



A Cross Sectional Study on Acceptance, Efficacy of Injectable Contraceptive DMPA in Women at a Tertiary Care Hospital

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Abstract

Background: Depo provera, the long acting injectable formulation DMPA, is a crystalline suspension of this hormone. DMPA is extremely effective, the pregnancy rate 0-1/100 women years. This study was done to estimate the acceptance rate of DMPA among mothers who accepted DMPA 150 mg with mode of injection through 6 weeks after child birth, after abortion / MTP and as a contraceptive method (after excluding pregnancy) as a cafeteria approach.

Methods: It is an analytical cross sectional retrospective study on women who were accepted DMPA after 6 weeks after child birth, after abortion / MTP and as a contraceptive method (after excluding pregnancy) as a cafeteria approach. The study was conducted at a tertiary care hospital on 136 patients between July 2008 to July 2010.

Results: About 136 patients were studied and all the women followed up to know the current status of DMPA was made to them. About 67.6 % of the women were continued DMPA. The Acceptance Rate of DMPA was 79.41 % up to second dose and it was 67.64% at the end of 3 doses. Most of the women in the age group of 20 to 26 years, in whom the acceptance rate was high.

Conclusions: In present study, the acceptance rate of injectable contraceptive DMPA in women was 100%, 79.4 % and 67.6% during 1st dose, 2nd dose and 3rd dose respectively. At the end of 3 doses the acceptance rate was 67.6% showing a dropout rate of 32.4%. The primiparous women accepted the dose the most as they wanted it for spacing of pregnancy. The awareness about the injectable contraceptive was nil among the class of patients who attended our hospital.

Keywords: DMPA, Acceptance, Awareness.

Introduction

Population of this modern world is increasing day by day like anything. The major problem of the developing countries is population. There has been an increase of 181.96 million persons in absolute number of population in India during 2001-11¹. Government tries to reduce birth-rate by various measures but unawareness and ignorance toward contraception remains higher and results in failure of these measures. In our country contraceptive prevalence is 54.8%². Availability of contraceptive measures is easy and also cost effective. Various advertisements and dramatic enactments are carried out by NGOs and government. But the problem of ignorance and unawareness remains.

The another problem is long term and continuous use of contraception which is not acceptable in certain community and people. So use of long term contraception makes people free from daily usage of pills or any other method. One injection at every three months makes compliance better and less side effects makes this contraception acceptable. So proper usage and spread of knowledge of using long term contraception will give better outcome. In the millennium, maximum emphasis should be on such methods to decrease population burst and also for improving quality of life of people. Depo-Provera, developed by Upjohn, was first studied in clinical trials in the 1960s. Approval occurred after publication of reassuring World Health Organization (WHO) studies regarding gynecologic cancer risk^(3,4) DMPA has been used by more than 68 million women in more than 114 countries worldwide⁽⁵⁾. The typical failure rate of DMPA is 0.3 per 100 woman-years, which is comparable with that of implantable contraceptives, copper intrauterine devices (IUD), or surgical sterilization⁽⁶⁾. The ideal time to initiate DMPA is within 5 days of the onset of menses. This approach ensures that the patient is not pregnant and prevents ovulation during the first month of use. After a 150-mg injection, ovulation does not occur for at least 12 weeks. Therefore, a 2-week grace period exists for women receiving injections every 3 months. For women more than 2 weeks late for their DMPA injection; pregnancy testing should be performed before administering DMPA⁽⁴⁾. The objective of the study was to assess the percentage of women who had DMPA discontinued after 3 doses.

Methods

This study is an analytical cross sectional retrospective study. This study was conducted in a tertiary care hospital, Chennai on 136 patients between July 2008 to

July 2010. The cases were grouped into three groups as follows:

Group A: women who have taken the injection (Depo provera) 6 weeks after child birth.

Group B: Women who have taken the injection immediately after abortion / MTP.

Group C: Women who have taken the injections as a contraceptive method (after excluding pregnancy) as a cafeteria approach.

Depo provera injection was given either 6 weeks after delivery / immediately after abortion or MTP. Patients were given a file in which the date of the first injection, due date for the next injection, and last child birth or abortion, and will be advised to come for follow up, to family planning OPD once in a month until the next injection or any time, if they develop any such symptoms. If they do not turn up on scheduled date, they will be reminded by contacting them by phone.

Exclusion Criteria

The following patients were excluded from the study:

- History of unexplained bleeding PV
- History of lump in the breast
- DVT
- Known sensitivity to Depo provera
- Hypertension
- Diabetes

Detailed history was taken and patients were counseled about the advantages and disadvantages of the injectable and were advised to try it. Advantages and disadvantages which are explained to patients are as follows:-

Advantages

1. Convenience to use once in 3 months
2. Most effective method of temporary contraception better than oral contraceptive and some IUCDs.
3. Does not interfere with sex

4. No bad estrogenic effect
5. Reduces menstrual flow and prevents anaemia
6. Most suitable for lactating women
7. Causes weight gain
8. It cures and ameliorates menorrhagia, and dysmenorrhoea as well as endometriosis.
9. Prevents sickling episodes
10. Reduces the risk of PID and vaginal candidiasis
11. Protects against endometrial cancer for atleast 8 years after its discontinuation.
12. Prevents ovarian cancer
13. Suitable in cases of myoma and endometriosis as contraception is provided without oestrogen effect.
14. Helps prevent ectopic pregnancies and fibroids.

Disadvantages

- Change of menstrual pattern, like irregular bleeding, spotting and amenorrhoea.
- Weight gain
- Impaired glucose tolerance
- Delay in return to fertility, DMPA users may have to wait two or three months longer than the former OC Users.
- Does not protect against STD including HIV/AIDS

A thorough general examination was done for the presence of any pallor. Lump in the breast, heart and lungs are auscultated for any murmurs or additional sounds and blood pressure was recorded. A routine gynecological examination was done including per speculum and per vaginal examination. Under aseptic precautions, 150 mg of Depo provera injection was given in the gluteal region (upper outer quadrant) after cleaning the area with a spirit swab, via deep intramuscular route. Depo provera 150mg was given every three months. If the patient was more than 6 weeks postpartum, injection was given after making sure that she is not pregnant. If

the interval between the two injections is greater than 14 weeks, pregnancy was ruled out before giving next dose.

Follow up

Patient was advised to come for a follow up once a month up to the next dose and at the time of follow up, examination of the patient was done for pallor, breast examination and Blood Pressure are recorded. Patients are questioned regarding side effects of Depo provera injection. They were advised to come for the next visit and for the following injections. During each visit, patients were repeatedly counseled regarding the menstrual disturbances that are likely to occur. The statistical analysis Z test was used and also the statistical tools that percentage was used for discrete and continuous variable in this study. It is an analytical cross sectional prospective study.

Results:

Hypothesis: - (Z Test)

H0: = 25% of women who had DMPA discontinued after 3 doses

H1: \neq 25% of women who had DMPA discontinued after 3 doses

Formula: $Z = \frac{p - P_0}{\sqrt{PQ/N}}$

Where p is the proportion stated in the sample, P₀ is the proportion stated in the null hypothesis ; N is the sample size and Q = 1 – P.

Calculation: $p = 44 / 136 = 0.323529$; $P_0 = 25\% = 0.25$

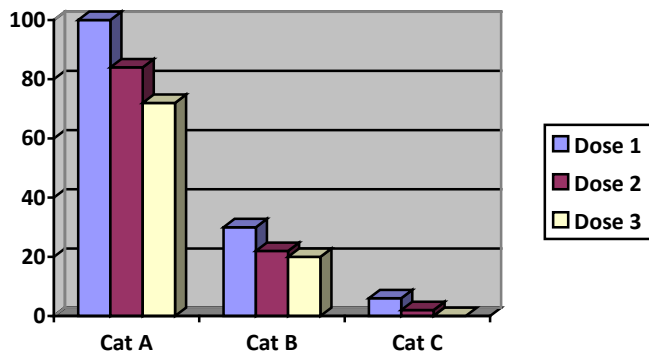
$Z = 0.073529/0.0031839 = 23.094$ and P value = < 0.00001

Result: Since the calculated Z value $|23.094|$ is greater than the table value of 1.96 at (0.05) level of significance, the Null hypothesis may be rejected and the Alternative hypothesis can be accepted that 32.4 % of women who had DMPA discontinued after 3 doses was correct and statistically significant at $p < 0.05$.

Table 1: No. of women who had DMPA and discontinued

Group	Dose 1	Dose 2	Dose 3	Discontinued	%
A	100	84	72	28	28.0
B	30	22	20	10	33.3
C	6	2	0	4	66.7
Total	136	108	92	44	32.4

Figure 1: Category wise women who had DMPA Acceptance



Maximum doses were taken by Group A followed by Group B shows that postnatal women accepted this contraceptive method better in comparison to post abortal women. But, the discontinuation rate is higher in Group C followed by Group B and Group A. The overall discontinuation of DMPA was seen 32.4% which is slightly higher than WHO value (25%).

Table 2: Distribution by Parity – DMPA

Group	P1	P2	Nulliparaous	Total
A	86	14	0	100
B	19	8	3	30
C	4	0	2	6
Total	109	22	5	136
Percentage	80.15%	16.18%	3.67%	100%

PARITY WISE % OF DMPA ACCEPTORS

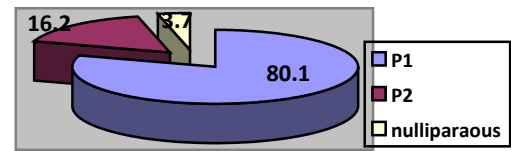


Figure 2: Parity wise distribution of DMPA

The above pie diagram shows the parity wise percentage of DMPA Acceptors. It shows that most of the women using the spacing method of contraception by DMPA with parity one. The DMPA injectable contraceptive method in nulliparaous and para2 women were less compared with parity one.

Table 3: DMPA - Acceptance Rate

No. of doses	No. of Cases	Percentage of cases Accepted
1 st dose	136	-
2 nd dose	108	79.41
3 rd dose	92	67.64

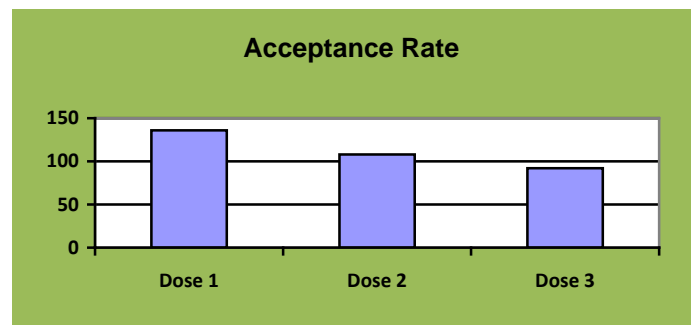


Figure 3 DMPA Acceptance Rate

The table 3 and figure 3 shows the acceptance rate of DMPA among dose1. It states that the acceptance rate was 67.64% after the 3rd dose.

Discussion

Birth control, also known as contraception and fertility control, is the method or device used to prevent

pregnancy. Planning, provision and use of birth control is called family planning⁹. Birth control methods have been used since ancient times, but effective and safe methods only became available in the 20th century¹⁰. Total fertility rate of India has been declined from 3.6 to 2.4(1991-2012)¹¹. DMPA when given every 12 calendar weeks, is a highly effective, non-daily hormonal contraceptive with a very low failure rate comparable to modern copper IUDs and lower than many other methods. It should be available as a first line method to all who wish to opt for reversible methods of contraception. The effectiveness of long-acting reversible contraception is superior to that of contraceptive pills, patch, or ring and is not altered in adolescents and young women¹². Table no.1 shows that the no. of DMPA users in our hospital. A recent study of postpartum teenagers found that DMPA users were more likely to continue their contraceptive than OC users (55% vs. 27%) and had lower rates of repeat pregnancy (3% vs. 24%)^(13,14)

Conclusion

Most of the women were in the age group of 20 to 26 years, in whom the acceptance rate was high. Most of the women were primipara whereas women with 2 or more children were not much in favour of temporary methods of contraception. The awareness about the injectable was nil among the class of patients who attend our hospital. Upon counselling about the advantages and disadvantages of the method, patients were in favour of it and were willing to try it.

Though no failures were reported, in most of the women in our study, it was given at about 6 weeks postpartum. The Acceptance rate of 3 doses was 67.6%. The drop out rate was increasing with every dosage. This study proved that 32.4% of women who had DMPA discontinued after 3 doses and it statistically significant at p value <0.05. It

shows that motivation, counselling and follow up only can do better performance.

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