, religious beliefs, and place of residence.[12] Similarly, Tresa Alukal et al. (2018) found that while knowledge about contraceptive methods was relatively high among women in Kerala, the actual utilization rates remained low, highlighting the gap between awareness and practice.[13]

Improving knowledge and acceptance of injectable hormonal contraceptives through structured health education interventions can enhance contraceptive uptake, reduce unintended pregnancies, and contribute to improved maternal and neonatal health outcomes. This study focuses on assessing the effectiveness of a structured teaching programme in improving knowledge regarding injectable hormonal contraceptives among women of reproductive age in selected areas of Pune city.

NEED FOR THE STUDY

Population growth remains one of the most significant challenges to sustainable development in India, placing immense strain on healthcare systems, education, employment, and natural resources. Illiteracy, deeply rooted traditional beliefs, and lack of awareness about reproductive health contribute to high fertility rates, particularly in rural and underserved areas.[14] Educated populations are more likely to be aware of birth control options, yet despite government and non- governmental initiatives, population control remains suboptimal. Women's empowerment, improved access to education, and availability of modern healthcare services are essential for addressing this issue.[15]

Family planning is a proven intervention for reducing maternal and child mortality, improving women's health, and contributing to economic and social development. Injectable hormonal contraceptives, such as Medroxyprogesterone Acetate (DMPA), offer a safe, effective, and reversible method of contraception, providing protection for three months with a single intramuscular dose.[16] The Indian "Antara" program facilitates the provision of DMPA under medical supervision, making it a feasible option for many women. However, its uptake remains limited due to low awareness, misconceptions, and socio-cultural barriers.[11]

Evidence from international and national studies underscores the gap between awareness and practice. Marina A. Skiba et al. (2019) found that while 43.2% of Australian women used hormonal contraceptives, uptake of long-acting and injectable methods was still influenced by socio- demographic factors, highlighting inequities in access.[17] Similarly, Joseph K. Wulifan et al. reported that in low- and middle-income countries, 20–58% of family planning needs remain unmet, with barriers including lack of access, fear of side effects, partner opposition, and inadequate counselling.[18] In India, Poonam Muttreja (2019) emphasized that expanding family planning services, including injectables, is essential for achieving the Sustainable Development Goals and leveraging the demographic dividend.[19]

Given these challenges, there is a critical need to enhance women's knowledge of injectable hormonal contraceptives through structured educational interventions. Improving awareness can increase acceptance and correct misconceptions, thereby promoting informed contraceptive choices, reducing unintended pregnancies, and contributing to population stabilization. This forms the basis for undertaking the present study to assess the effectiveness of a structured teaching programme on knowledge regarding injectable hormonal contraceptives among women of reproductive age.

AIM OF THE STUDY

To assess the effectiveness of a structured teaching programme on knowledge regarding injectable hormonal contraceptives among women of reproductive age in selected areas of Pune City using a pre-experimental study design.

METHODOLOGY

Objectives

1) To assess the pretest knowledge score on injectable hormonal contraceptives among women in experimental group.
2) To assess the posttest knowledge score on injectable hormonal contraceptives among women in experimental group after intervention of structured teaching program.
3) To compare the pretest and posttest knowledge in experimental group.
4) To determine the effectiveness of knowledge structured teaching program on among women regarding injectable hormonal contraceptives.
5) To associate the pretest knowledge findings with the selected demographic variables.

Research Approach

A quantitative research approach was adopted for this study to assess the effectiveness of a structured teaching programme on knowledge regarding injectable hormonal contraceptives.

Research Design

A pre-experimental one-group pretest–posttest design was employed to measure knowledge levels before and after the intervention.

Variables

Independent Variable: Structured teaching programme on injectable hormonal contraceptives. Dependent Variable: Knowledge of women regarding injectable hormonal contraceptives.

Setting of the Study

The study was conducted in selected areas of Pune City, Maharashtra, India.

Population and Sampling

- Target Population: Women of reproductive age (18–40 years) residing in the selected areas of Pune City.
- Accessible Population: Women aged 18–40 years from the chosen localities of Pune City who met the inclusion criteria.

Inclusion Criteria:

- Women aged 18–40 years.
- Women who can read, write, and speak English or Marathi.

Exclusion Criteria:

- Women who are health professionals.
- Women who have adopted permanent family planning methods.
- Sample Size: 100 women.
- Sampling Technique: Convenience sampling method was used for participant selection.

Data Collection Tool and Technique

Data were collected using a structured knowledge questionnaire consisting of two sections:
Section A: Demographic profile (age, educational qualification, duration of marriage, occupation, type of family, socio-economic status, and source of knowledge).
Section B: Structured knowledge questionnaire on injectable hormonal contraceptives. The participants provided written informed consent before participation.

Reliability of the Tool

The reliability of the tool was established after validation. The test–retest method was applied from 17-11-2024 to 23-11-2024 in Dhanakawadi, Pune City, with a sample of 10 women. Reliability was calculated using the Karl Pearson correlation coefficient, yielding:
Knowledge questionnaire: r = 0.8265 Attitude
scale: r = 0.8341

Data Collection Procedure

1. Permission was obtained from the Institutional Ethical Committee and relevant authorities.
2. Written informed consent was obtained from each participant.
3. A brief explanation of the study was provided, and the purpose of the research was clarified within 15 minutes.
4. The pretest was conducted, with participants given 30 minutes to complete the questionnaire.
5. The structured teaching programme on injectable hormonal contraceptives was delivered to the participants.
6. Posttest data were collected after the intervention, using the same structured knowledge questionnaire.
7. Questionnaires were checked for completeness before analysis.

RESULT

Demographic Data

The demographic distribution of the participants reveals that the majority (51%) of women were in the age group of 26–30 years, followed by 29% in the age group of 18–25 years, and 20% in the 31–35 years category. None of the participants were aged 36 years or above.

Regarding educational qualification, the highest proportion (49%) were graduates, followed by postgraduates (31%) and 12th pass (20%). None of the participants had only formal education.

In terms of marital duration, most participants (69%) had been married for 1 year, while 31% had been married for 1–2 years. No participants reported a marriage duration of less than 3 years or 4 years and above.

Occupational status showed that 55% of the women were employed, while 45% were unemployed. Family type was equally distributed between nuclear (40%) and joint (40%) families, with 20% living in extended families.

Socio-economic status data indicated that half of the participants (50%) belonged to the upper class, followed by 40% in the

middle class and 10% in the lower class.

As for the source of information regarding injectable hormonal contraceptives, textbooks and health personnel were equally reported as sources by 30% each, while 20% each cited family & friends and multimedia.

To Assess Pretest & Posttest Knowledge Score On Injectable Hormonal Contraceptives

Table 1 To assess Pretest knowledge score on injectable hormonal contraceptives among women in experimental group.

n=100

Level of Knowledge Pre test	**Frequency (f)**	**Percentage (%)**
Poor Knowledge	50	50%
Average Knowledge	42	42%
Good Knowledge	8	8%
Mean	**6.35**	
SD	**3.69**	

Table 1 shows the pretest knowledge scores on injectable hormonal contraceptives among women in the experimental group. It is observed that half of the participants (50%) had poor knowledge, 42% had average knowledge, and only 8% demonstrated good knowledge. The mean pretest score was 6.35 with a standard deviation of 3.69, indicating that the overall baseline knowledge level prior to the intervention was generally low to moderate, with noticeable variability among participants.

Table 2 To assess the post-test knowledge score on injectable hormonal contraceptives among women in experimental group after intervention of structured teaching program.

n=100

Level of Knowledge Post Test	**Frequency (f)**	**Percentage (%)**
Poor Knowledge	3	3%
Average Knowledge	21	21%
Good Knowledge	76	76%
Mean	**12.05**	
SD	**2.58**	

Table 2 shows the post-test knowledge scores on injectable hormonal contraceptives among women in the experimental group after the intervention of the structured teaching programme. The results indicate that only 3% of participants had poor knowledge, 21% had average knowledge, and the majority (76%) demonstrated good knowledge. The mean post-test score was 12.05 with a standard deviation of 2.58, reflecting a marked improvement in knowledge levels following the educational intervention, with reduced variability in scores compared to the pretest.

Compare The Pretest And Posttest Knowledge

Fig 1 illustrates the comparison of pretest and post-test knowledge scores on injectable hormonal contraceptives among women in the experimental group. In the pretest, half of the participants (50%) had poor knowledge, 42% had average knowledge, and only 8% demonstrated good knowledge. After the intervention, poor knowledge decreased sharply to 3%, average knowledge reduced to 21%, and good knowledge increased substantially to 76%. The mean score improved from 6.45 in the pretest to 12.05 in the post-test, while the standard deviation reduced from 3.80 to 2.58, indicating not only a significant improvement in knowledge levels but also greater consistency in participants' scores after the structured teaching programme.

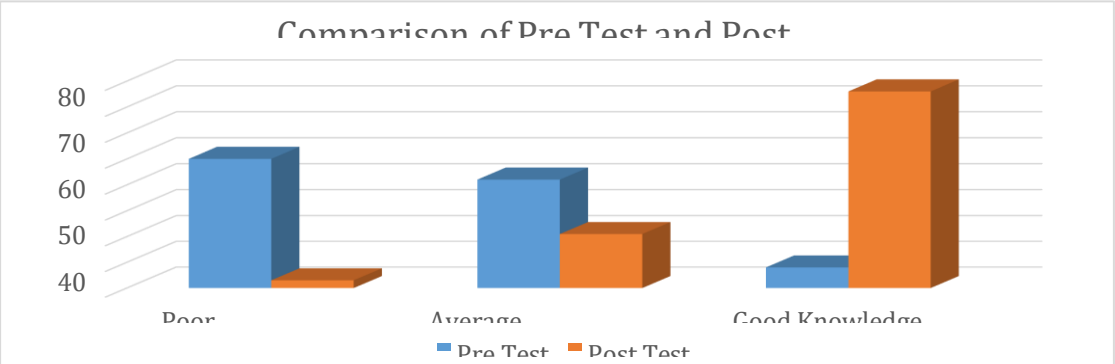

Figure 1 compare the pretest and posttest knowledge in experimental group

Effectiveness of Knowledge Structured Teaching Program On Among Women

To determine the effectiveness of knowledge structured teaching program on among women regarding injectable hormonal contraceptives.

Fig 2 demonstrates the effectiveness of the structured teaching programme on knowledge regarding injectable hormonal contraceptives among women. The mean knowledge score increased from 6.45 in the pretest to 12.05 in the post-test, with standard deviations of 3.8 and 2.58, respectively. The calculated t value of 13.25 with a p value of <0.0001 indicates a highly significant improvement in knowledge after the intervention. This demonstrates that the structured teaching programme was effective in enhancing participants' knowledge about injectable hormonal contraceptives.

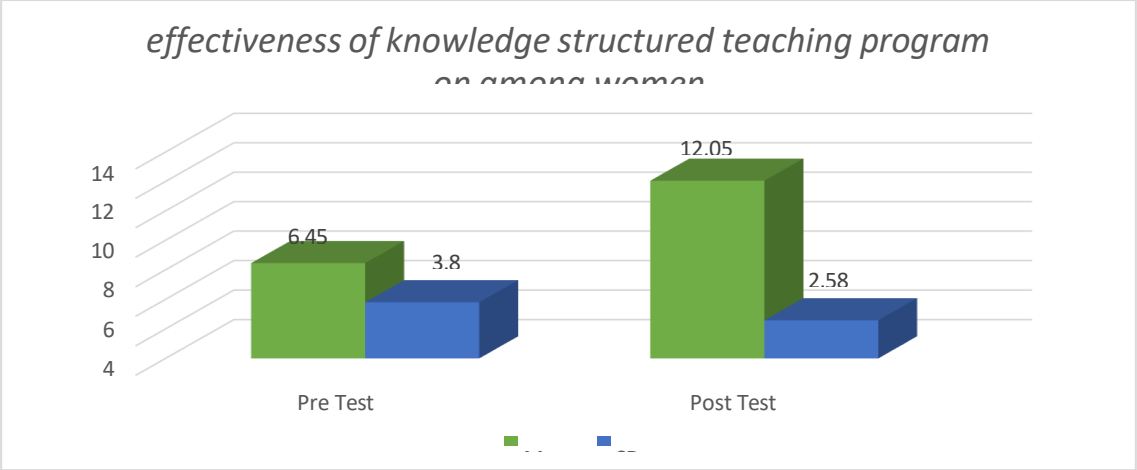

Figure 2 effectiveness of knowledge structured teaching program on among women Associate The Pretest Knowledge Findings With The Selected Demographic Variables.

The association of pretest knowledge scores on injectable hormonal contraceptives with selected

demographic variables among women in the experimental group. The chi-square test results indicate that age ($\chi^2 = 20.28$, $p = 0.002$), educational qualification ($\chi^2 = 21.22$, $p = 0.002$), and source of information ($\chi^2 = 30.47$, $p = 0.001$) were significantly associated with pretest knowledge scores.

Participants aged 26–30 years and those with higher educational qualifications (graduates and postgraduates) demonstrated higher proportions of average and good knowledge. Women who reported receiving information from multimedia or health personnel also had better knowledge levels compared to those relying on family/friends or textbooks alone.

No significant association was found between pretest knowledge and duration of marriage ($\chi^2 = 2.93$, $p = 0.81$), occupation ($\chi^2 = 3.98$, $p = 0.43$), type of family ($\chi^2 = 2.68$, $p = 0.61$), or socio- economic status ($\chi^2 = 8.05$, $p = 0.08$). This suggests that while certain demographic factors such as age, education, and information source influence baseline knowledge, others do not show a statistically significant relationship in this study.

DISCUSSION

The present study was conducted to evaluate the effectiveness of a structured teaching programme on knowledge regarding injectable hormonal contraceptives among women of reproductive age in Pune City. The pretest findings revealed that half of the women had poor knowledge, while a considerable proportion demonstrated only average knowledge, and very few showed good knowledge. The mean pretest score reflected an overall low level of awareness about injectable contraceptives. These findings are comparable to those of Tresa Alukal et al. (2018), who reported that although women in Kerala were generally familiar with contraceptive methods, stigma and misconceptions hindered correct understanding and use.[20] Similarly, Idowu et al. (2022) found that almost one-third of Nigerian students were unaware of contraceptive self-injection, even though a majority had positive attitudes towards it, underscoring the persistence of awareness gaps as a critical barrier.[21] After the implementation of the structured teaching programme in the present study, there was a marked improvement in knowledge. The majority of women shifted to the good knowledge category, while only a minimal proportion retained poor knowledge. The mean posttest score increased substantially compared to the pretest, demonstrating a clear gain in awareness. These results confirm the value of structured teaching in enhancing knowledge and dispelling misconceptions about injectable contraceptives. Similar patterns were reported by Jayabharathi and Ramya (2016), where women's knowledge about emergency contraception improved significantly after intervention, with all participants achieving adequate knowledge in the post-test compared to less than one percent in the pretest.[22] Sasi Rekha and Elizabeth Rani (2025) also documented substantial improvements in both knowledge and attitude regarding modern contraception, with adequate knowledge increasing considerably after structured teaching.[23]

The statistical comparison between pretest and posttest scores in the current study further confirmed the effectiveness of the intervention, as the difference was highly significant. This finding is consistent with the earlier studies mentioned, reinforcing

that structured teaching programmes are powerful tools for improving knowledge in the area of reproductive health.

The present study also identified significant associations between baseline knowledge and certain demographic variables, namely age, educational qualification, and source of information. Women in the age group of 26–30 years, those with higher education, and those who obtained information from multimedia or health personnel were more knowledgeable. These observations align with Idowu et al. (2022), who emphasized age and attitude as key determinants of knowledge, and with Wulifan et al., who reported that higher education was inversely related to unmet family planning needs. In contrast, factors such as duration of marriage, occupation, socio-economic status, and family type showed no significant association with knowledge, which is consistent with the findings of Jayabharathi and Ramya (2016).

CONCLUSION

The present study demonstrates that a structured teaching programme is an effective intervention for improving knowledge regarding injectable hormonal contraceptives among women of reproductive age. Prior to the intervention, participants exhibited limited awareness and understanding of this contraceptive method, reflecting persistent gaps in reproductive health education. After the implementation of the structured programme, there was a notable enhancement in knowledge levels, with a significant shift from poor to good knowledge categories. This clearly highlights the potential of targeted educational initiatives in addressing misconceptions, correcting false beliefs, and promoting informed decision-making among women.
The findings are consistent with previous national and international research, which has repeatedly confirmed that structured educational programmes play a crucial role in enhancing awareness and positive attitudes toward contraceptive use. Moreover, the study established that demographic factors such as age, education, and source of information significantly influenced baseline knowledge, while other variables showed no association. This emphasizes the importance of tailoring health education strategies to specific groups to maximize their effectiveness.

Overall, the study underscores that well-planned and systematically delivered teaching programmes can bridge knowledge gaps, empower women to take informed reproductive health decisions, and contribute toward the larger goals of family planning, maternal health improvement, and population stabilization.

CONFLICT OF INTEREST

The authors certify that they have no involvement in any organization or entity with any financial or non-financial interest in the subject matter or materials discussed in this paper.

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REFERENCES

1. Saraswati CM, Judge MA, Weeda LJZ, Bassat Q, Prata N, Le Souëf PN, et al. Net benefit of smaller human populations to environmental integrity and individual health and wellbeing. Front Public Health [Internet]. 2024;12:1339933. Available from: https://pmc.ncbi.nlm.nih.gov/articles/PMC10949988/
2. Rahaman MA, Kalam A, Al-Mamun M. Unplanned urbanization and health risks of Dhaka City in Bangladesh: uncovering the associations between urban environment and public health. Front Public Health [Internet]. 2023;11:1269362. Available from: https://pmc.ncbi.nlm.nih.gov/articles/PMC10620720/
3. [Burning issue] India Becomes Most Populous Nation [Internet]. CivilsDaily. 2023 [cited 2025 Aug 18]. Available from: https://www.civilsdaily.com/india-becomes-most- populous-nation/
4. Mustafa G, Azmat SK, Hameed W, Ali S, Ishaque M, Hussain W, et al. Family planning knowledge, attitudes, and practices among married men and women in rural areas of Pakistan: Findings from a qualitative need assessment study. Int J Reprod Med [Internet]. 2015;2015:190520. Available from: https://pmc.ncbi.nlm.nih.gov/articles/PMC4569791/
5. Ministry of Health, Family Welfare-Government of India. Family Planning [Internet]. Gov.in. [cited 2025 Aug 18]. Available from: https://nhm.gov.in/index1.php?lang=1&level=2&sublinkid=821&lid=222
6. Online ET. Child marriage: 20% of women in 20-24 age group married before the age of 18, report finds [Internet]. Economic Times. 2022 [cited 2025 Aug 18]. Available from: https://economictimes.indiatimes.com/news/india/child-marriage-20-of-women-in-20-24- age-group-married-before-t .
   Read more at: https://economictimes.indiatimes.com/news/india/child-marriage-20-of- women-in-20-24-age-group-married-before-the-age-of-18-report-finds/articleshow/96416424.cms?utm_source=contentofinterest&utm_medium=text&utm_campaign=cppst
7. Muttreja P, Singh S. Family planning in India: The way forward: The way forward. Indian J Med Res [Internet]. 2018;148(Suppl):S1–9. Available from: https://pmc.ncbi.nlm.nih.gov/articles/PMC6469373/
8. Ministry of Health, Family Welfare-Government of India. Family Planning [Internet]. Gov.in. [cited 2025 Aug 18]. Available from: https://nhm.gov.in/index1.php?lang=1&level=2&sublinkid=821&lid=222

9. Family planning/contraception methods [Internet]. Who.int. [cited 2025 Aug 18]. Available from: https://www.who.int/news-room/fact-sheets/detail/family-planning- contraception
10. Matubu A, Hillier SL, Meyn LA, Stoner KA, Mhlanga F, Mbizvo M, et al. Depot medroxyprogesterone acetate and norethisterone enanthate differentially impact T-cell responses and expression of immunosuppressive markers. Am J Reprod Immunol [Internet]. 2020;83(3):e13210. Available from: https://pmc.ncbi.nlm.nih.gov/articles/PMC7900783/
11. Subramaniyan S, Arulmozhi M, Ganapathy K, Mohan R. Injectable contraceptives as an underutilized option for women's reproductive health: An exploratory qualitative study. Cureus [Internet]. 2024;16(7):e65576.Available from: https://pmc.ncbi.nlm.nih.gov/articles/PMC11348869/
12. Abdulai M, Kenu E, Ameme DK, Bandoh DA, Tabong PT, Lartey AA, et al. Demographic and socio-cultural factors influencing contraceptive uptake among women of reproductive age in Tamale Metropolis, Northern Region, Ghana. Ghana Med J [Internet]. 2020;54(2 Suppl):64–72. Available from: https://pmc.ncbi.nlm.nih.gov/articles/PMC7837347/
13. Alukal AT, George L, Raveendran RC. Awareness and practice of contraceptive methods among women in Kerala, India. Int J Reprod Contracept Obstet Gynecol [Internet]. 2018;7(4):1501.Available from: https://www.researchgate.net/publication/324054290_Awareness_and_practice_of_contraceptive_methods_among_women_in_Kerala_India
14. Kruk ME, Gage AD, Arsenault C, Jordan K, Leslie HH, Roder-DeWan S, et al. High- quality health systems in the Sustainable Development Goals era: time for a revolution. Lancet Glob Health [Internet]. 2018;6(11):e1196–252. Available from: https://pmc.ncbi.nlm.nih.gov/articles/PMC7734391/
15. Pazol K, Zapata LB, Tregear SJ, Mautone-Smith N, Gavin LE. Impact of contraceptive education on contraceptive knowledge and decision making: A systematic review. Am J Prev Med [Internet]. 2015;49(2 Suppl 1):S46-56. Available from: https://pmc.ncbi.nlm.nih.gov/articles/PMC4532374/
16. Gupta V, Chawla S, Goel PK. Injectable depot medroxy progesterone acetate: A safe contraceptive choice in public health system of India. Int J Prev Med [Internet]. 2020;11(1):180. Available from: https://pmc.ncbi.nlm.nih.gov/articles/PMC7804881/
17. Skiba MA, Islam RM, Bell RJ, Davis SR. Hormonal contraceptive use in Australian women: Who is using what?: Hormonal contraceptive use in Australian women. Aust N Z J Obstet Gynaecol [Internet]. 2019;59(5):717–24. Available from: https://pubmed.ncbi.nlm.nih.gov/31250431/
18. Wulifan JK, Brenner S, Jahn A, De Allegri M. A scoping review on determinants of unmet need for family planning among women of reproductive age in low and middle income countries. BMC Womens Health [Internet]. 2016;16(1):2. Available from: https://www.researchgate.net/publication/290623466_A_Scoping_Review_on_Determinants_of_Unmet_Need_for_Family_Planning_Among_Women_of_Reproductive_Age_in_Low_and_Middle_Income_Countries
19. Muttreja P, Singh S. Family planning in India: The way forward: The way forward. Indian J Med Res [Internet]. 2018;148(Suppl):S1–9. Available from: https://pmc.ncbi.nlm.nih.gov/articles/PMC6469373/
20. Alukal AT, George L, Raveendran RC. Awareness and practice of contraceptive methods among women in Kerala, India. Int J Reprod Contracept Obstet Gynecol [Internet]. 2018;7(4):1501. Available from: https://www.ijrcog.org/index.php/ijrcog/article/view/4400
21. Idowu A, Osinusi E, Awubite L, Obisesan IO. Contraceptive self-injection knowledge, attitude and practices among female students of a tertiary health institution in south west Nigeria. Int J Reprod Contracept Obstet Gynecol [Internet]. 2022;11(2):323–32. Available from: https://go.gale.com/ps/i.do?p=AONE&sw=w&issn=23201770&v=2.1&it=r&id=GALE%7CA693527577&sid=googleScholar&linkaccess=abs
22. Jayabharathi B, Associate Professor, Department of Obstetrics & Gynecology Nursing, SRM College of Nursing, SRM University, Chennai., Ramya, Staff Nurse, Dhanalakshmi Srinivasan Hospital, Perambalur, Trichy. Effectiveness of structured teaching programme regarding emergency contraception on knowledge among married women. J Nurse Midwifery Matern Health [Internet]. 2016;2(3):155–61. Available from: https://rfppl.co.in/subscription/upload_pdf/mmh3_4469.pdf?srsltid=AfmBOormOg5uyu8 DFSVjHIjSY0HAv-2fEThif1PVI_QgFq0PJusdorTl
23. Mrs. Sasi Rekha A. and Prof. Elizebeth Rani V. Effectiveness of a structured teaching programme on knowledge and attitude towards utilization of Modern Contraception among adult women. INTERNATIONAL JOURNAL OF PHARMACEUTICAL SCIENCE AND HEALTH CARE [Internet]. 2025;4(15):2025. Available from: https://www.researchgate.net/publication/393976630_Effectiveness_of_a_Structured_Teaching_Programme_on_Knowledge_and_Attitude_Towards_Utilization_of_Modern_Contraception_Among_Adult_Women