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Study of Effectiveness of DMPA in Postpartum and Postabortal Period

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Abstract:
Aims And Objectives: *To study the acceptance, efficacy,patient compliance of DMPA and to compare it with the other methods of contraception.*
Methodology: *A prospective study was carried out at Obstetrics and Gynaecology department of VS General hospitalamong the women's in post-delivery and postabortal period. They werecounselled well about the benefits of DMPA and other methods of contraception .Those that chose DMPA were included in the study. This study was done over a period of 16 months from august 2013 to December 2014. They were followed up on OPD basis.*
Result: *Out of 500 cases selected 61% women's were in the age group of 26 to 35, 75% took DMPA Post-delivery and 47% took in postabortal period, 65% of them belonged to middle and lower socio-economic class. Amenorrhea found to be in 70% of them,Continuation rate was 51.1% and failure rate in present study reported to be ZERO.*
Conclusion: *Awareness of the patients regarding the benefits of DMPA over progesterone only pills and latest IUDS. Apart from menstrual troubles there are no major side effects related to its use.DMPA is a most effective and a safe method of contraception during lactation period.*
Keywords: *DMPA; Contraception; Failure rate; Fertility.*

I. 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 increaseof 181.96 million persons in absolute number of population in India during 2001-11(1).Government tries toreduce 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 makescompliance 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 the1960s. Approval occurred after publication of reassuring World Health Organization (WHO) studies regarding gynaecologic 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).

There is often a delay in the return of normal periods after using this drug, although there is no long-term permanent effect on fertility . It has been shown that more than 78% of former users who wished to have a baby were pregnant within 12 months, with normal fertility returning by 18 months(7). How long a woman

has used Depo-Provera and whether she has previouslybeen pregnant, does not appear to affect the delay before her fertility returns.The average time for a women's period to return to normal is 8 months.

However there is great patient variability. Use of DMPA is independent of intercourse and also independent of the user's memory (and thus of continuing motivation), other than remembering the 12 weekly appointments, for many women this is a great advantage. Oral contraceptive methods involve remembering to take a pill each day, in the case of the progestin only pill within the same three hours each day. This places considerable strain on women who lead irregular lifestyles, who are very busy or travel frequently. Such women often describe a constant 'fear of forgetting', especially with the POP.

The main potential disadvantages of DMPA in this country are likely to be menstrual disturbance and weight gain. The combined oral contraceptive pill gives the appearance of excellent cycle control because it removes the natural cycle altogether and replaces it with an artificial one. Modern intrauterine devices can also be advised but they cause bleeding problems and in that context postpartum women's are mostly anaemic so DMPA by causing amenorrhea reserves haemoglobin level[(8)]. All progestin only methods, whether low or high dose, lead to menstrual disturbances, so in this respect DMPA is not unique.

II. Materials And Methods

Study type: The type of study was prospective, interventional, longitudinal and a single centred study.

Study site: The study was conducted at the Obstetrics and Gynaecology Department. V.S Hospital Ahmedabad.

Study duration: The study was conducted for a total duration of 16 months from august 2013 to December 2014. The cases enrolled in the study during initial 6 months and each case was followed up approximately for a period of 10 months thereafter on the OPD basis.

Study Method: Prior approval to conduct the study was taken from the Head of the unit and then patients were enrolled in the study. Study group receivedInj. DMPA 150 mg intra muscularly after initiation of lactation before discharge from hospital (Day 2-Day 7 of their delivery).According to inclusioncriteria, they were given DMPA every 3 month.

Inclusion criteria:

- Female patients age 18 years above in post-delivery and postabortal period.
- Patients not suffering from any chronic illness or they have no any Contraindicationof Progesterone.
- Patients who have given a written informed consent and willing to reportforregular follow up.
- Patients who cannot use/have medical contraindications to oestrogencontainingmethod.
- Patients desiring a long-term, highly efficacious, non-coitus dependent, private contraceptive method.

Exclusion criteria:

- Patients who did not consent for enrolment or regular follow up were excluded from the study
- Unexplained vaginal bleeding
- Breast cancer
- History of myocardial infarction, ischemic heart disease or stroke
- Cirrhosis (severe-decompensated)
- Liver tumours – adenoma or hepatoma
- Hypertension (>160 systolic or >100 diastolic)
- Diabetes with nephropathy/retinopathy/neuropathy
- Other vascular disease or diabetes of >20 years duration
- Anti-phospholipidantibodies, and severe thrombocytopenia
- Rheumatoid Arthritis-Immunosuppressive therapy
- Migraine with aura at any age

Written and informed consent was taken from the patients who were enrolled in this study. They were given options and explained well about the benefits and side effects of each and every contraception which can be used. Those who chose DMPA were taken in this study. DMPA 150 mg IM given after explaining them well about how it is better than other methods of contraception in restoring their haemoglobin levels and having no effect on their lactation.

All the females were asked to maintain a diary so that they can remember the date of their next appointment. Patients who were non co-operative and unwilling for it were not included in the study. Every time they came for their appointments they were asked general questions like effect of DMPA in their sexual life,

menstrual irregularities ,weight gain, milk secretion and also about the symptoms to rule out pregnancy to look forward for any failure.Treatment in the form of exogenous oestrogens given to patients who complained bleeding problems. Patients who wanted to go for anyother methods due to bleeding problems were excluded from the study.

III. Results

The rate of deliveries in our hospital per year is around 9000-11000 out of which 400women's were selected in post-partum and 100 were selected in post-abortal period for the initial 6 months and then they were followed up on OPD basis for rest of the 10 months.

Table 1

DELIVERY RATE/MONTH (650-750)	CS (37%)	ND (63%)	ABORTION (19%)
DMPA users	73%	76%	47%
OC pills	10%	13%	30%
IUD	5%	3%	3%
Sterilisation	7%	5%	9%
Other methods	5%	3%	11%

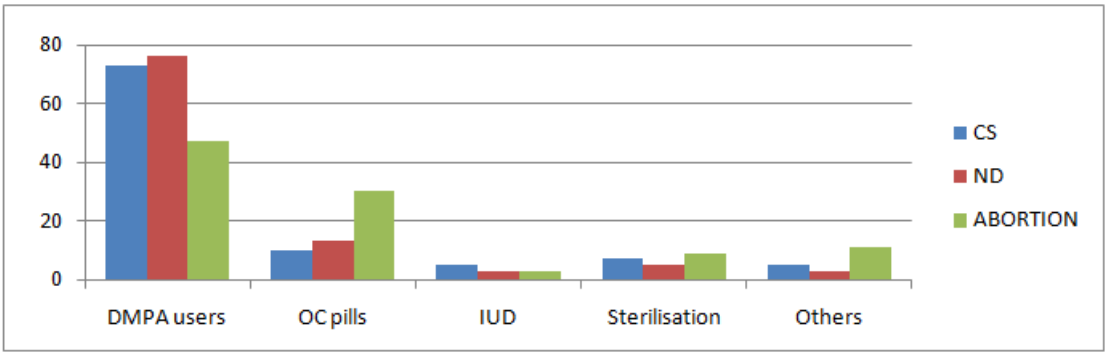


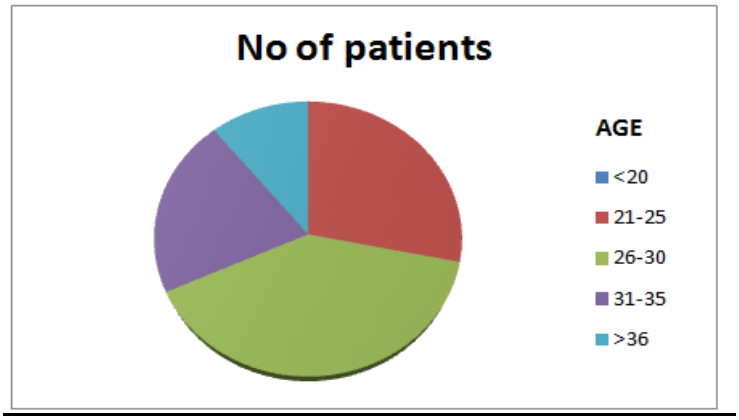
Table 1 shows that average no. of women in both CS and ND cases who chose DMPA as contraceptive of choice were around 75% in postpartum period and 47% in postabortal period,2nd contraceptive of choice was found be OC Pills i.e. in 10% cases and 7% women's opted for permanent sterilisation.

Maternal Characterstics

1) Age-Table 2 shows that most of the cases i.e.61% of the women'swas in the age group of 26-35 yrs.

Table 2

AGE	NO. OF PATIENTS
< 20	0
21-25	141
26-30	200
31-35	105
> 36	54

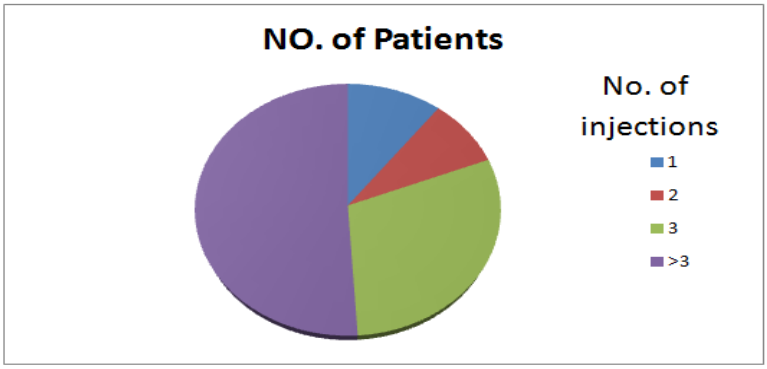


2) Parity- Only 5% were primiparous, 65% belonged to parity two or three.29% were grand multipara.

3) S/E status-majority of the patients were from low middle-class (65%), 23% were from LES and 12% were from upper middle class.
4) No. injections - 51% took more than 3 injections and 10.4% took only one dose &left the study in middle.

Table 3

Total no. of injections	NO. of Patients
1	52(10.4%)
2	43(8.5%)
3	150(30%)
> 3	255(51.1%)



5) Side effects -Out of 500,about 70% had an amenorrhea, and 50% had an irregular bleeding, 25% had mood changes.Few had other side effects like headache,abdominal pain and weight gain etc.None of the female conceived during the study period. No pregnancy, serious or unexpected medical events were reported.

Table 4

SIDE EFFECTS	NO. OF PATIENTS
amenorrhea	350(70%)
Irregular bleeding	250(50%)
Weight gain and mood changes	60(12%)
Headache and abdominal pain	40(8%)

6) Effect on lactation-99%per cent of women's in the study group were satisfied with their lactation amount in case of DMPA users, whereas only 65% females were satisfied with OC pills.. All the subjects were followed to complete a full 6 months follow up. Duration and frequency of lactationwere noted at 6 weeks, 3 months and 6 months follow up.

IV. 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 planning.[9] Birth control methods have been used since ancient times, but effective and safe methods only became available in the 20th century[10].Total fertility rate of India has been declined from 3.6 to 2.4(1991-2012)(11).General fertility rate of Gujarat is 78.5% incomparison with India having 80.3%(11).1.5% live births occur within one year of previous pregnancy(1).

DMPA when given every 12 calendar weeks , is a highly effective, nondaily 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 women(12). Table no. 1 shows that the no. of DMPA users in our hospital is more than rest of the contraceptive users, this is because most of the patients coming to our hospital belong to Muslim community and they don't go for permanent sterilisation much as compared to national data of having female sterilisation rate of 37.3%(11) .In our hospital female sterilization rate was found to be around 9% over all 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)

Although troublesome, the menstrual disturbances which occur in DMPA users very rarely require operative medical intervention, and can often be improved simply by short courses of oestrogen or shorter injection intervals. No pregnancies were reported in the pivotal United States clinical trial (N = 775), which included women as heavy as 309 pounds which is comparable with the present study having failure rate of ZERO. Again, women need to know what can be done so that they are aware that they should seek advice early,

rather than miserably waiting for their 12 week appointment. Depot medroxyprogesterone acetate continuation rates vary considerably from study to study. In the original clinical trial for DMPA, Schwallieet al. reported that continuation rates were 59.4% at 1 year but in the present study in was around 51.1% which is comparable.

Perhaps the most important issue surrounding the use of DMPA is that of patient information. The method has had a particularly bad public image, which naturally makes potential users anxious and subject to misinformation from poorly informed or biased sources. Pre-use counselling is essential tool to minimise the effect of menstrual change which occurs in most of the patients[17] . DMPA should be considered a highly effective, safe, convenient, and reversible contraceptive option for appropriately selected patients[4].Also, it is temporarily irreversible during its three months duration, so the duration of any problems or anxieties resulting from side effects may be longer than for other methods.

In the present study 99% women's were satisfied with their lactation amount. Progestin-only contraceptives do not impair lactation and, in fact, may increase the quality and duration of lactation. Thus, DMPA represents an appropriate choice for lactating women[15]. When initiated immediately or at 6 weeks postpartum, DMPA has not been shown to decrease duration of lactation or infant weight gain[16]

V. Conclusion

Awareness of the patients regarding the benefits of DMPA over progesterone only pills and latest IUDS.Apart from menstrual troubles there are no major side effects related to its use. Injectable DMPA use as a contraceptive in the immediate postpartum period was found to be a safe and effective alternative method with no deleterious effect on mother's milk secretion and infant growth.

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