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Comparative Study on Side Effect Profile and Acceptance of Patient for DMPA, IUCD and Implant as A Method of Contraception

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Abstract

Objective: Family planning is a fundamental component of reproductive health and plays a vital role in reducing maternal and infant morbidity and mortality. Various methods are available for contraception and studying their side effect and acceptance among patients, helps in counselling the patient about their options and recommending them the most suitable contraceptive.

Material and Method: The study was conducted at Mathuradas Mathur hospital family planning clinic over a period of 6 months. 100 users of each of contraceptive method were interviewed regarding any side effect they faced with the method and whether they were satisfied. They factors affecting their choice was also studied and accordingly they were counselled on the best contraceptive choice for them.

Result: It was found that DMPA and implant users faced maximum menstrual related problem and this was the major reason for its discontinuation. Despite various myths surrounding the use of Cu-T, once used it had maximum patient satisfaction and discontinuation rates were also low.

Conclusion: No single method is universally superior; the best contraceptive method is one that aligns with a woman's health status, reproductive goals, personal preferences, and access to healthcare services.

Keywords: Contraception, DMPA, Implant, IUCD, Family Planning

Introduction

Background/rationale: Family planning is a fundamental component of reproductive health and plays a vital role in reducing maternal and infant morbidity and mortality. Effective contraception enables

individuals and couples to determine the number and spacing of their children, thereby improving maternal health outcomes and overall quality of life [1,7].

Among the various contraceptive methods available, long-acting reversible contraceptives (LARCs) and hormonal injectables are widely recommended due to their high effectiveness and safety profile [2,4].

DMPA is a progestin-only injectable contraceptive administered every three months and is known for its high efficacy and convenience [2,5].

The IUCD, including copper-bearing devices, provides long-term contraception ranging from 5 to 10 years depending on the type and is one of the most effective reversible methods available [6,8].

Contraceptive implants are subdermal hormonal devices that provide protection for 3 to 5 years and have very high effectiveness with minimal user dependency [6,9,10].

While these methods are highly effective, their acceptance and continuation largely depend on patient awareness, counseling, perceived side effects, cultural beliefs, and accessibility of services (1,3). Evaluating the effectiveness, side effects, and level of patient acceptance of DMPA, IUCD, and implants is essential for improving contraceptive counseling and promoting informed choice.

Objectives

Aim

To compare the effectiveness, side effects, and level of patient acceptance of Depot Medroxyprogesterone Acetate (DMPA), Intrauterine Contraceptive Device (IUCD), and contraceptive implants as methods of contraception among women of reproductive age.

Objectives

1. To identify and compare the common side effects experienced by users of DMPA, IUCD, and contraceptive implants.
2. To assess the level of patient acceptance of DMPA, IUCD, and contraceptive implants.
3. To compare continuation and discontinuation rates among users of the three contraceptive methods.
4. To provide recommendations for improving contraceptive counselling and patient satisfaction based on the study findings.

Materials and methods:

Study design and setting: A comparative descriptive study was conducted over a period of 6 months from August 2025 to January 2026 to assess and compare the side effects, and level of patient acceptance among users of DMPA, IUCD, and contraceptive implants in the Family Planning Clinic / Obstetrics and Gynaecology Department of Mathuradas Mathur Hospital, Jodhpur, Rajasthan

Participants: The study population consisted of women of reproductive age (20–49 years) who were using DMPA, IUCD, or contraceptive implants as a method of contraception during the study period.

Variables and data measurements: After obtaining informed consent, 100 participants using each method of contraception were enrolled. They were interviewed using a detailed questionnaire during their clinic visits. Data was collected under 3 headings:

Section A: Socio-demographic characteristics

Section B: Side effects experienced

Section C: Level of acceptance and satisfaction

Confidentiality was maintained throughout the study. They were counselled about the advantages of using various contraceptive method.

Results and discussions

Table 1: Age relation with the type of implant use

Age	DMPA	Implant	Copper-T
20-30	52	39	46
31-40	38	56	34
41-50	10	5	20

It was found that majority of Cu-T users (approximately 46%) belonged to 20-30 years group. Similar finding was seen in a study conducted Chelle Meena et.al.[11] Majority of DMPA users also belonged to 20-30 years age group. Similar finding was seen in a study conducted by Sonal Srivastava Garg et.al.[12] While majority of implant users belonged to 31-40 years of age (approximately 56%). Similar finding was seen in a study conducted by Rezan Abdulrahman Ali et.al.[13]

Table 2: Relation of BMI with the type of contraceptive used

BMI	DMPA	Implant	Copper-T
<18.5	43	62	25
18.5-24.9	44	34	42
>25	13	4	33

In our study it was found that 44% and 42% of DMPA and Cu-T users respectively belonged to normal BMI category, while majority of implant users were in underweight category.

Table 3: Side effect with each of the contraceptive used

Side Effects	DMPA	Implant	Copper-T
IREGULAR MENSIS/ AMENORRHOEA	31	42	4
Weight Gain	2	12	-
Pain	1	6	12
Mood Changes	-	-	

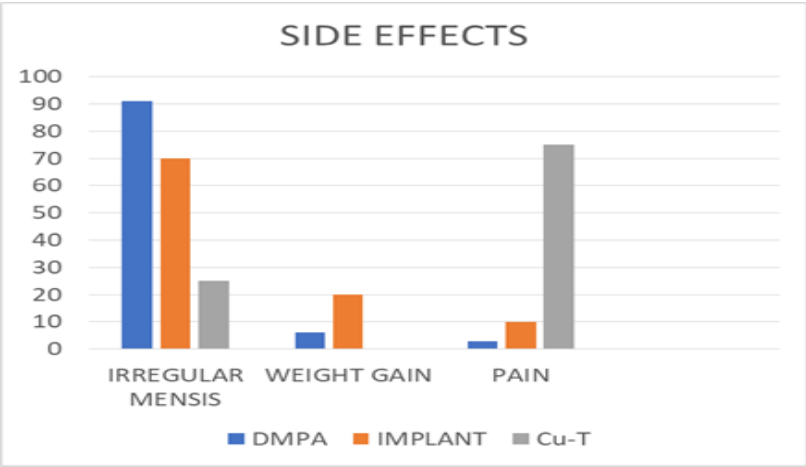

Figure 1: graph showing the side effect associated with each contraceptive used

The side effects common with DMPA and Implant users were menstrual irregularities. Most of them presented with amenorrhoea and intermenstrual spotting.

31% and 42% women using DMPA and Implant had menstrual irregularities. Similar side effect profile for DMPA users was found in study conducted by Dr.Manisree Vakiti et.al. and similar side effect for implant users was found in study conducted by Rezan Abdulrahman Ali et.al.

While main side effect faced by Cu-T users was pain abdomen and was the most common reason for discontinuation similar to the finding of the study conducted by A. G. Ohihoin et.al.[14]

Table 4: Patient satisfaction with each of contraceptive used

Patient Satisfaction	DMPA	Implant	Copper-T
Satisfied	75	63	82
Dissatisfied	25	37	18

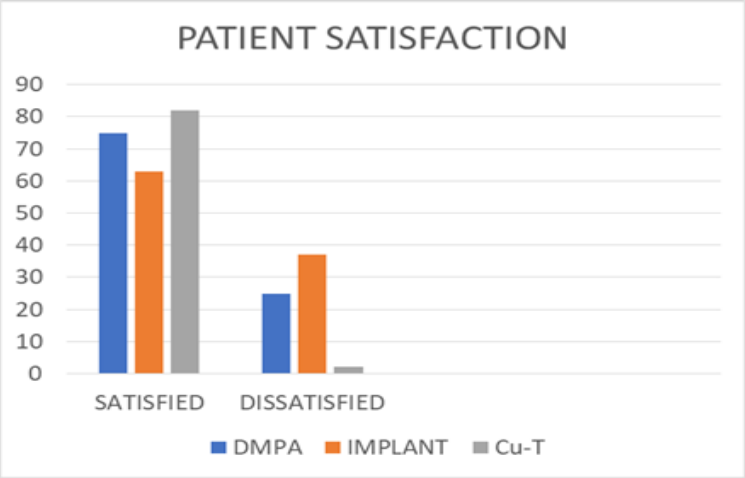

Figure 2: Graph showing the patient satisfaction with each of the contraceptive

In our study maximum patient satisfaction was with Cu-T users due to the lesser number of side effects, which was correctable by analgesics.

Table 5: Discontinuation rate associated with each contraceptive used

	DMPA	Implant	Copper-T
Discontinued	10	5	4

Discontinuation was most common with implant users due to menstrual irregularity (20%). Discontinuation rate was 10% and 4% respectively for DMPA and Copper-T.

In our study most acceptable method of contraception was Copper-T.

Conclusion

Contraception is an important factor for spacing birth necessary for reducing maternal and foetal morbidity.

Among the three contraceptives, 2 are hormonal and have corresponding side effects. DMPA seems to be acceptable to the patients but the only drawback being it has to be repeated every 3 months and it is associated

with menstrual abnormalities, whereas implant and Cu-T are effective for years. However, with implant being a newer contraceptive, the awareness among people is limited and requires proper counselling. In addition, the menstrual side effects has limited it's use and popularity among people. There are many myths surrounding the use of Cu-T, therefore it use among people is less. However once used the user satisfaction is maximum. The discontinuation rate is also less.

To conclude, individualized counselling, informed choice, and follow-up support are essential to improving patient satisfaction and sustained use.

Ultimately, no single method is universally superior; the best contraceptive method is one that aligns with a woman's health status, reproductive goals, personal preferences, and access to healthcare services.

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