“STUDY OF EFFECTIVENESS OF DEPOT MEDROXY PROGESTERONE ACETATE(DMPA) IN POSTNATAL AND THE POSTABORTAL PERIOD”

“Dissertation submitted to

THE TAMIL NADU Dr. M.G.R MEDICAL UNIVERSITY

In partial fulfilment of the requirements for the degree of

M.D. DEGREE EXAMINATION

BRANCH-II

OBSTETRICS AND GYNAECOLOGY

REGISTRATION NO: 221916867

THE TAMIL NADU Dr. M.G.R MEDICAL UNIVERSITY,

CHENNAI, TAMILNADU

MAY - 2022

CERTIFICATE OF THE GUIDE

This is to certify that the dissertation titled **"STUDY OF EFFECTIVENESS OF DEPOT MEDROXY PROGESTERONE ACETATE (DMPA) IN POSTNATAL AND THE POSTABORTAL PERIOD"** is a bonafide work carried out by **DR.L.KANMANI BARATHI**, Post Graduate student in the Department of Obstetrics and Gynaecology, Government Madras Medical College, Chennai – , under my supervision and guidance towards partial fulfilment of the requirements for the degree of M.D. Branch II Obstetrics and Gynaecology and is being submitted to The Tamil Nadu Dr.M.G.R. Medical University, Chennai.

Signature of the Guide

Prof Dr S Vijaya MD ., DGO.,
Director and Professor ,
IOG Egmore

Place
Date

Prof. **DR. E.THERANIRAJAN**, MD.,DCH.,MRCPCH(UK).,FRCPCH(UK)
Dean
Madras Medical College, Chennai

DECLARATION

I, solemnly declare that the dissertation titled **"STUDY OF EFFECTIVENESS OF DEPOT MEDROXY PROGESTERONE ACETATE(DMPA) IN POSTNATAL AND THE POSTABORTAL PERIOD"** was done by me under the guidance and supervision of**, Dr. S. VIJAYA, MD., DG.O.,** Professor and Director ,Institute of Obstetrics and Gynaecology, Government Madras Medical College, Chennai - 08. The dissertation is submitted to The Tamil Nadu Dr.M.G.R. Medical University towards the partial fulfilment of the requirements for the award of M.D. degree (Branch II) in Obstetrics and Gynecology. This has not been previously submitted by me for award of any degree or diploma from any university.

Signature of the candidate

Place: Chennai

Date : **(DR.L.KANMANI BARATHI)**

ACKNOWLEDGEMENT

I gratefully acknowledge and sincerely thank **Prof**. **DR. E.THERANIRAJAN**, MD., DCH., MRCPCH(UK).,FRCPCH(UK), the Dean, Government Madras Medical College, Chennai for granting me permission to carry out this study.

I would like to extend my sincere and profound gratitude to **Dr.S. VIJAYA, MD. DGO.,** Director and Superintendent Professor, Institute of Obstetrics and Gynaecology, Chennai who has been a constant encouragement and perseverance which has helped me in the successful completion of this study

I am extremely thankful to all my Professors, Assistant Professors, Medical and Paramedical staff of Institute of Obstetrics and Gynaeclogy for their co-operation in conducting my study.

I would also like to thank my Family for their moral support throughout the study period.

Above all my heart full thanks to the study participants who have been enthusiastically participated in the study.

Above all I thank God Almighty for his grace and blessings which helped me to complete the task.

TABLE OF CONTENTS

INTRODUCTION

In this modern era the population is increasing day by day.Population is considered to be the major problem in the developing countries**.**During 2001-2011 the population of India was found to be 181.96 million persons.Now India is the second largest country compared to China.Population Explosion is the one which increases our country's population to the second high level.Contraceptive was used by China followed by India in order to increase the gap between the two pregnancies and also to reduce the family size which in turn will decrease the population.In 1952 the first National Programme was started and since then it had taken multiple transformation in the policies and in the programme implementation (1).In 2021 NHFS V survey conducted in the 17 states it is clearly noted that the Meghala state tops the unmet need 21.9% in urban and 28.2% in rural.

Government also by introducing various measures tries to reduce the birth rate but since the unawareness about the contraceptive importance and ignorance were found to be higher among the population which makes these measures to fail. The contraceptive prevalence was found to 52.2% in India in 2015(2).It is very easy for the population to get the contraceptive and it is a costeffective too.The major problem in

using contraceptive is its long term contraceptive use and the continuous use which is not accepted by many communities in our country. The contraceptive which is giving long term protection will make the people feel free from using daily pills or any other methods. So creating more awareness and knowledge regarding the long term contraceptive and proper usage may increase better outcome in the patients. The use of this kinds of contraceptive will not only helps in decreasing the population but also will helps in increasing the quality of life among the population using it. Upjohn was the first in developing Depo-Provera. The first clinical trial was carried in the year in 1960s .Only after World Health organisation work on Gynecological cancer risk was published the approval of Depo-Provera occurred(3)(4).Around in 114 countries and more than 68 million women were using DMPA(5).

The failure rate of the DMPA was found to be 0.3 per 100 women years which is comparable with the other contraceptives like copper intra-uterine contraceptives, surgical sterilization and the implantable contraceptives (6).Within the 5 days of the mentural cycle is considered to be the ideal time for the DMPA initiation.This will make the patient ensure that she is not pregnant while initiating the DMPA and the other thing is it prevents the ovulation of the first month after the usage.A dose

of 150 mg will be given and the ovulation will not occur for atleast 12 weeks after the initiation of the DMPA.

A 2 weeks grace period will be there for every women receiving DMPA for every 3 months.It the women missed the date for the next dose for more than 2 weeks then she will be tested for pregnancy before giving the next dose.The return to the normal fertility will take long time though there is no long term effect on the permanent fertility.The studies stated that the previous 78% of the DMPA users stated that the normal fertility has returned after 18 months and they all got pregnant(7). The average time taken for the women using DMPA to have her normal periods is 8 months.

The women using DMPA has great advantage of having been independent of the intercourse and also it is of user's memory as the women can easily remember the next date as it is once in three months so total of four doses in a year.We know that women taking oral contraceptive pills as her contraceptive has to consume it each day without skipping and women taking progestin pills have to take the pill exact 3 hours of what time she cosumed yesterday whereas our contraceptive has a upper hand in the next dose compared to the others.We know that women who is constantly busy in her work with

irregular lifestyle and who is travelling often may forget and will have the fear of forgetting especially with the Progestin only pills (POP) can opt for the long term contraceptive and can be tension free.DMPA was considered to be the first line of contraceptive in long term because of its huge benefits in injectable contraceptives compared to the other contraceptives.Thus this study mainly aimed in the finding the acceptability and efficacy of the DMPA in the postabortal women and the postnatal women as there is little studies available and not much evidence.

AIM AND OBJECTIVE

Aim:

To study the efficacy of Depot medroxyprogesterone acetate in Postnatal and Postabortal period.

Objectives:

- To study the acceptance,effectiveness and patient compliance of the DMPA
- To study the sideeffects of the DMPA

Hypothesis:

Null Hypothesis H0: There is no difference in the effectiveness of DMPA in Postnatal period and in Postabortal Period

Alternate Hypothesis H1: There is a difference in the effectiveness of DMPA in Postnatal period and in Postabortal Period

REVIEW OF LITERATURE

Contraception:

It is defined as intentionally preventing the pregnancy through various methods like using chemicals, drugs, devices and surgical methods. Thus any act which prevent an women from getting conceive is called as contraception .

Objective of using contraceptive method:

1. To remain healthy
2. Unwanted pregnancy is prevented
3. To provide adequate birth spacing between the children
4. To prevent the unwanted pregnancy when the mother is not physically fit to give birth to baby like having chronic diseases, having genetic problems
5. To reduce the maternal and the infant mortality
6. To protect thte women’s health from the abortion procedures

Types of Contraceptive methods:

1. **Temporary method:**

This method is use generally by the newly married couples and for those who want adequate spacing and also for those who doesn't want baby after the 2 children

2. **Permanent Methods:**

The couples who don't want child after the birth of the two children can adopt this method

Contraceptive Devices action:

- The contraceptive device acts by generally preventing the sperm entering the cervix of the female
- The embedding of fertilized egg is prevented
- Formation of the ovum is prevented
- Fusion of the sperm and the ovum is prevented
- The travelling of the ovum to the fallopian tube is prevented

Types of temporary methods:

1. Abstinence
2. Withdrawal method
3. Condom

4. Diaphragm
5. Chemicals:Spermicial cream,Jelly and foam tablets
6. Safe period
7. Oral contraceptives
8. Copper T
9. Emergency contraception
10. Injectables

Characteristics of the ideal contraceptive:

- The contraceptive should be easy to use by both male and females
- It should be easily removable and shouldn't have side effects
- Should not be expensive and should be cost effective
- It should also prevent the sexually transmitted diseases

Contraceptive can be used by both males and females. The males have limited choices in the temporary contraceptives whereas the females have a wide choice of contraceptives.

Female contraceptives:

The female contraceptives can be divided into two types.They are

1. Temporary method
2. Permanent method

Temporary

Permanent method:

The permanent method can be adopted by any women but the only thing is this method is irreversible .It is a permanent sterilization method. The techniques used are

Minilap:

In this method a small incision in the abdomen and then the fallopian tubes are moved to the incision and it is blocked or cut which can be performed by the trained MBBS doctor.

Laproscopic:

It is done by inserting a long thin tube with the lens through a small incision into the abdomen.The laproscope enables us to make the the block or the cut the fallopian tube in the abdomen.It can also be done by an certified MBBS

2.Temporary.

- Oral Contraceptive pills
- Injectables
- Implants
- Patches

- Intrauterine devices
- Vaginal rings
- Condoms
- Male and female sterilization

Oral contraceptive pills (8)**:**

This is the most common method where the pill or medicine is taken orally and it prevents the unwanted pregnancy.If the dose is taken correctly without fail then this is the most effective method

Types:

A. Hormonal

B. Non Hormonal

A. Hormonal:

It consist of two types

1. Combined oral pills (OC)
2. Progesterone only pills (POP)
3. LNG Emergency Contraceptive pills(ECP)

1. Combined oral pills:

The combined oral pills constitute of the two components.One is the Progesterone and the other is the ethiny

estradiol.The mechanism of action is that it will inhibit the ovulation.It consist of the four generation

1. 1st generation: It consist of the Norethindrone,Norethisteone and the Iynestrenol
2. 2nd generation: It consist of Norgesterol and Etonogestrel
3. 3rd generation: It consist of Gestodene,Norgestodene and the Desogestrel
4. 4th generation:Drosperinone

The contraceptive is contraindicated for the following conditions:

- Deep vein thromboembolism or the pulmonary embolism history
- Aura and migrane
- Coronary artery disease and Cerebrovascular disease
- Genital bleeding which is abnormal
- Hypertension which is uncontrolled
- Liver cancer which is either benign or malignant
- Diabetes for more than 20 years with the complications
- Systermatic lupus erythematous.

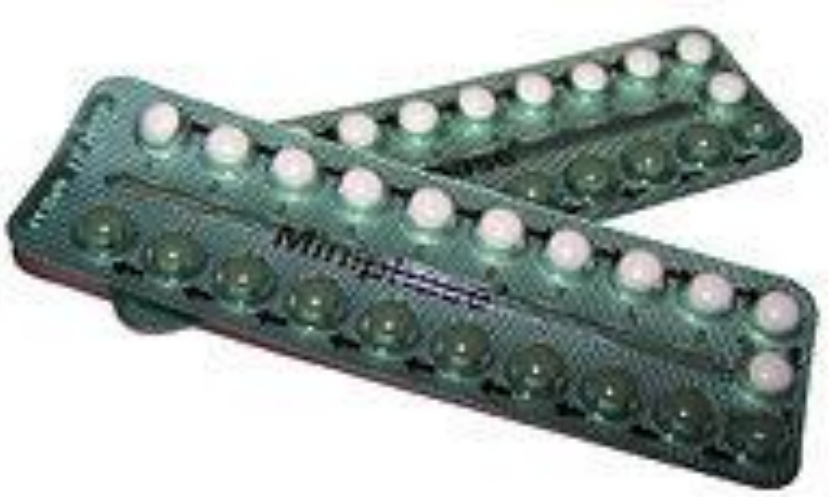


Figure 1:OCP pills

2. Progesterone only pills or Mini pills

These consist of the synthetic progesterone.They act by thicknening the cervical mucus which in turn prevent the sperm entry from reaching the egg or ovum.The failure rate was 1-10 pregnacy per 100 women.The main contraindication of this mini pill is as follows:

- Pregnant women
- Viral hepatitis in its active stage
- Liver disease which is severe and chronic
- Vaginal bleeding which is undiagnosed
- Cancer in the breast.

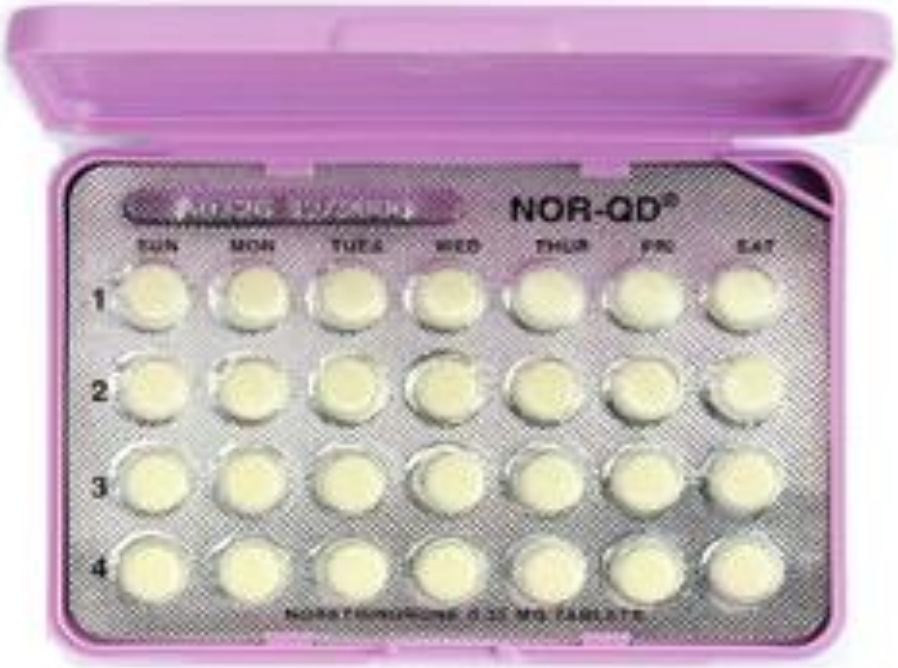


Figure 2:Progesterone only pill

3. Centchroman:

It is otherwise called as Ormiloxifene .It is a non steroidal non hormonal contraceptive.It is once a week pills which belongs to SERM which is Selective Estrogen Receptor Modulator.It have a estrogenic action which is week but have a strong anti estrogenic effect on breast and the uterus.

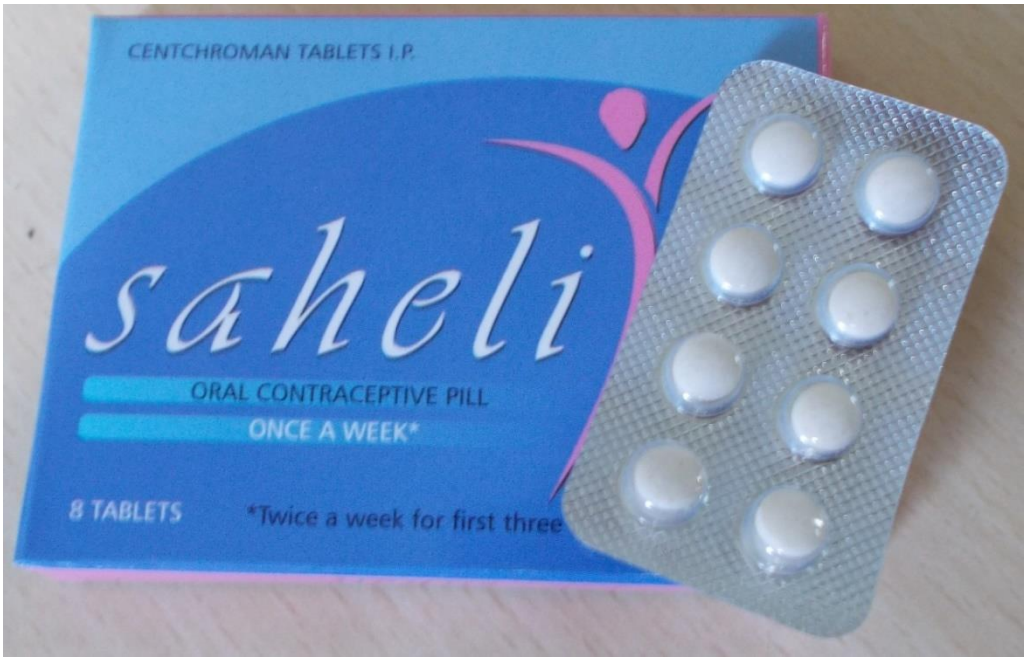


Figure 3:Centchroman pills

The common contraindication of this contraceptive is

- Poly cystic ovarian syndrome
- Cervicitis which is of chroic type
- Tuberculosis or renal diseases
- Hypersensitivity to any drug
- Liver disease which is considered to be active.

4. Emergency Pills:

After unprotected sex emergency pills were used.The conditions may be like ruptured condom,pills which is missed and in sexual assaults cases .

Figure 4:Emergency pills

Recommendation:

1. It can be taken as a single dose of 30 mg
2. Alternatively can be taken in 2 doses at 12 hours apart .The odse will be of 0.75 mg

   There is no absolute contraindications for the emergency pills

Injectable contraceptives:

Introduction to DMPA (9)**:**

The researchers in the Family planning committee was interested in developing the long acting contraceptive which is reversible was the only goal.It was the long acting progestins which was considered to be like

steroids which will be safe for the women and with few side effects. It is effective as it is slowly released in the blood stream after injecting intramuscularly and also has a hormonal effect.

It was in 1954 Upjohn Company introduced DMPA in order to treat the threatened or habitual abortion and for the endometriosis.It was observed in 1960 that for the preterm labour women who were receiving DMPA found that the fertility returns took some time compared to the normal time takes for the women not given DMPA.This was the first observation made by the scientist on DMPA about its fertility regulating action.It was then in the mids of 1960 the Upjohn got licence to produce the DMPA contraceptive.Now DMPA has been a approved contraceptive and was in use over more than 133 countries.

Figure 5:Antara pill

Global concern:

The fourth most common contraceptive which is widely used in many countries for its charactertistics like safe,acceptable and effective is the DMPA**.**Around 42 million people were using DMPA as world wide **.**In February 1992 USFDA approved the use of 3 monthly DMPA. In non clinical settings the DMPA was delivered by the community based workers after giving them the training regaring client selection,counselling and screening and administration of the injection.

National concern:

In June 1993 the Drug Controller General of India approved DMPA as the injectable contraceptive and for marketing.Upjohn company carried a post marketing surveillance on the women using the DMPA contraceptive from 1994 to 1997 in10 independent private health centers and in the NGO health centers all over the country .

This study was coordinated by FOGSI.The total study participants were 1079.The results of the study stated that the 150mg DMPA given through intramuscular route is the safe and the most effective contraceptive.Other than that the expected side effects increases the acceptability of the method.

Many operational research was done from 1994 onwards by UNFPA,DKT,Population Council and the Engender Health India.IMA and FOGSI provide the DMPA services by the private providers.

WHO recommendation for DMPA:

- 18-45 years of the age can have DMPA as there is no retrictions and it belongs to Category I in Medical Eligibility criteria
- For women less than 18 years and >45 years the benefits outweighs the risk and they can use the DMPA as in Category II in the Medical Eligibility Criteria.
- There is no restriction for women to use DMPA who are otherwise eligible to use the contraceptive
- The DMPA can be used for the high risk patients like HIV and they have to use the condom inspite of using DMPA as a family planning method.

Injectable contraceptives:

These contraceptives resembles the natural female hormones but contain synthetic hormones.It is administered intramuscularly or subcutaneously and there is a slow release of the drug and it will be acting for long period thus protecting from the pregnancy.

Types :

Two types of the injectable contraceptives were available

1. Progestogen only Injectables
2. Combined injectable contraceptives

1. **Progestogen only injectables(POI):**

   These are the synthetic hormones and it is of two types

   A,Depotmedroxy progesterone acetate

   B.Norethisteroneenanthate(NET-EN)

   A. Depot medroxy progesterone acetate:

      It is given intramuscularly at three months interval

   B. Norethisteroneenanthate(NET-EN):

      It is given in intramuscular route at two months interval

2. **Combined injectable Contraceptive:**

   These contain two components Progesterone and Estrogen. Estrogen will be in the form of Ethinylestrodiol .It is given at a gap of one month.

Routes of administration of DMPA:

It can be given either intramuscularly or through subcutaneous route

1. Intramuscular DMPA:

- It is available in a prefilled syringe along with the needle
- It is also available as a single dose with a disposable syringe and needle

2. Subcutaneous DMPA:

- The drug will be in a Uniject System prefilled and with a auto disposable syringe
- The bulb has to be squeezed so that the fluid will be passed into the needle

Composition of the DMPA:

This contraceptive is a aqueous suspension which is of microcrystal in nature.It contains pregnane 17 alpha hydroxy progesterone which is a compound derived from the progestine medroxyprogesterone acetate.This is also called as Progestone only injectable which is given through intramuscular route.The dose will be given every three months.One vial contains one dose of the 150 mg of DMPA.

Mechanism of Action:

DMPA acts by

- Suppressing the LH and FSH midcycle peaks and thereby inhibiting the ovulation
- Thickening the cervical mucous so that it prevent the penetration of the sperm entering the upper reproductive tract.The thickening of the cervical mucus is due to oxygen depletion.

- Thinning the endometrial lining which is due to the depletion in the oxygen and high progesterone.All these make the uterine cavity unfavourable for the fertilized ovum implantation

Safety:

It is safe for the women who were breastfeeding and also to the women who were not suitable for using the estrogen containing contraceptive or the combined contraceptive.

More research has been done to find DMPA use

- It effects on protecting against the endometrial cancer
- Its effect on not causing cancers like ovarian cancer,cervical cancer and the breast cancer which occurs as a result taking oral contraceptives

- To find that it will not cause hepatic carcinoma in the Hepatitis B Patients and in Hepatitis B endemic area
- To find that it will not cause any change in the coagulation profile and in fibrinolytic system which will cause thrombosis
- To find that no significant changes occurs in the blood pressure
- It keeps the fertility intact by returning the fertility within 4 to 6 months which is shorter compared to the combine contraceptive pills or barrier methods or the intrauterine devices.

  Studies also found that the children born to the DMPA used mothers have no significant difference in sex,growth,health,sexual development etc compared to the non DMPA users.

Effectiveness of the DMPA:

When the drug is used correctly as per the schedule the effectiveness will be of 99.7%.The failure rate reported in DMPA is found to be 0.3% which is less compared to the female sterilization failure rate 0.5%.,0.8% in the IUCD.

Benefits of DMPA:

The benefits of DMPA is discussed under two headings

1. Contraceptive uses
2. Non contraceptive uses

Contraceptive uses:

- It is highly effective and safe contraceptive
- It is easy to use and it is very convenient
- The grace period was one month after the three months of DMPA action
- It takes 7-10 months of the last injection to return to its fertility thus it is reversible completely
- It is a confidential and private method
- Sexual life is not interfered
- No need for the pelvic examination before using this contraceptive
- It is suitable to women who are not eligible to use estrogen containing contraceptive
- It does not affects the milk quantity ,quality and breast milk composition.So it is highly recommended for the lactation mothers
- It can give immediately to the postabortal mothers and in the postpartum mothers.
- It can be given to any women who has risk during pregnancy for any age or any parity status.

Non Contraceptive Benefits:

- Menstural cramps and the pre menstural syndrome will be decreased
- The menstural blood loss is decreased which is due to amennohoea which in turn improves the anemia
- The endometrial symptoms will be decreased
- The risk of benign breast disease and ovarian cyst development will be decreased
- Fibroids tumors are decreased
- Pelvic inflammatory diseases incidence decreases
- Thus DMPA will protect against the ovarian cancer and the endometrial cancer
- The risk of ectopic pregnancy development is also decreased
- Sickle cell anemia and sickle cell crisis is decreased
- There is no interactions between DMPA and other drugs like the antibiotic and the enzyme inducing drugs.

Limitations:

The major limitations are that

- It does not protect the women from the Sexually transmitted disease or the HIV infection

- It shouldn’t be stopped immediately
- As it affects the women’s hormones its will cause menstural cycle and the bleeding
- To achieve contraceptive effectiveness it should be given properly at an interval of 3 months
- The fertility will return after 7-10 months after the last date of the injection
- It cannot be given in the medical conditions.

When to start DMPA?

Women’s situation	When to start DMPA
During menstural cycle or switching from a non hormonal method	• DMPA can be started at any time within 7 days of the menstural cycle which doesn’t need any back up method • It can even be started after 7 days of menstural cycle provided the women is not pregnant but she need backup method for the first 7 days after injection

	• If switching from IUCD it is started immediately
Switching from a hormonal method	• For using the hormonal method DMPA can be started immediately without waiting for the next month mentural cycle and there is no need for the backup method.
Postpartum women	
<6 months postpartum	• Wait for the completion of six weeks to start DMPA • If she is exclusively breastfeeding or near exclusive breastfeeding and her periods had not returned she can start DMPA any time between 6 weeks and the 6 months but she need a back up method for the first 7 days after the injection • If she is partially feeding and

	her period is not returned she needs a backup method like condom after the DMPA injection • If she is have regular periods returned then she is adviced to take DMPA like other women who have normal mentural cycle.
>6 months postpartum	• If her periods has not returned or if she is not pregnant then we can start DMPA at any time provided **to use a** back up method for the first 7 days after the injection. • If her periods returned then she has to take DMPA injection as it is instructed for women having regular menstural cycle.

Postpartum women who were not feeding their babies through breast milk	
<4 weeks postpartum	• DMPA injection can be given at any time without any backup method
>4 weeks postpartum	• If the women is not pregnant and her menstural cycle is not regularised than the DMPA injection can be given any time and the backup method should be used for 7 days after the injection
Other situations	
No regular period but not due to child birth or breastfeeding	• The injection can be given at any time if the women is not pregnant but the back up method should be used for the first 7 days after the injection
After Abortion or miscarriage	• The injection can be given

	immediately after abortion or within 7 days after the abortion which occurs in the first or the second trimester without the need of backup method • It can be given even after the 7 days if the abortion has occurred but with the back up method for the first 7 days after the injection
After taking emergency contraceptive pills	• It can be started on the same day as the emergency contraceptive pills • The DMPA has to given within the 7 days of the menstural period but the back up method is used for the first seven days and the patient is asked to visit if she have signs of the Pregnancy

Effective Follow up :

Patients should be given the next dose after three months.Some patients may come late while others will not return so we have to follow closely the patients to reduce the discontinuation rate.

The patients were advised to visit after 3 months on the scheduled date and were given the DMPA injection but this time no back up method is needed.Just encourage her to come for the next visit on time according to the schedule.Ask her about the sideeffects and counsel her accordingly.

Following the defaulters:

If the patient comes 2 weeks earlier or 4 weeks later after the scheduled date then the DMPA injection is given and counselling is given regarding the importance of adherence to schedule and the discussion related to the side effects will be asked.But no back up method is needed.

Drop outs follow up:

If the patient is not coming for more than 4 months patient should be ruled out of pregnancy and then the injection is given but back up methods must be used for the first 7 days.Reasons regarding the late arrival will be asked and then the counselling will be given the importance of the adherence to the scheduled date.

Eligibility criteria:

- It can be given at the any age from <18 years of adoloscents to the women >45 years
- Women who have children or not have children
- Unmarried women
- Had previous abortion or the miscarriage
- Smoker
- Risk of STI or the HIV
- Breastfeeding mothers
- Patients on treatment of the Antiretroviral therapy

The DMPA injection can be given for the women even without

- Blood test
- Examination of the pelvis
- Screening for the cervical cancer
- Examination of the breast
- For women not getting daily periods

In a study done by Karim M et al(10) in 2002 no adverse effects are noticed in the amount or the lactation in the depot users.Even the multiparous women reported of increase in breastmilk or lactation soon after the use of DMPA.No adverse effects was noticed on the lactation like duration and amount of the milk..

Halderman et al (11)also stated that no adverse effects seen in lactating mothers and no effect seen in milk quantity or quality in his study conducted among the lactating mothers in the year 2002.

Atkun H et (12)also did a study about the long injectable progestin contraceptive among the Turkish women in the year 2005.He stated that the most common side effect which he observed in the study participants were menstural irregularities and about the weight gain.

A study was done in 2007 by wellings K et al(13) regarding the attitudes of the study participants in UK in the general practice.The study also stated that the menstural disorders and the weight gain were the most common side effects of the study participants.

In 2014 year a study was done by the Seema Singhal (14)which is a case control study.The study participants were 250 women who were delivered immediately requiring the contraceptive were recruited .Among them 150 were taken as the study group and the 100 were postpartum women who used non hormonal contraceptive.

The subjects were followed for around 6 months .Primigravida in the study group were found to constitute 100% and the control group was found to be 95% in our study.The average height was compared in both study and the control group in three months,six months etc.The average gain of weight was not found to be significantly different in both the groups.There is no adverse effects noted in the amount and the duration of the lactation in the early depot medroxy progesterone acetate.

Study was done by the Prathiba singh et al(15) in 2015 the Ahmedabad to compare the efficaccy,acceptance and the compliance of the DMPA among the postabortal women and the postnatal mothers.The study design was prospective type.

The patients were counselled regarding DMPA and were taught about the other contraceptive types too.Total of 16 months were followed and the total sample was 500.Most of the study participants 61% were in the age group of 26-35.Among the study participants 75% took SMPA soon after the post delivery and 47% took the contraceptive in the postabortal.65% of the study participants belongs to the lower and the middle socio-economic groups.70% of the study participants reported amennorhoea.Continuation rate was reported among 51.1%./.None of the study participants have failure rate.

Thus the study concluded stating that the awareness must be created regarding the DMPA over the progesterone only pills to the study participants and it was also stated that it is effective contraceptive and can be used in the postpartum immediately.

In 2016 a study was done to by Nautiyal et al(16) in the semi urban camp setting who DMPA through the cafetaria approach.After counselling regarding the benefits,sideeffects of the DMPA is told and later on injection is given intramuscularly.The Mean age of the study participants were 26.5 years of age.

More than 51% were the primiparous .42% of the study participants were lactating mothers.No pregnancy was reported in the study participants.Amenorhoea was the first complication to be noted in the study participants which is 49% followed by 32% of irregular bleeding and 14% of menorrhagia.14% of the study participants discontinued the contraceptive after the first injection.Thus it is concluded in this study that the DMPA is the safe and the long acting drug.

In 2019 a study was done in Madurai by the Divya et al (17)among the women attending the family welfare OPD either in the postpartum immeditately or in the postabortal period.The sample of 300 were taken

for the study and 150 mg of DMPA was given and was followed for 17 months.Majority of the study participants belongs to 28.2% of 21-25 years.The most common side effect found in this study was irregular bleeding among 33% of women.The discontinuation was noted to be more among the study participants after the first dose.The study stated that the pre counselling before DMPA administration reduces the drop outs of the study participants.

A study was done in 2019 in Ahmedabad by the Abhipsa patel et al(18) among the postabortal and the postpartum women .It is a prospective study.

Total of 90 study participants were recruited among them 50(55.5%) took DMPA soon after post delivery and 40(44.44%) took DMPA soon after the postabortal.Around 61.11% i.e 50 participants had irregular bleeding as side effect followed by 26(29%) amenorhoea and the weight gain is noticed in only 3 patients .Among 5 patients other side effects like backache, headache, erythema nodosum and dyspareunia is noted.But lactation remain unaffected in the postpartum mothers.

A study was done in the year 2019 by the Shweta et al (19)in Sitapur Uttar Pradesh among the 150 women carried between 18-45 years

of age.The study was done for 2 years. Majority of the study participants belongs to 21-30 years of age 72.66% and 41.33% were of primigravida. Irregular bleeding was the most common side effect noted in 58% of the population followed by 20% of amenorrhoea. The participants stopped the contraceptive due to side effects were of 56%,16.6% has changed the contraceptive .Around 10% planned the pregnancy.17.33% has shown loss to follow up.

In the year 2021 a prospective study was done by Ajit Kumar Nayak et al(20) among 120 women .After 6 weeks of postpartum the DMPA is given in 150 mg in intramuscular route. The most common age group was 21-25 years of age is 43.33% and in 26-30 years of age it is 33.33%.

Among the study 53.34% have primigravida.36.67% have reported of irregular bleeding followed by secondary amennorhoea in 20%.Weight gain noticed in 7.5%.Headache noticed in the 5.83% and in the acne 1.67%. 61.66% of the discontinuation is noted after the first dose followed by second dose of the injection. There is no alteration in the blood pressure among the study participants using the DMPA.No adverse side effects were noticed and none of the study participants using the contraceptive became pregnant.

METHODOLOGY

Study site

Department of Obstetrics and Gynaecology, Government Kasturba Gandhi hospital, Triplicane,Chennai-05

Study Design

Non randomized study

Study Period

November 2020 to November 2021

Selection of study population

All the postnatal and the postabortal women attending the Family Welfare OPD for the follow up and the patients opting for the medical termination of the pregnancy, patients after spontaneous abortion and patients coming for interval contraception were the study population.

Inclusion criteria

- Age >18 years in postabortal and postnatal period not in any contraceptive use
- Patients not having any contraindication to estrogen and progesterone

- Unable to conceive after two years of unprotected sex
- Cooperative and Willing to participate
- Patient desiring to have a highly efficacious and long term contraceptive

Exclusion Criteria

- Chronic illness
- Immunocompromised diseases such as cancer
- Diseases involving heart, liver
- Migrane with aura, uncontrolled hypertension and diabetes

A semistructured pretest Questionnaire in the regional language (Tamil) was used as data collection tool.which consist of 2 parts namely

1) Section 1-Baseline characteristics of the study participants
2) Section 2-Details of the drug acceptance ,its effects and the side effects

5.8 Data Collection Method:

a. Data collection was done in the study area after obtaining permission from the Dean, Madras Medical college, Chennai and the Head of the Department, Department of Obstetrics and

Gynecology and approval from the Institute Ethical Committee(Annexure)

b. All the postnatal and the postabortal women attending the Family Welfare OPD of Obstetrics and Gynecology department were recruited for the study. Patient history will be collected through the questionnaire which includes the baseline characteristics and history related to the acceptance of the drug ,its side effects etc.
c. The side effects of the DMPA is noted.

Study Methods

- The patients who have satisfied inclusion and exclusion criteria will be enrolled in the study and will be explained about the benefits and the side effects of the DMPA
- Those who chose DMPA after our explanation will be given the informed consent and were considered in our study.
- The patients were divided into two groups the postnatal group and the post abortal group non randomly. A total of 100 study participants in each group
- Detail history taking done as per the proforma with regard to menstrual cycles regularity, Obstetrical, medical and history obtained

- The enrolled women were given 150 mg of DMPA after explaining them how it is better than the other contraceptives as it has no effect on lactation and helps in restoring hemoglobin.
- Then the study participants were asked to maintain a dairy so that they will not forget the next appointment
- At each visit they will be asked about their mentural irregularities, sexual life, milk secretion ,weight gain and symptoms of pregnancy to rule out the failure.

Sample Size

All the postnatal and the postabortal study participants attending the family welfare OPD at that time were included.

Sampling Method

Convenient (non-probability) sampling method was used

Data collection tools:

Statistical Analysis

Descriptive statistics was expressed in terms of mean and percentages. statistical tests of comparison were done. Continuous variables were analysed with the unpaired t test and Anova test. Categorical variables were analysed with the Chi-Square Test . $P < 0.05$

is considered as significance. The data was analysed using SPSS Version 16. Microsoft Excel 2007was used to generate charts.

Ethical Considerations

The following ethical guidelines were followed till the end of the research period:

- The dignity and wellbeing of patients was protected at all times.
- Research data is kept confidential throughout the research process, and researchers have obtained permission from patients to use their real names in research reports.

Research protocol was presented in Institutional Ethical review Board and due permission was obtained to undertake the study

Conflict of interest

Study runs on your own with the support of the institution.. There is no commercial or conflict of interest

Operation definitions:

- **Postnatal period:** It is defined by World health organisation as the first six weeks after the birth which is the crucial period for both the mother and the baby

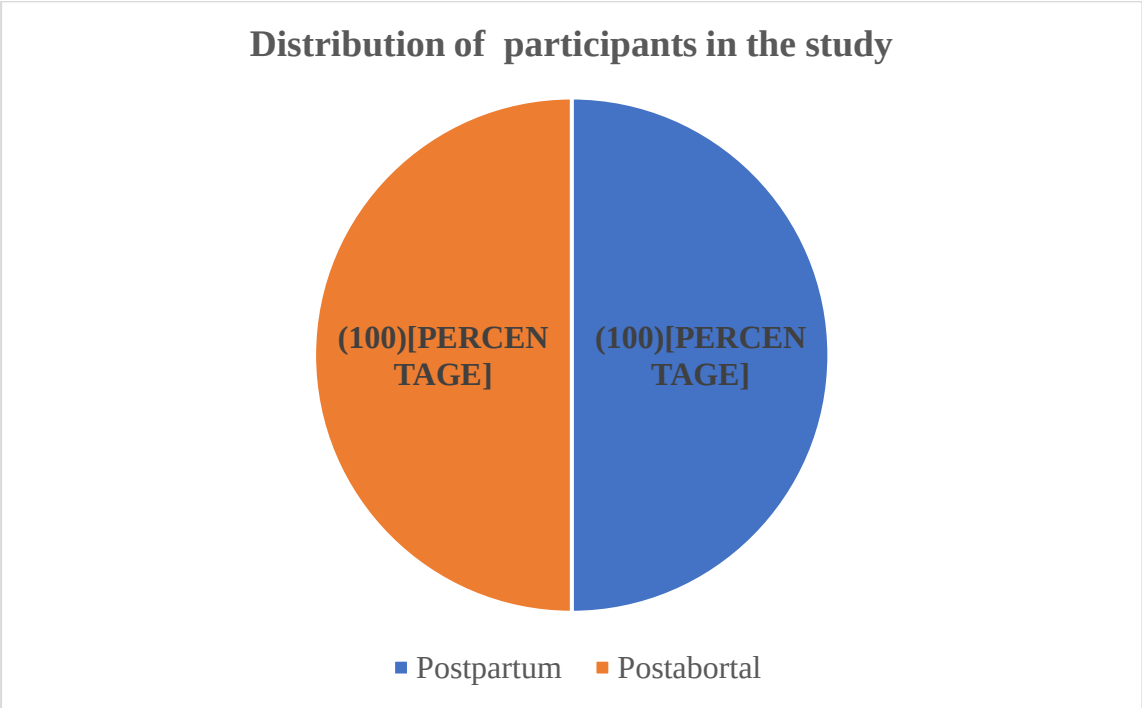
- **Contraceptive:**

  Birth control is otherwise known as contraception where the drug or a device is used to prevent the unplanned or unwanted pregnancy.

RESULTS

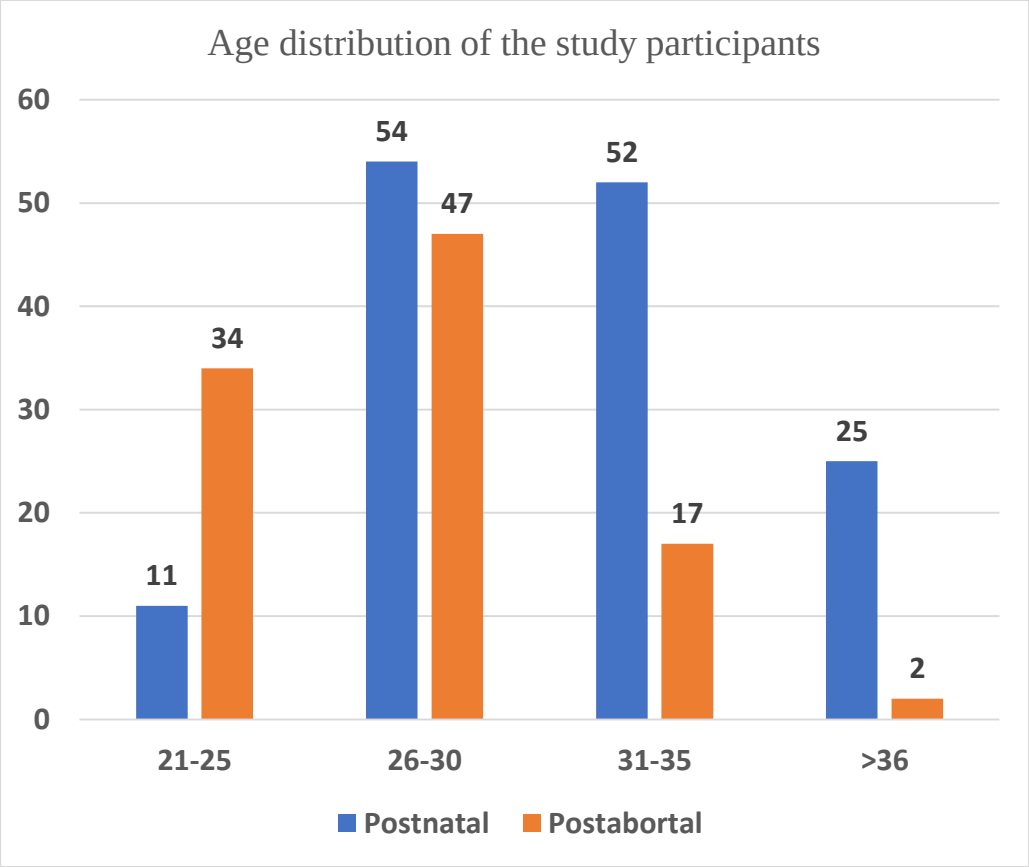
Based on the inclusion and exclusion criteria 100 were selected in post-partum women and 100 were recruited in post abortal period for the contraception and were followed for a year.

Figure 1:



Study groups	Postnatal group	Postabortal group	Total
Number	100	100	200
Percentage	50%	50%	100%

Figure 2:Age groups of the study participants:



Among the study groups the most common age presentation was in 26-30 category (Postnatal-54 Postabortal -47) which is followed by the 31-35 years

Table1: Age groups of the study participants:

Age group of study participants	Postnatal period	Postabortal period
21-25	11	34
26-30	54	47
31-35	25	17
>36	10	2
Total	100	100

On analysis of the age distribution of the study participants between the groups ,majority of the study participants falls under 26-30 years of age group (54%) followed by 31-35 years of age groups (25%) and then by 21-25 years of age group (12%).In Post abortal group majority falls in 26-30 years of age group (47%) followed by the 21-25 years (34%) followed by the 31-35 years of age group (17%).(Table 1).

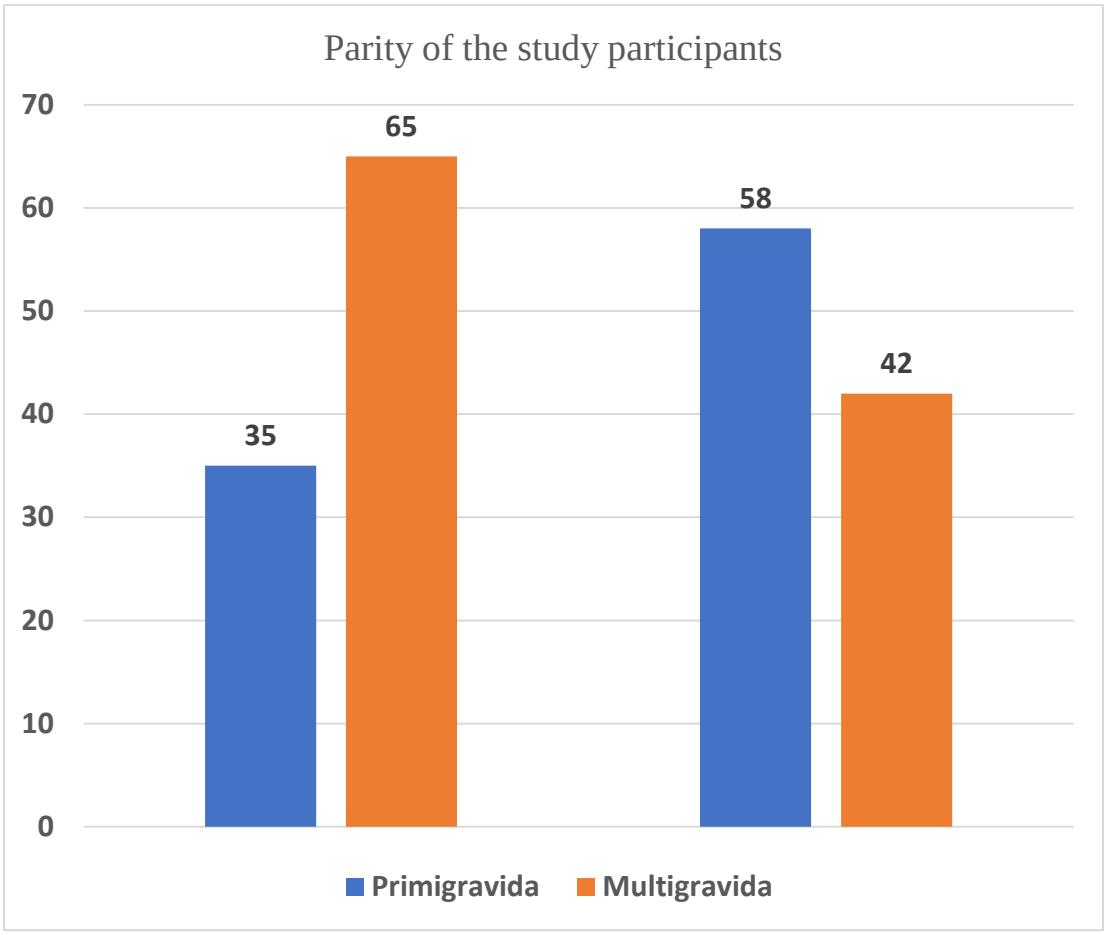
Table 2:

Mean age of the study participants:

Mean age distribution of study participants	**Postnatal period**	**Post abortal period**
Mean	29.66	24.74
SD	3.95	4.41
P Value Unpaired t test		0.2714

There was no statistically significant was observed between the age distribution and the groups with a p valus >0.05 as per unpaired test. Therefore we fail to accept null hypothesis and can say that age of study participants have no effect on the postnatal and postabortal group.

Figure 3: Parity distribution of the study participants:



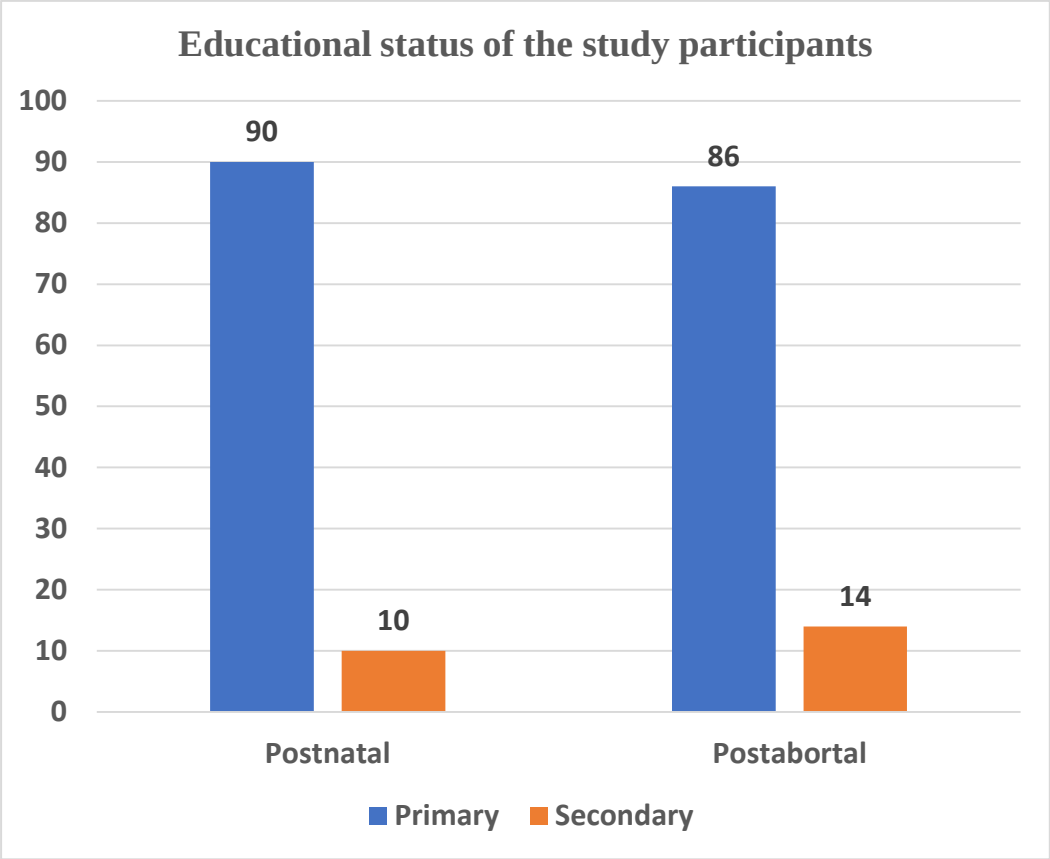
The most common distribution of the study participant is Multigravida in Postnatal group and Primigravida in Postabortal group.

Table 3: Parity distribution of the study participants:

Parity distribution of the study participants	Postnatal period	Postabortal
Primigravida	35	58
Multigravida	65	42
P Value Chi square test		<0.001*

Thus on analysing the parity status of the study participants between the groups ,majority of the participants were multigravida (65%) in the postnatal period and primigravida (58%) in the postabortal period. There was a statistically significant relationship between the parity status and the two groups. Thus we are rejecting the null hypothesis.We can infer that parity has a significant effect on the contraceptive usage.

Figure 4:Education status of the study participants:



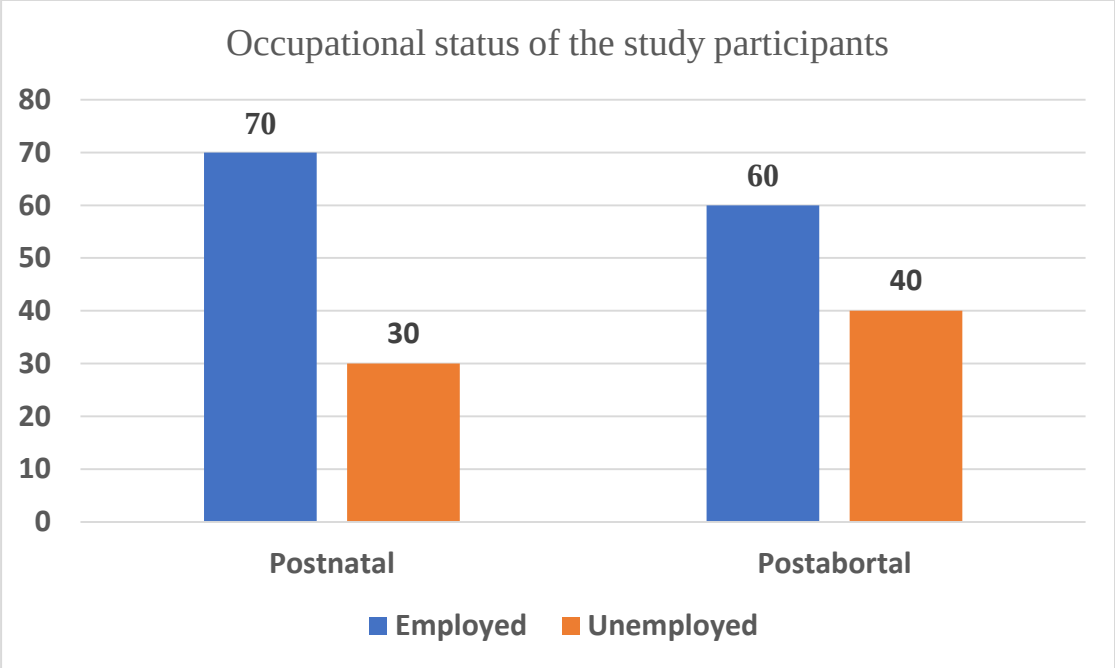
Majority of the study participants have completed the primary education in both the groups (Postnatal -90% and in Postabortal -86%)

Table 4:Education status of the study participants

Education status of the participants	Postnatal perod	Postabortal
Primary	90	86
Secondary	10	14
P Value Chi square test		<0.001*

When analysing the education status with the two groups majority participants had primary education 90% in postnatal period and 86% in postabortal period.There is a difference between the group and the difference is statistically significant.Thus education significantly has an effect on contraceptive usage.

Figure 5:Occupation of the study participants:



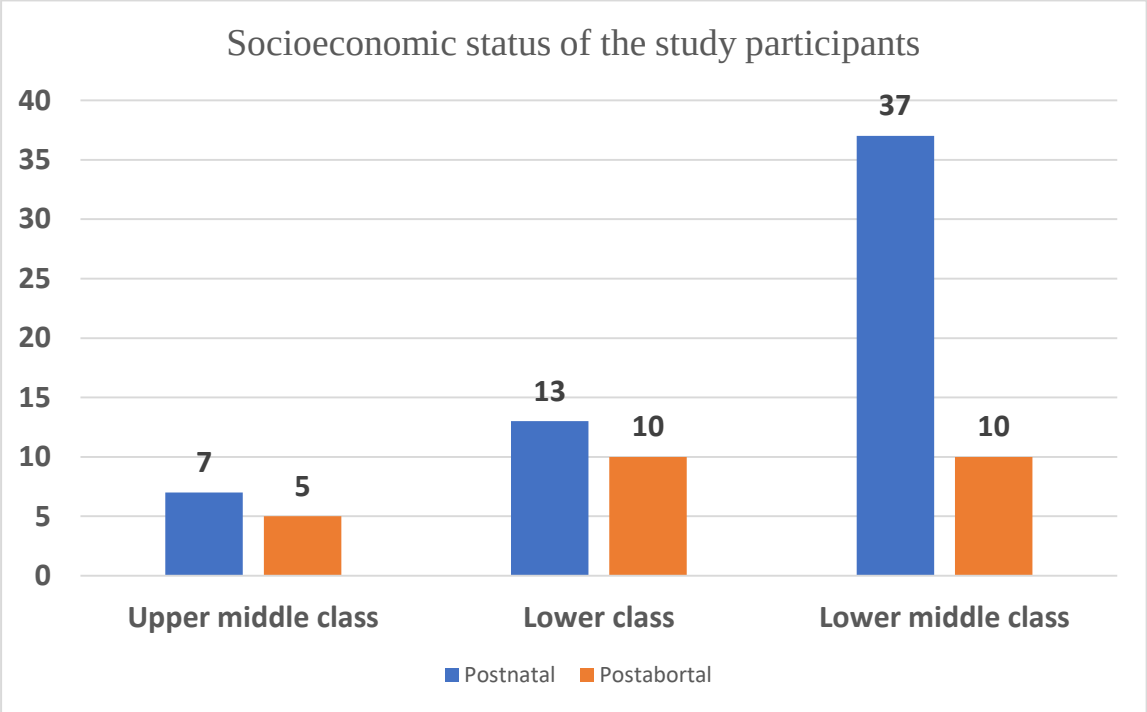
Most of the study participants were employed in both the groups (Postnatal-70% and in Postabortal -60%)

Table 5:Occupation of the study participants

Occupation of the participants	**Postnatal period**	**Postabortal**
Employed	70	60
Unemployed	30	40
P Value Chisquare test		<0.001*

In our study majority participants were employed(70% postnatal group 60% postabortal group).There is statistically significant difference between the two groups.It infers that occupation has significant role in contraceptive usage.

Figure 6: Socioeconomic status of the study participants:



The most common socioeconomic class is the lower middle class (Postnatal-37 and in Postabortal -10%)

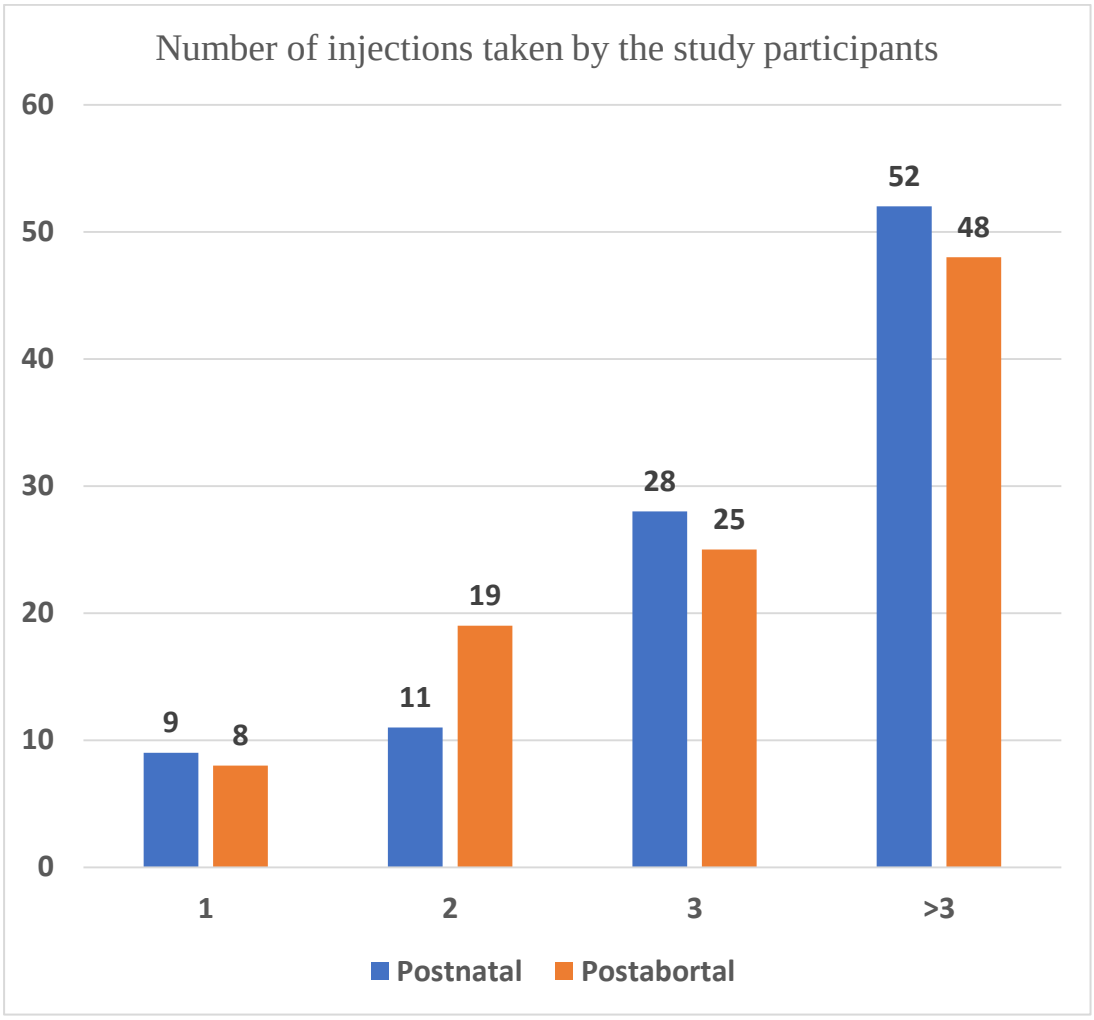
Table 6:

Socioeconomic status of the study participants:

Socioeconomic status	Postnatal period	Postabortal
Upper middle class	7	11
Lower middle class	70	69
Lower class	23	20
P value Fisher exact test		<0.001*

While analysing the socioeconomic status of the study participants with both the groups the majority of the study participants belongs to lower middle class 70% followed by lower class 23% in postnatal mothers. Similarly in postabortal group majority belongs to lower middle class 69% followed by lower class 20%.The difference between the groups also found to be statistically significant.Thus we are rejecting null hypothesis and can infer that socioeconomic status has an significant effect on the contraceptive usage.

Figure 7:No of injections taken by the study participants:



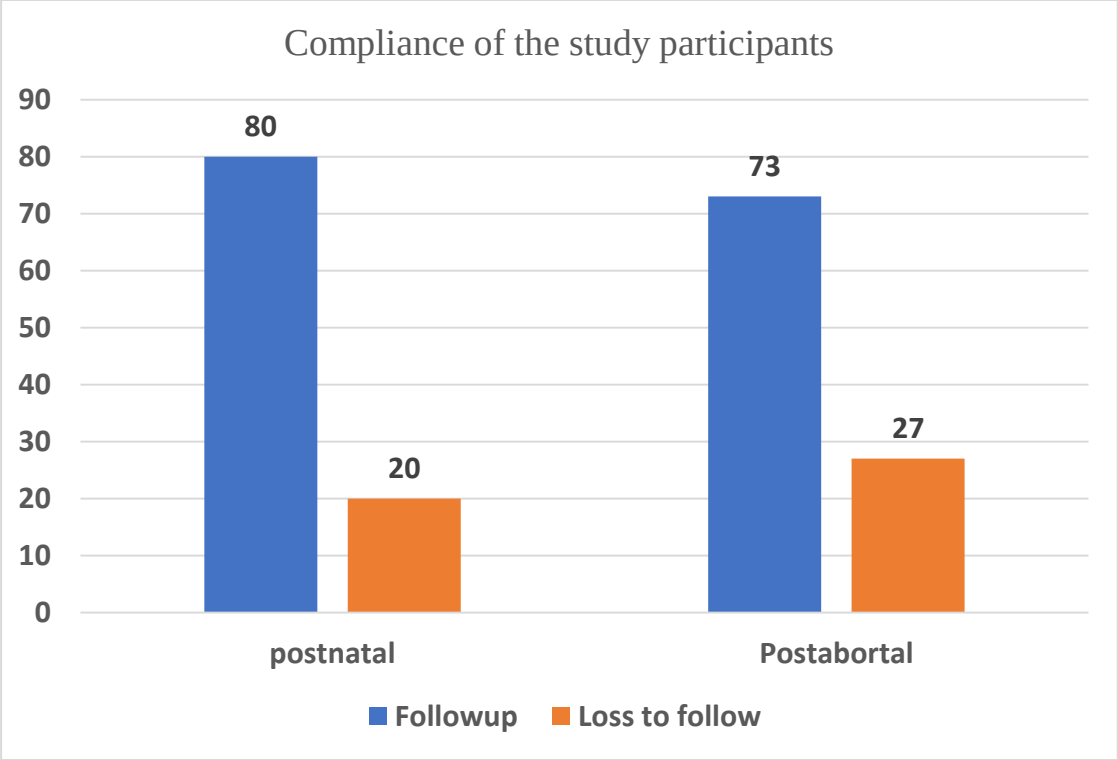
Most of the study participants have taken more than 3 injections in our study group (Postnatal-52% and in Postabortal-48%)

Table 7: **No of injections taken by the study participants:**

No of injections	Postnatal period	Postabortal
1	9	8
2	11	19
3	28	25
>3	52	48
P value Fischer exact test		<0.001*

Analysing the number of injections with both the group it is found that majority of the study participants had taken more than 3 injection 52% followed by 3 injections 28% and 2 injections 11% in postnatal group.In postabortal group majority of the study participants 48% belongs to >3 injections followed y 3 injections 25% and 2 injections 19%.There is a difference and it is found to be statistically significant.We infer that the number of injections have a significant impact on this contraceptive.

Figure 8 :Compliance of the injection



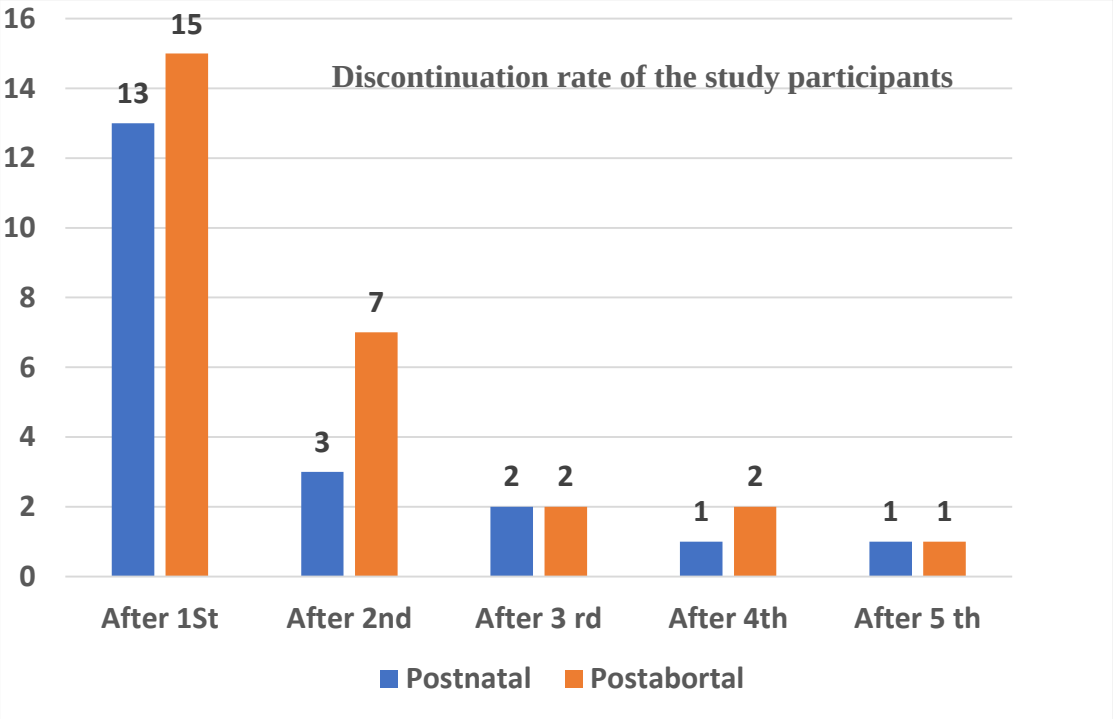
Compliance was more in Postnatal group 80% compared to the postabortal group 73%

Table 8:Compliance to the injection

Compliance to the injection	**Postnatal period**	**Postabortal**
Follow up	80	73
Lost for follow up	20	27
P Value Unpaired t test		<0.001*

In our study there was loss to follow up of 20% in postnatal group and 27% in postabortal group.There is a difference between the group and it is found to be statistically significant.This infers that compliance to the injection have an significant effect on the contraception effectiveness.

Figure 9: Discontinuation rate of the contraceptive among the study participants:



The discontinuation rate of the contraceptive was more after first injection in both the groups

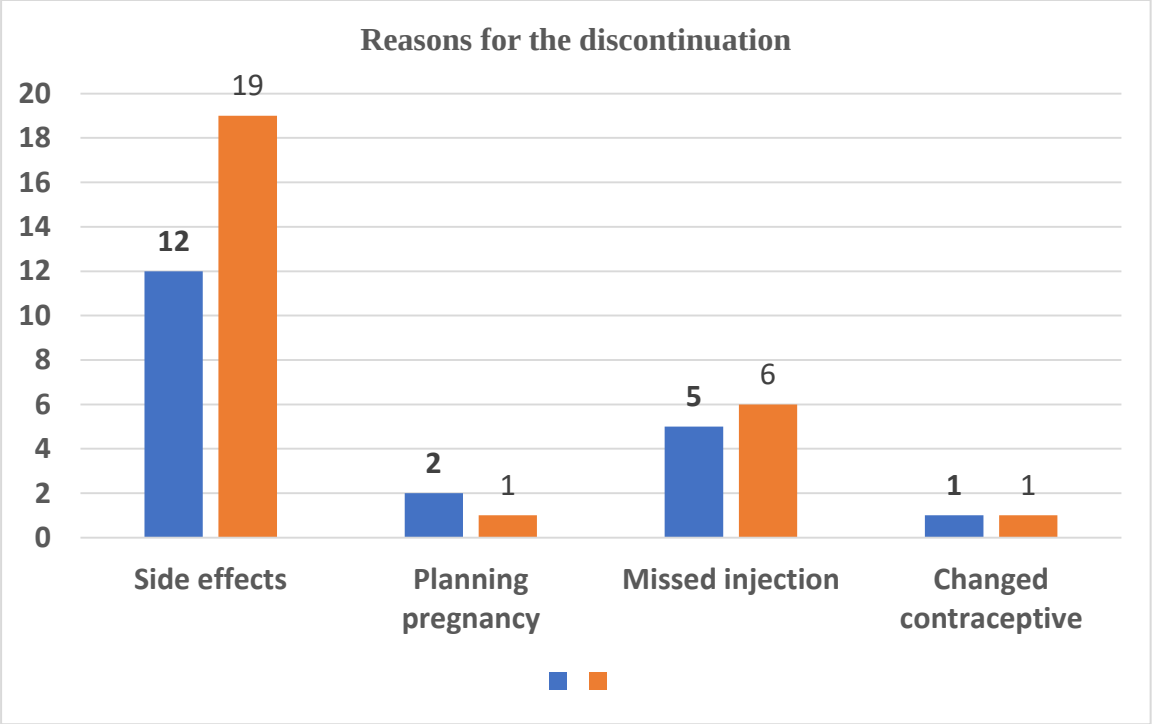
(Postnatal-13 and in postabortal -15%)

Table 9:Discontinuation rate of the contraceptive among the study participants:

Discontinuation rate of the injection	Postnatal period	Postabortal
After 1st injection	13	15
After 2nd injection	3	7
After 3 rd injection	2	2
After 4 th injection	1	2
After 5 th injection	1	1
P value Fischer exact test		<0.001*

After analysing the discontinuation rate with the two groups it was found that majority discontinuation occurs after the 1 st injection (13% Postnatal,15% postabortal)followed by second injection in both postnatal and post abortal group (3% postnatal,7% postabortal).There is a difference between the group and the difference is found to be statistically significant.It infers us that discontinuation rate also has a significant role in the contraceptive effectiveness.

Figure 10:Reasons for discontinuation:



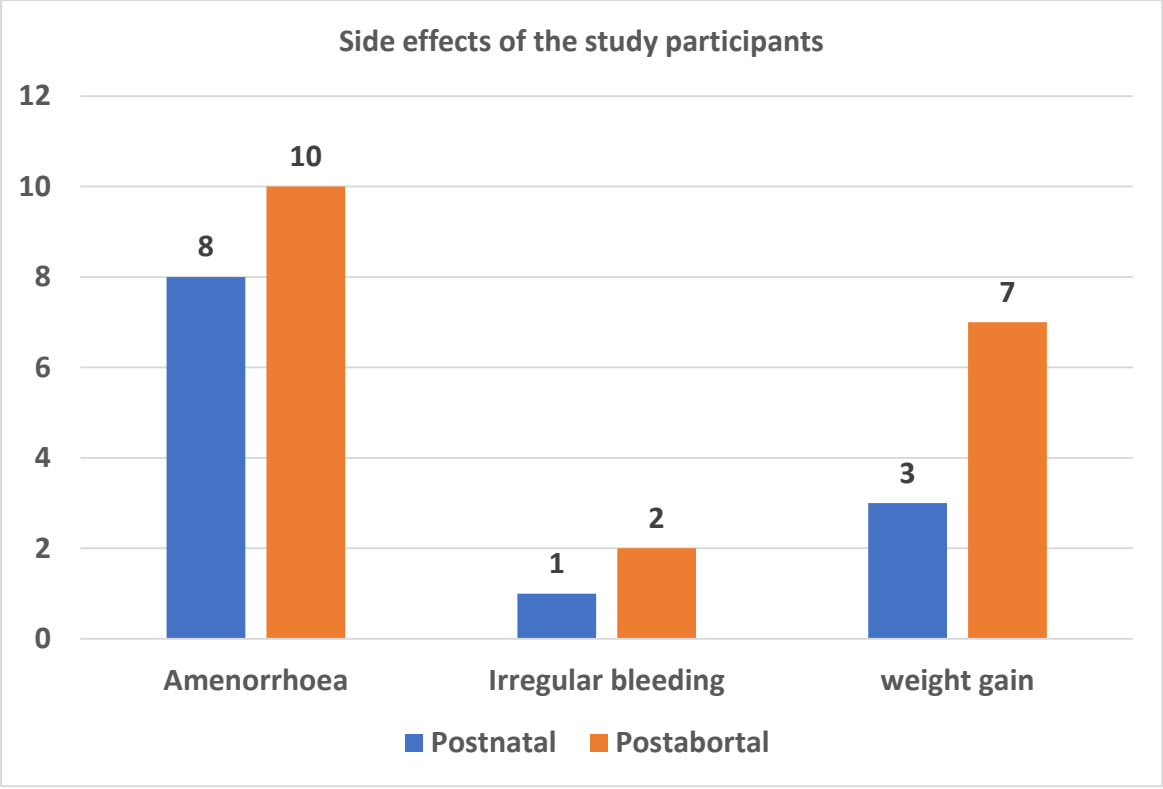
The most common reason for discontinuation is Sideeffects (Postnatal-12 and in Postabortal -19) followed by missed injection

Table 10: Reasons for discontinuation:

Reasons	Postnatal period	Postabortal
Side effects	12	19
Planning pregnancy	2	1
Missed injection date	5	6
Changed contraception	1	1
P value Fischer exact test		<0.001*

In our study the main reason for discontinuation is side effects 12% in postnatal group followed by missed injection date 5% and planning pregnancy 2%.In postabortal period 19% have side effects,6% missed their injection date and 1% changed contraceptive.There is a difference between the group and it is statistically significant.We infer that reasons for the discontinuation also has significant effect on the contraceptive efficacy.

Figure 11: **Side effects of the contraceptive to the study participants:**



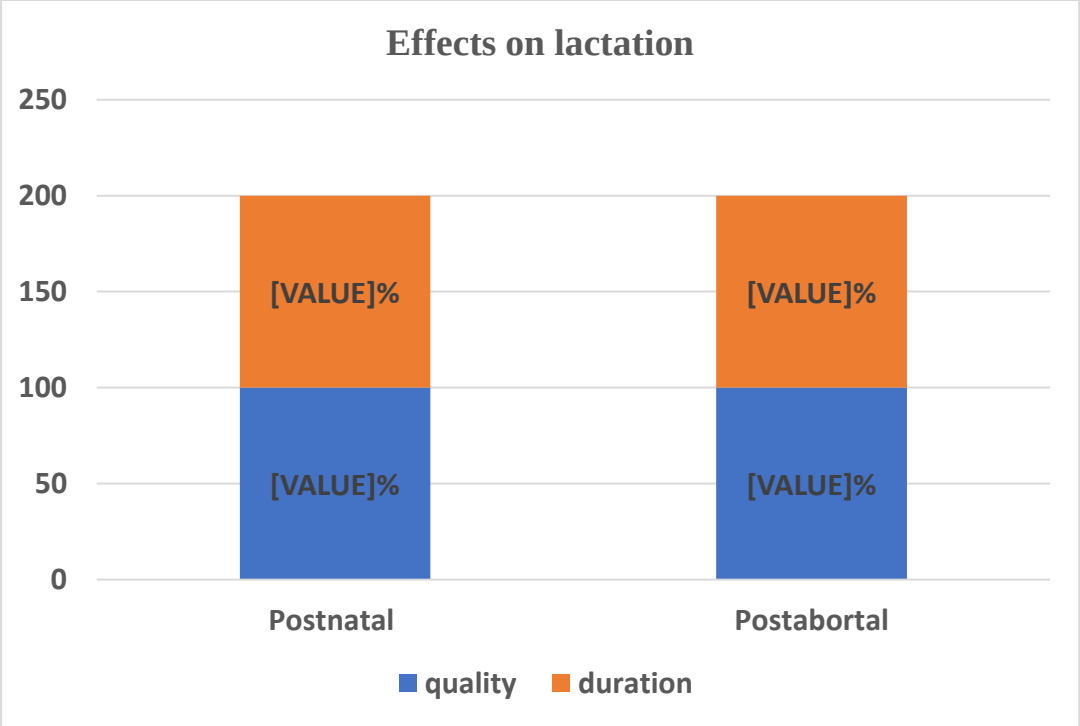
The most common side effect was Amenorrhoea in both the groups followed by the weight gain and the irregular bleeding

Table 12:Side effects of the contraceptive to the study participants:

No of injections	**Postnatal period (N=12)**	**Postabortal (N=19)**
Amennorhoea	8(67%)	10(53%)
Irregular bleeding	1(8%)	2(10%)
Weight gain	3(25%)	7(37%)
P Value Chi Square		0.2

The most common side effect which we found in the postnatal group is Amennorhoea67% followed by weight gain 25% .Later irregular bleeding 8% was also reported.In postabortal period majority had amennorhoea 53% followed by weight gain 37% .Irregular bleeding 10% was also reported.There is a difference observed and it is not statistically significant.So we infer that sideeffects of the contraceptive also have a significant impact on the contraceptive usage.

Figure 12:Effects on lactation:



Thus no mother in either group complained of reduced lactation.There is no change in qualilty of milk and duration of the feeding in the postnatal mothers.

Table 13:

Contraceptive failure of the study participants:

Contraceptive failure	Postnatal period	Postabortal
Yes	-	-
No	100	100
Total	100	100

There is no contraceptive failure reported in our study.In both postnatal period and in postabortal period none has become pregnant during this contraceptive method.

DISCUSSION

The method or device which is used to prevent unwanted pregnancy and planning and provision is called family planning or birth control or the contraception.These birth control measures have been considered as the safe and the effective method and it is also made available in this 20th century.

In our study majority of the study participants 54% belongs to the the 26-30 years of age followed by 31-35 years of age in postnatal mothers 25% whereas in postabortal period 47% in the 26-30 years of age followed by 34 in 21-25 years of age.Similar results was also seen in the Pratiba et al(15) study done in Ahmedabad were the most common age group was 61% belongs to <35 years of age .In fariha aman et al(21) study too the majority of the study groups belongs to 25-30 years of age and 30-35 years of age (69.5%)

Dhivya et al (17)in her study done in Madurai stated that her most common group was 21-25 years of age and it constitute to 28.2%.

The mean age was more in the postnatal period women 29.66±3.95 compared to the postabortal period 24.74±4.41.There is a difference between the group which is not found to be statistically significant .In fariha aman et al(21) study also the mean age was found to be 31±7.6.

Majority of our study participants was found to be multigravida 65% in the postnatal period followed by primigravida 35%.In postabortal period majority of the study participants were 58% primigravida followed by 42% multigravida.The difference between the groups also found to be statistically significant.

Similar findings also seen in Pratiba et al (15)study were the 65% belongs to multipara while the others 29% belonged to grand multipara.In Fariha aman et al (21)study too 52% have the study participants belongs to multigravida and the rest were primigravida which tells us that the women with increased parity were more receptive to the health care providers counselling compared to the primigravida.In Shweta M et study (19)she stated that mosot of her study participants were primipara around 41.33% which is opposite to our postnatal group

Education status of the study participants reveals that the in 90% of the study participants in the postnatal period has the Primary education while in postabortal 86% has the primary education.The difference between the groups is also found to be significant.

More than 50% of the study participants were employed in our study (Postnatal period-70% and in postabortal period-60%).The remaining were unemployed in both the groups.There is a difference between the groups and both were found to be statistically significant.

Majority of the study participants found to be lower middle class in both groups (Postnatal-70% and in Postabortal -69%) followed by lower class (Postnatal-23% and in Postabortal -20%).In Pratiba et al (15)study too majority 65% belongs to low middle class and 23% belong to lower class.

According to our study results most of the study participants have taken >3 injections in both the groups (Postnatal-52% and in Post abortal -48%)followed by the three injections(Postnatal-28% and in Post abortal -25%).Similarly in Pratiba et al (15) 51% took >3 injections.

Around 80% of the study participants adhered to the follow up date in postnatal period and 73% in the Postabortal period.Loss to followup is also more in postabortal 27%period compared to the postnatal period 20%.

Discontinuation rate was found to be more after first injection in both groups compared to other injections (Postnatal-13% and in Postabortal -15%) .In fariha aman et al (21)study the discontinuation was more after the first injection 142.

In our study the most common reason for the discontinuation were sideeffects 12 in postnatal and 19 in postabortal followed by Missed injection rate (5-Postnatal period and 6-Postabortal period).In Fariha aman et al(21) study also the most common reason for the discontinuation study was 30% in sideeffects followed by loss to follow up 27% .

The most common side effects noted is Ammenorhoea(67% in the postnatal period and 53% in postabortal period) followed by weight gain and irregular bleeding in both the groups.Similarly in the pratiba et al study (15)also around 70% of women had

amenorrhoea which is similar to our results and irregular bleeding was reported to be 50% which is higher compared to ours.

In our study weight gain is also noted.Similarly in a study done by Ajith et al (20)reported that 7.5% of women noticed of the weight gain.Espey et al (22)in a study done in the 172 women who were Navajo received DMPA and stated that around 6 pounds of the weight had been noticed.Studies done by Mainwaring Ret and Risser et al (23)(24)found that no significant changes appears among the women in our study.In Njoku study also 14.2% of weight gain is noticed(25).In David et al study 5.4% cases reported of the Headache(26).

In Fariha aman et al (21)study the most common side effect was Irregular bleeding 62% followed by Amenorrhoea 18% which is more than our study participants. In Raj et al (27) study the most common side effect is irregular bleeding which is 45% which is more than our study participants.Similarly 50% of study participants had amennorhoea in our study and even the study done in multicenters by the WHO (28)stated 37% of the study participants having amenorrhoea and Belesey EM et al (29) also noticed 50% of the .participants suffering from the amennohoea.

In our study similarly 100% of the study participants have no effect of DMPA in the postnatal and in the postabortal women like Pratiba et al study(15) where 99% has no decrease in the amount of the milk secretion.Thus DMPA will be the best and appropriate choice for women who are breastfeeding i.e lactating mothers(30).If it is initiated as soon as possible after delivery in immediate postpartum and after 6 weeks it is found that it is not have any effect on lactation by decreasing the duration of lactation or by interfering with the weight gain (10).

Many studies done in the United states,Mexico,China,south Africa stated that after the intensive counselling given to the women receiveing the DMPA and discussing with their doubts there is an increase in compliance to the injection of DMPA (31)(32)(33).Effective communication regarding the DMPA and with the help of IPC and the BCC the acceptance of the DMPA will increase.

In a study conducted by the Nelson et al he stated that there is Zero failure rate in the women taking DMPA which tells us that how it is 100% efficacy and how highly satisfied were the patients are

towards this method.It was also in this study it is stated that the pre counselling which was done before adopting this method increases the continuation rate of the study participants 89% in counselling group compared to the 58% in the non counselling group.

SUMMARY

A study was conducted among the 100 postabortal women and 100 postpartum women to find the effectiveness of the DMPA in the Institute of Obstetrics and Gynecology ,Chennai and the following findings were noted.

- In the postnatal group majority of the study participants 54% belongs to the 26-30 years of age followed by 31-35 years of age 25%
- In Postabortal group majority of the study participants 47% belongs to the26-30 years of age followed by 21-25 years of age
- The mean age of the study participants in the postnatal period is 29.66±3.95 whereas in the postabortal period is 24.74±4.41
- There is no statistically significant difference between the mean age of the postabortal group and the postnatal group
- Majority of the study participants in the Postnatal group is multigravida 65% whereas in the postabortal group it is primigravida 58%

- There is a statistical significance present between the parity status of the two groups
- In both the groups majority of the study participants have done with the primary education(Postnatal period-90% and the Postabortal period-86%)
- There is a difference exist between the two group in the education status and it is found to be statistically significance
- In both the groups more than half of the study participants were employed (Postabortal-60% and in the Postnatal -70%)
- The difference between the employment status in both the groups is found to be statistically significant.
- In the postnatal group 70% belongs to the lower middle class followed by lower class 23%.Similarly 69% belongs to lower middle class in the postabortal group followed by lower class 20%.
- Most of the study participants have taken more than 3 injections (Postnatal-52% and in the postabortal-48%)followed by two injections

- There is a statistically significant difference in the number of injections taken in both the groups
- The compliance to the injection was more in postnatal period 80% whereas in the postabortal period it was 73%
- Loss to follow up was most in the Postabortal period 27% followed by the Postnatal period 20%
- There is a statistically significant difference observed between the two groups for the compliance of the injection
- The reasons for the discontinuation is the sideeffects (Postnatal group -12,Postabortal-19) followed by the planning for pregnancy (Postnatal group -2,Postabortal-1)
- In 1% of population changed contraception is also noticed.
- The most common side effect to be noted is the amenorhoea which 67% in postnatal period and 53% in postabortal period
- The second common side effects is weight gain
- The weight gain is notices in 25% in postnatal period and 37% in postabortal period.

CONCLUSION

- We conclude from our study that DMPA is the,long acting and reversible contraceptive which is effective for the postabortal and the postnatal period.
- Other than menstural disturbances no major significant side effects like the mood swings appears to the study partipants.
- It is not affecting the sexual life nor it not affects the lactation.
- Pregnancy is not noticed while using DMPA among our study participants
- It is the best contraceptive for the lactation mothers as it is not affecting the fetal weight gain or the milk secretion

LIMITATIONS

- Sample size is small in our study
- Sideeffects like weight gain and amennorhea may make the study participants anxious which can be reduced if we properly giving awareness related to this contraceptive

RECOMMENDATIONS

- Awareness should be created to the people related to the benefits Depot medroxy progesterone acetate compared to other hormonal pills
- Pre use counselling to the study participants before the use may helps the study participants to accept this contraceptive more.

REFERENCES

1. SR CAR. 40 years of planned family planning efforts in India. Int union Sci study Popul. 2017;
2. United Nations population Division (UNDP).Department of Economic and Social Affairs. World Contraceptive Use 2015. 2015;
3. Klitsch.M. Injectable hormones and regulatory controversy:An end of the long running story. FamPlan Perspect. 1993;25(37).
4. Kaunitz AM. Long acting injectable contraception with depot medroxy progesterone acetate. Am J Obs Gynecol. 1997;170:1543.
5. Westhoff C. Depot medroxy progesterone acetate injection (DEPO-Provera)A highly effective contraceptive option with proven long term safety.Contraception. 1990;68(75).
6. Trussell J KK. Contraceptive failure in the united states:A critical review of the literature. Stud Fam Plan. 1987;18(237).
7. Anna Glasier. Implantable contraceptives for the women,effectiveness,discontinuation rate,return of fertility and outcome of the pregnancies. 2002;65(1):29–37.

8. Department of Obstetrics and Gynecology A india institute of the M sciences. AOGD Bulletin. www.aogd.org. 2019;19(7).

9. Family planning division M of H and F welfare. REference manual for the injectable contraceptives (DMPA). 2016;1–112.

10. Karim M,Ammar R,El Mahgoub. Injected progestogen and lactation. BR MEd J. 1971;1(200).

11. Halderman LD N AL. Impact of the early postpartum administration of progestin only hormonal contraceptives compared with non hormonal contraceptives on short term breast feeding patterns. Am J Obs Gynecol. 2002;186:1250–8.

12. Aktun H,moroy P,Cakmak P,Yalchin HR,Mollamahmutoglu L DN. Depo-Provera use of a long acting porgestin injectable contraceptive in the turkish women. 2005;76(1):24–7.

13. Wellings K,Zhihong Z,Krental A,Barrete G GA. Attitudes towards long acting reversible methods of contraception in general practice in the UK. Contraception. 2007;76(3):208–14.

14. Seema Singhal,Nivedita Sarda,Shipra Gupta SG. Impact of the injectable progestogen contraception in early puerperium on lactation and infant health. J Clin Diagnostic Res. 2014;8(3):69–72.

15. Pratibha singh,Rupa C,Vyas,Ushma PY. Study of the effectiveness of DMPA in Postpartum and Postabortal period. IOSRjournals. 2015;14(2):74–8.

16. Ruchira Nautiyal,Rajeev Bijalwan,B.Maithili LN sinha. Feasibility of injectable Depot medroxyprogesterone acetate in a semi urban camp setting. Int J Reprod ,Obstetrics Gynecol. 5(4):1056–60.

17. Dhivya, Gayathri P. Compliance and side effects in a tertiary care hospital. 2019;1(6):263–4.

18. Abhisha patel, jigar Thakkar, Megha S Patel SAK. A study of use of DMPA(Injectable contraceptive) in Postpartum and Postabortal patients. 2019;8(1):34–6.

19. Shweta Mishra RG. Acceptability and the compliance of DMPA among rural women inSitapur UP. Indian J Clin Obstet Gyneacology. 2019;3(2):8–10.

20. Ajit Kumar Nayak, Pradyut Kumar Pradhan, Om Avishek das, Sujata Misra, Alok kumar, Jena SM. nternational journal of health and clinical reasearch. I. 2021;4(14):178–81.

21. Fariha aman S seema. Depot medroxy progesterone acetate (DMPA):Its acceptance,compliance and factors influencing continuation rates among the women attending the Lal Ded Hospital in Kashmir. JMSCR. 2019;7(12):314–9.

22. Epsey E, STeinhart J, Ogburn T QC. Depo-provera associated weight gain in navoja women. Contraception. 2000;62(2):55–8.

23. MainwaringR,hales HA StK. Metabolic parameter,bleeding and weight changes in US women using Progestin only contraceptives. Contraception. 1995;51(3):149–53.

24. Risser WL,Gifter LR,BArrat MS RJ. weight changes in adolescents who used hormonal contraception. J adoloescent Heal. 1999;24(6):433–6.

25. N Joku co, Nemechebe CI, Illaki CU, Njoku AN UJ. Progesterone only injectable contraceptives :The profile to the acceptors ,side effects,discontinuation in a low resource setting .Nigeria. J Obstet Gynecol. 2016;6:189–95.

26. J sarala, David PEJ R mothilal. A cross sectionl study was done on side effects of injectable contraceptive at a tertiary hospital. World J Pharm Med Res. 2018;4(2):191–5.

27. Raj L,Prabhakar P,Nair S. Injectable depomedroxy progesterone :A safe andn effective contraception for an Indian setting. Heal Popul Perspect ans issues. 2007;30(1):12–23.

28. WHO: A mlticentered phase IIIComparative clinical trial of depot medroxy progesterone acetate given three monthly at doses of 100 mg or 150

mg :Contraceptive efficacy and side effects.World health organisationTask force on long acting systemic agents for . 1986;34(3):223–35.

29. Belsey EM. VAginal Bleeding patterns among women using one natural and eight hormonal methods of contraception. Contraception. 1988;38(2):181–206.

30. Effect of contraception on lactation. Guiloff E,Ibarra-Polo A,Zanartu J. Am J Obs Gynecol. 1974;118(42).

31. Baumgartner JN,Morroni C,Mlobeli RD,Otterness C,Buga G CM. Impact of a provider job aid intervention on injectable contraceptive continuation in South Africa. Stud FAm Plann. 2012;43(2):305–14.

32. Lei Z-W,Wu SC,Garceau RJ,Jiang S,Yang Q-Z WW-L. Effect of the pretreatment counselling on the discontinuation rates in chinese women given depomedroxy progesterone acetate for contraception. Contraception. 1996;53(6):357–61.

33. Cetina TECD,Canto P LM. Effect of counseling to improve compliance in Mexican women receiving depot-medroxy progesterone acetate. Contraception. 2001;63VI(3):143–6.

PROFORMA

Name:

Age: OPD No:

Parity :

Educational status:

Occupation :

Menstrual History: L.M.P

Obstetric History:

Contraceptive History:

Past History:

Medical : Diabetes, Hypertension, Renal disease, Cardiac illness,liver disease, MI /Stroke /Migraine

Past surgical history:

Family history:

H/O Diabetes, hypertension , liver disease,

Personal history:

General examination:

Weight:

Height:

BMI:

Systemic Examination:

Cardio vascular system:

Respiratory system:

Per abdomen:

Per Vaginal:

Date of first dose taken :

Date of second dose :

Date of third dose :

Date of fourth dose:

Side effect :

Reason for Discontinuation :

INFORMATION SHEET

TITLE:

"Study of effectiveness of Depot medroxyprogesterone acetate (DMPA) in postnatal and postabortal period - A prospective study "

Name of the investigator: Dr.L.Kanmani barathi

Name of the Participant:

Purpose of Research: To determine the Effectiveness of DMPA in postnatal and postabortal period

Study Design: Prospective study

Study Population: The study would include postnatal and postabortal women seeking contraception not under any other methods of contraception

Possible Risks: No risks to the patient

Confidentiality of the Information obtained from you: The privacy of the patients in the research will be maintained throughout the study.
In the event of any publication or presentation resulting from the research, no personally identifiable information will be shared.

Can you decide to stop participating in the study?
Taking part in this study is voluntary. You are free to decide whether to participate in this study or to withdraw at anytime.

How will your decision to not participate in the study affect you?
Your decision will not result in any loss of benefits to which you are otherwise entitled.

Signature of the investigator signature of the participant

Date:
Place:

PATIENT CONSENT FORM:

Patient may check **( )** these boxes:

( ) I confirm that I have understood the purpose of procedure for the above study. I have the opportunity to ask questions and all my questions and doubts have been answered to my complete satisfaction.

( ) I understand that my participation in the study is voluntary and that I am free to withdraw at anytime without giving reason, without my legal rights being affected.

( ) I understand that sponsor of the clinical study, others working on the sponsor's behalf, the Ethics committee and the regulatory authorities will not need my permission to look at my health records, both in respect of current study and any further research that maybe conducted in relation to it, even if I withdraw from the study I agree to this access.

( ) However, I understand that my identity will not be revealed in any information released to third parties or published, unless as required under the law. I agree not to restrict the use of any data or results that arise from this study.

Study title:
"Study of effectiveness of Depot medroxy progesterone acetate in postnatal and postabortal period -A Prospective study"

Study Centre: MMC, Chennai.

Patient's Name:

Patient's Age:

In/Out Patient Number:

I agree to take part in the above study and to comply with the instructions given during the study and faithfully cooperate with the study team and to immediately in form the study staff if I suffer from any deterioration in my health or well being or any unexpected or unusual symptoms.
I hereby consent to participate in this study.
I hereby give permission to undergo complete clinical examination and diagnostic tests including hematological, biochemical, radiological tests and to undergo treatment.

Signature/Thumb impression of the patient

Patient's Name and Address:

Signature of Investigator
(Dr.L.Kanmani barathi)

அனுமதியுடனான ஒப்புதல் படிவம்

-இந்தஆய்விற்கான செயல்முறையின் நோக்கத்தை நான் புரிந்துள்ளேன் என்பதை உறுதிப்படுத்துகிறேன். எனக்கு கேள்விகளை கேட்க வாய்ப்பு உள்ளது. என்னுடைய எல்லா கேள்விகளும் சந்தேகங்களும் என் முழுதிருப்திக்கு பதில் அளித்துள்ளன.

-ஆய்வில் எனது பங்கேற்பு தன்னார்வமாக இருப்பதையும், என் சட்ட உரிமைகள் பாதிக்கப்படாமல், காரணத்தைத் தெரிவிக்காமல் எப்போது வேண்டுமானாலும் விலக்கிக்கொள்ளலாம் என்பதையும் நான் புரிந்து கொள்கிறேன்.

-ஆய்வில் இருந்து நான் விலகி வந்தாலும் கூட, ஆராய்ச்சிக்கு பொருந்தக்கூடிய என் உடல்நல ஆவணங்களைப் பார்க்க என் நெறிமுறைக்குழு மற்றும் ஒழுங்குமுறை அதிகாரிகளுக்கு எனது அனுமதி தேவையில்லை என்பதை நான் புரிந்துகொள்கிறேன். இந்த அணுகலை நான் ஏற்கிறேன்.

இருப்பினும், சட்டத்தின் கீழ் தேவைப்பட்டாலன்றி, மூன்றாம் தரப்பினருக்கு வெளியிடப்பட்ட அல்லது வெளியிட்ட எந்த தகவலிலும் என் அடையாளத்தை வெளிப்படுத்த முடியாது என்பதை நான் புரிந்துகொள்கிறேன். இந்த ஆய்விலிருந்து எழும் எந்தவொரு தரவு அல்லது முடிவுகளின் பயன்பாட்டைக் கட்டுப்படுத்துவதை நான் ஏற்றுக்கொள்கிறேன்.

மேலே உள்ள படிப்பில் கலந்து கொள்ளவும், ஆய்வின் போது கொடுக்கப்பட்ட அறிவுறுத்தல்களுக்கு இணங்கவும், ஆய்வுக்குழுவோடு ஒத்துழைக்கவும், என் உடல்நலம் அல்லது நலம் அல்லது எந்தவொரு எதிர்பாராத அல்லது அசாதாரண அறிகுறிகளிலும் நான் பாதிக்கப்படுகையில் உடனடியாக ஆய்வு ஊழியர்களுக்கு தெரிவிக்கவும், இந்தஆய்வில் பங்கேற்க ஒப்புக்கொள்கிறேன்.
நான் இதனுடன் முழுமையான மருத்துவ பரிசோதனை மற்றும் நோயறிதல் சோதனைகள் இரத்தம், உயிர்வேதியியல், கதிரியக்கசோதனைகள் உட்பட சிகிச்சைக்கு உட்படுத்த அனுமதிக்கிறேன்.

ஆய்வுதலைப்பு:
ஆய்வுமையம்: எம்.எம்.சி, சென்னை
பங்கேற்பாளரின்பெயர்:
பங்கேற்பாளரின்வயது:
நோயாளிஎண்:

நோயாளியின்கையொப்பம்
நோயாளியின் பெயர் மற்றும் முகவரி: ஆராய்ச்சியாளரின் கையொப்பம்

INSTITUTIONAL ETHICS COMMITTEE
MADRAS MEDICAL COLLEGE, CHENNAI 600 003

EC Reg.No.ECR/270/Inst./TN/2013/RR-16
Telephone No.044 25305301
Fax: 011 25363970

CERTIFICATE OF APPROVAL

To
Dr.L.KANMANI BARATHI,
Post Graduate – MS (Obstetrics and Gynaecology),
Madras Medical College,
Chennai - 600003.

Dear Dr. L.KANMANI BARATHI,

The Institutional Ethics Committee has considered your request and approved your study titled **"STUDY OF EFFECTIVENESS OF DEPOT MEDROXYPROGESTERONE ACETATE (DMPA) IN POSTNATAL AND POST ABORTAL PERIOD – A PROSPECTIVE STUDY"- NO.30112020.** The following members of Ethics Committee were present in the meeting held on **03.11.2020** conducted at Madras Medical College, Chennai 3.

1. Prof.P.V.Jayashankar :Chairperson
2. Prof.N.Gopalakrishnan,MD.,DM., FRCP, Director, Inst.of Nephrology,MMC,Ch : Member Secretary
3. Prof. K.M.Sudha, Prof. Inst. of Pharmacology,MMC,Ch-3 : Member
4. Prof. Alagarsamy Jamila ,MD, Inst. of Patholoy, MMC, Ch-3 : Member
5. Prof.Rema Chandramohan,Prof.of Paediatrics,ICH,Chennai : Member
6. Prof.S.Lakshmi, Prof. of Paediatrics ICH Chennai :Member
7. Tmt.Arnold Saulina, MA.,MSW., :Social Scientist
8. Thiru S.Govindasamy, BA.,BL,High Court,Chennai : Lawyer
9. Thiru K.Ranjith, Ch- 91 : Lay Person

We approve the proposal to be conducted in its presented form.

The Institutional Ethics Committee expects to be informed about the progress of the study and SAE occurring in the course of the study, any changes in the protocol and patients information/informed consent and asks to be provided a copy of the final report.

Member Secretary – Ethics Committee

MEMBER SECRETARY
INSTITUTIONAL ETHICS COMMITTEE
MADRAS MEDICAL COLLEGE
CHENNAI-600 003.

PLAGIARISM CERTIFICATE

This is to certify that this dissertation work titled **"STUDY OF EFFECTIVENESS OF DEPOT MEDROXY PROGESTERONE ACETATE(DMPA) IN POSTNATAL AND THE POSTABORTAL PERIOD"** of the candidate **DR.L.KANMANI BARATHI** with registration number **221916867** for the award of **M.D OBSTETRICS AND GYNECOLOGY (BRANCH II)**. I personally verified that the urkund.com website for the purpose of checking plagiarism. I found that the uploaded thesis file contains contents from introduction to conclusion and result shows 2 **%** of plagiarism in the dissertation.

Guide & Supervisor sign with seal

Place : Chennai

Date :

Dr.VIJAYA, M.D DGO,

Professor,

Institute of Obstetrics and Gynaecology

Egmore, Chennai – 600 008

Curiginal

Document Information

Analyzed document	Kanmani DMPA.docx (D123742895)
Submitted	2021-12-28T06:13:00.0000000
Submitted by	L.Kanmani barathi
Submitter email	dr.kanmanimalan@gmail.com
Similarity	2%
Analysis address	dr.kanmanimalan.mgrmu@analysis.urkund.com

Sources included in the report

SA	**Tamil Nadu Dr. M.G.R. Medical University / thesis_report_shrimathi.docx** Document thesis_report_shrimathi.docx (D123729916) Submitted by: rmshreee@gmail.com Receiver: rmshreee.mgrmu@analysis.urkund.com	3
W	URL: https://www.iosrjournals.org/iosr-jdms/papers/Vol14-issue2/Version-5/Q014257478.pdf Fetched: 2021-12-28T06:13:17.5200000	4
W	URL: https://www.ijrcog.org/index.php/ijrcog/article/view/9460 Fetched: 2021-12-28T06:13:30.2970000	2

S.No	Name	Age	Time of insertion	Parity	Education	Occupation	SES	No of injections	Sideeffects	Compliance	discontinuation rate
1	Lavanya	21	Postnatal	Primigravida	Primary	Employed	Upper middle class	1	Amennorhoea	Loss to follow u	After 1st
2	Abirami	22	Postnatal	Primigravida	Primary	Employed	Upper middle class	1	Amennorhoea	Loss to follow u	After 1st
3	Datchayini	23	Postnatal	Primigravida	Primary	Employed	Upper middle class	1	Amennorhoea	Loss to follow u	After 1st
4	Shama begum	24	Postnatal	Primigravida	Primary	Employed	Upper middle class	1	Amennorhoea	Loss to follow u	After 1st
5	Suriyalakshmi	25	Postnatal	Primigravida	Primary	Employed	Upper middle class	1	Amennorhoea	Loss to follow u	After 1st
6	nirmala	24	Postnatal	Primigravida	Primary	Employed	Upper middle class	1	Amennorhoea	Loss to follow u	After 1st
7	Sujatha	25	Postnatal	Primigravida	Primary	Employed	Upper middle class	1	Amennorhoea	Loss to follow u	After 1st
8	Nancy	23	Postnatal	Primigravida	Primary	Employed	Lower middle class	1	Amennorhoea	Loss to follow u	After 1st
9	Azhagimeena	24	Postnatal	Primigravida	Primary	Employed	Lower middle class	1	Irregular bleeding	Loss to follow u	After 1st
10	Reeta	24	Postnatal	Primigravida	Primary	Employed	Lower middle class	1	Weight gain	Loss to follow u	After 1st
11	Priya	25	Postnatal	Primigravida	Primary	Employed	Lower middle class	1	Weight gain	Loss to follow u	After 1st
12	Preetha	27	Postnatal	Primigravida	Primary	Employed	Lower middle class	1	Weight gain	Loss to follow u	After 1st
13	Shabana yasmin	27	Postnatal	Primigravida	Primary	Employed	Lower middle class	1		Loss to follow u	After 1st
14	Sherin	27	Postnatal	Primigravida	Primary	Employed	Lower middle class	2		Loss to follow u	After 2 nd
15	Priya	27	Postnatal	Primigravida	Primary	Employed	Lower middle class	2		Loss to follow u	After 2 nd
16	Subha	27	Postnatal	Primigravida	Primary	Employed	Lower middle class	2		Loss to follow u	After 2 nd
17	Pintudevi	27	Postnatal	Primigravida	Primary	Employed	Lower middle class	2		Loss to follow up	
18	Meena	27	Postnatal	Primigravida	Primary	Employed	Lower middle class	2		Loss to follow up	
19	Preetha devi	27	Postnatal	Primigravida	Primary	Employed	Lower middle class	2		followup	
20	Nandhinin	27	Postnatal	Primigravida	Primary	Employed	Lower middle class	2		followup	
21	Devi	27	Postnatal	Primigravida	Primary	Employed	Lower middle class	3		Loss to follow u	After 3rd
22	Sherin	28	Postnatal	Primigravida	Primary	Employed	Lower middle class	3		Loss to follow u	After 3rd
23	shanthakumari	28	Postnatal	Primigravida	Primary	Employed	Lower middle class	3		followup	
24	Jeyalakshmi	28	Postnatal	Primigravida	Primary	Employed	Lower middle class	3		followup	
25	Kumareshwari	28	Postnatal	Primigravida	Primary	Employed	Lower middle class	3		followup	
26	Jeyanthi	28	Postnatal	Primigravida	Primary	Employed	Lower middle class	3		followup	
27	Shanthi	28	Postnatal	Primigravida	Primary	Employed	Lower middle class	3		followup	
28	Srimathi	28	Postnatal	Primigravida	Primary	Employed	Lower middle class	3		followup	
29	Salima	28	Postnatal	Primigravida	Primary	Employed	Lower middle class	3		followup	
30	Ambika	28	Postnatal	Primigravida	Primary	Employed	Lower middle class	3		followup	
31	revathy	28	Postnatal	Primigravida	Primary	Employed	Lower middle class	3		followup	

32	Padmavathy	26	Postnatal	Primigravida	Primary	Employed	Lower middle class	3		followup	
33	Soniya	26	Postnatal	Primigravida	Primary	Employed	Lower middle class	3		followup	
34	Mallika	26	Postnatal	Primigravida	Primary	Employed	Lower middle class	3		followup	
35	Deepika	26	Postnatal	Primigravida	Primary	Employed	Lower middle class	3		followup	
36	Dhivya	26	Postnatal	Multigavida	Primary	Employed	Lower middle class	3		followup	
37	Preetha	26	Postnatal	Multigavida	Primary	Employed	Lower middle class	3		followup	
38	shanthakumari	26	Postnatal	Multigavida	Primary	Employed	Lower middle class	3		followup	
39	Vasumathi	26	Postnatal	Multigavida	Primary	Employed	Lower middle class	3		followup	
40	Kalpana	26	Postnatal	Multigavida	Primary	Employed	Lower middle class	3		followup	
41	Valarmathi	26	Postnatal	Multigavida	Primary	Employed	Lower middle class	3		followup	
42	Dowlath nisha	29	Postnatal	Multigavida	Primary	Employed	Lower middle class	3		followup	
43	Swetha	29	Postnatal	Multigavida	Primary	Employed	Lower middle class	3		followup	
44	Vennila	29	Postnatal	Multigavida	Primary	Employed	Lower middle class	3		followup	
45	Jeya	29	Postnatal	Multigavida	Primary	Employed	Lower middle class	3		followup	
46	Shanthimalar	29	Postnatal	Multigavida	Primary	Employed	Lower middle class	3		followup	
47	Dhivyapriya	29	Postnatal	Multigavida	Primary	Employed	Lower middle class	3		followup	
48	Sweety	29	Postnatal	Multigavida	Primary	Employed	Lower middle class	3		followup	
49	Nalini	29	Postnatal	Multigavida	Primary	Employed	Lower middle class	>3		followup	
50	Priya	29	Postnatal	Multigavida	Primary	Employed	Lower middle class	>3		followup	
51	Rajakumari	29	Postnatal	Multigavida	Primary	Employed	Lower middle class	>3		followup	
52	Thamarai	30	Postnatal	Multigavida	Primary	Employed	Lower middle class	>3		followup	
53	Vijayalakshmi	30	Postnatal	Multigavida	Primary	Employed	Lower middle class	>3		followup	
54	Kanimozhi	30	Postnatal	Multigavida	Primary	Employed	Lower middle class	>3		followup	
55	Shanthimani	30	Postnatal	Multigavida	Primary	Employed	Lower middle class	>3		followup	
56	Sridevi	30	Postnatal	Multigavida	Primary	Employed	Lower middle class	>3		followup	
57	salma rani	30	Postnatal	Multigavida	Primary	Employed	Lower middle class	>3		followup	
58	Anjana	30	Postnatal	Multigavida	Primary	Employed	Lower middle class	>3		followup	
59	Bhavani	30	Postnatal	Multigavida	Primary	Employed	Lower middle class	>3		followup	
60	ramya	30	Postnatal	Multigavida	Primary	Employed	Lower middle class	>3		followup	
61	selvi	30	Postnatal	Multigavida	Primary	Employed	Lower middle class	>3		followup	
62	tamilarasi	27	Postnatal	Multigavida	Primary	Employed	Lower middle class	>3		followup	
63	vijayapriya	27	Postnatal	Multigavida	Primary	Employed	Lower middle class	>3		followup	
64	Deepa	28	Postnatal	Multigavida	Primary	Employed	Lower middle class	>3		followup	
65	Subathra	29	Postnatal	Multigavida	Primary	Employed	Lower middle class	>3		followup	
66	Priyadharshini	32	Postnatal	Multigavida	Primary	Employed	Lower middle class	>3		followup	
67	Keerthana	32	Postnatal	Multigavida	Primary	Employed	Lower middle class	>3		followup	

68	Muthurathy	32	Postnatal	Multigavida	Primary	Employed	Lower middle class	>3		followup	
69	Shakilabanu	32	Postnatal	Multigavida	Primary	Employed	Lower middle class	>3		followup	
70	Monika	32	Postnatal	Multigavida	Primary	Employed	Lower middle class	>3		followup	
71	Jeyapriya	31	Postnatal	Multigavida	Primary	Employed	Lower middle class	>3		followup	
72	Archanadevi	31	Postnatal	Multigavida	Primary	Employed	Lower middle class	>3		followup	
73	Kaveri	31	Postnatal	Multigavida	Primary	Employed	Lower middle class	>3		followup	
74	Anandhi	31	Postnatal	Multigavida	Primary	Employed	Lower middle class	>3		followup	
75	Suganthi	31	Postnatal	Multigavida	Primary	Employed	Lower middle class	>3		followup	
76	Amutha	33	Postnatal	Multigavida	Primary	Employed	Lower middle class	>3		followup	
77	Preethi	33	Postnatal	Multigavida	Primary	Employed	Lower middle class	>3		followup	
78	Sangeetha	33	Postnatal	Multigavida	Primary	Employed	Lower class	>3		followup	
79	Mary	33	Postnatal	Multigavida	Primary	Employed	Lower class	>3		followup	
80	Devi	33	Postnatal	Multigavida	Primary	Employed	Lower class	>3		followup	
81	Latha	34	Postnatal	Multigavida	Primary	Employed	Lower class	>3		followup	
82	Yogalakshmi	34	Postnatal	Multigavida	Primary	Employed	Lower class	>3		followup	
83	Sindhu	34	Postnatal	Multigavida	Primary	Employed	Lower class	>3		followup	
84	Poomathi	34	Postnatal	Multigavida	Primary	Employed	Lower class	>3		followup	
85	Kavitha	34	Postnatal	Multigavida	Primary	Employed	Lower class	>3		followup	
86	Lakshmi	35	Postnatal	Multigavida	Primary	Employed	Lower class	>3		followup	
87	Sherin	35	Postnatal	Multigavida	Primary	Employed	Lower class	>3		followup	
88	Shailabanu	35	Postnatal	Multigavida	Primary	Employed	Lower class	>3		followup	
89	Kamatchi	35	Postnatal	Multigavida	Primary	Employed	Lower class	>3		followup	
90	Subha	35	Postnatal	Multigavida	Primary	Employed	Lower class	>3		followup	
91	dhanalakshmi	36	Postnatal	Multigavida	Seconary	Unemployed	Lower class	>3		followup	
92	Vanitha	36	Postnatal	Multigavida	Seconary	Unemployed	Lower class	>3		followup	
93	Saranya	36	Postnatal	Multigavida	Seconary	Unemployed	Lower class	>3		followup	
94	Thasmeen	36	Postnatal	Multigavida	Seconary	Unemployed	Lower class	>3		followup	
95	Ambidevi	37	Postnatal	Multigavida	Seconary	Unemployed	Lower class	>3		followup	
96	Vishali	37	Postnatal	Multigavida	Seconary	Unemployed	Lower class	>3		followup	
97	Nithya	37	Postnatal	Multigavida	Seconary	Unemployed	Lower class	>3		followup	
98	Sujitha	38	Postnatal	Multigavida	Seconary	Unemployed	Lower class	>3		followup	
99	Siddiqparveen	38	Postnatal	Multigavida	Seconary	Unemployed	Lower class	>3		Loss to follow u	After 4 th
100	Reehal	39	Postnatal	Multigavida	Seconary	Unemployed	Lower class	>4		Loss to follow u	After 5 th

Reason for discontinuation	Name PA	AgePA	Time of insertionPA	Parity	Education	Occupation	SES	No of injections	Sideeffects	Compliance	discontinuation rate	Reason for discontinuation
Sideeffects		21	Postabortal	Primigravi	Primary	Employed	Upper middle	1	Amennorhoea	Loss to followup	After 1st	Side effects
Sideeffects	NILLA	21	Postabortal	Primigravi	Primary	Employed	Upper middle	1	Amennorhoea	Loss to followup	After 1st	Side effects
Sideeffects	KARTHIGA	21	Postabortal	Primigravi	Primary	Employed	Upper middle	1	Amennorhoea	Loss to followup	After 1st	Side effects
Sideeffects	PARASAKTHI	21	Postabortal	Primigravi	Primary	Employed	Upper middle	1	Amennorhoea	Loss to followup	After 1st	Side effects
Sideeffects	THANGAM	21	Postabortal	Primigravi	Primary	Employed	Upper middle	1	Amennorhoea	Loss to followup	After 1st	Side effects
Sideeffects	MATHI	22	Postabortal	Primigravi	Primary	Employed	Upper middle	1	Amennorhoea	Loss to followup	After 1st	Side effects
Sideeffects	KAYAL	22	Postabortal	Primigravi	Primary	Employed	Upper middle	1	Amennorhoea	Loss to followup	After 1st	Side effects
Sideeffects	BRINDA	22	Postabortal	Primigravi	Primary	Employed	Upper middle	1	Amennorhoea	Loss to followup	After 1st	Side effects
Sideeffects	DHIVYA	22	Postabortal	Primigravi	Primary	Employed	Upper middle	1	Amennorhoea	Loss to followup	After 1st	Side effects
Sideeffects	INDHRA	22	Postabortal	Primigravi	Primary	Employed	Upper middle	1	Amennorhoea	Loss to followup	After 1st	Side effects
Sideeffects	RATHI	23	Postabortal	Primigravi	Primary	Employed	Upper middle	1	Irregular bleeding	Loss to followup	After 1st	Side effects
Sideeffects	VICKY	23	Postabortal	Primigravi	Primary	Employed	Lower middle	1	Irregular bleeding	Loss to followup	After 1st	Side effects
Missed injection date	VIDHYA	23	Postabortal	Primigravi	Primary	Employed	Lower middle	1	Weight gain	Loss to followup	After 1st	Side effects
Missed injection date	SENTHILARASI	23	Postabortal	Primigravi	Primary	Employed	Lower middle	1	Weight gain	Loss to followup	After 1st	Side effects
Missed injection date	YAMUNA	23	Postabortal	Primigravi	Primary	Employed	Lower middle	1	Weight gain	Loss to followup	After 1st	Side effects
Planning pregnancy	KRITHIGA	24	Postabortal	Primigravi	Primary	Employed	Lower middle	1	Weight gain	Loss to followup	Afer 2nd	Side effects
Planning pregnancy	SAMEEYA	24	Postabortal	Primigravi	Primary	Employed	Lower middle	1	Weight gain	Loss to followup	Afer 2nd	Side effects
Changed contraception	RUBA	24	Postabortal	Primigravi	Primary	Employed	Lower middle	1	Weight gain	Loss to followup	Afer 2nd	Side effects
	ISHWARYA	24	Postabortal	Primigravi	Primary	Employed	Lower middle	1	Weight gain	Loss to followup	Afer 2nd	Side effects
	DEEPA	24	Postabortal	Primigravi	Primary	Employed	Lower middle	1	No	Loss to followup	Afer 2nd	Planning pregnancy
Planning pregnancy	DEVI	25	Postabortal	Primigravi	Primary	Employed	Lower middle	2	No	Loss to followup	Afer 2nd	Missed injection date
Planning pregnancy	KALAIARASSI	25	Postabortal	Primigravi	Primary	Employed	Lower middle	2	No	Loss to followup	Afer 2nd	Missed injection date
	KANAGA	25	Postabortal	Primigravi	Primary	Employed	Lower middle	2	No	Loss to followup	After 3rd	Missed injection date
	GANDHIMATHI	25	Postabortal	Primigravi	Primary	Employed	Lower middle	2	No	Loss to followup	After 3rd	Missed injection date
	MAHUMITHA	25	Postabortal	Primigravi	Primary	Employed	Lower middle	2	No	Loss to followup	After 4th	Missed injection date
	MUTHAMMA	21	Postabortal	Primigravi	Primary	Employed	Lower middle	2	No	Loss to followup	After 4th	Missed injection date
	SRIDEVI	21	Postabortal	Primigravi	Primary	Employed	Lower middle	2	No	Loss to followup	After 5th	Changed contraceptive
	PRIYA	21	Postabortal	Primigravi	Primary	Employed	Lower middle	3	No	followup		
	SEETHA	21	Postabortal	Primigravi	Primary	Employed	Lower middle	3	No	followup		
	SANGEETHA	23	Postabortal	Primigravi	Primary	Employed	Lower middle	3	No	followup		
	SAVEETHA	21	Postabortal	Primigravi	Primary	Employed	Lower middle	3	No	followup		

	LAKSHMI	23	Postabortal	Primigravi	Primary	Employed	Lower middle	3	No	followup		
	GAYATHRI	22	Postabortal	Primigravi	Primary	Employed	Lower middle	3	No	followup		
	SHEELA	24	Postabortal	Primigravi	Primary	Employed	Lower middle	3	No	followup		
	JENNIFER	21	Postabortal	Primigravi	Primary	Employed	Lower middle	3	No	followup		
	NARMATHA	21	Postabortal	Primigravi	Primary	Employed	Lower middle	3	No	followup		
	NIVETHA	21	Postabortal	Primigravi	Primary	Employed	Lower middle	3	No	followup		
	UMA	21	Postabortal	Primigravi	Primary	Employed	Lower middle	3	No	followup		
	MAHESHWARI	21	Postabortal	Primigravi	Primary	Employed	Lower middle	3	No	followup		
	SUCHITHRA	21	Postabortal	Primigravi	Primary	Employed	Lower middle	3	No	followup		
	SUJATHA	21	Postabortal	Primigravi	Primary	Employed	Lower middle	3	No	followup		
	ABINAYA	21	Postabortal	Primigravi	Primary	Employed	Lower middle	3	No	followup		
	PREMA	21	Postabortal	Primigravi	Primary	Employed	Lower middle	3	No	followup		
	SUDHA	21	Postabortal	Primigravi	Primary	Employed	Lower middle	3	No	followup		
	AISHWARYA	23	Postabortal	Primigravi	Primary	Employed	Lower middle	3	No	followup		
	SUJA	23	Postabortal	Primigravi	Primary	Employed	Lower middle	3	No	followup		
	BHARATHI	23	Postabortal	Primigravi	Primary	Employed	Lower middle	3	No	followup		
	VENPA	23	Postabortal	Primigravi	Primary	Employed	Lower middle	3	No	followup		
	ANJALI	23	Postabortal	Primigravi	Primary	Employed	Lower middle	3	No	followup		
	KANNAMA	23	Postabortal	Primigravi	Primary	Employed	Lower middle	3	No	followup		
	CHARU	23	Postabortal	Primigravi	Primary	Employed	Lower middle	3	No	followup		
	LATHA	23	Postabortal	Primigravi	Primary	Employed	Lower middle	3	No	followup		
	INITHA	23	Postabortal	Primigravi	Primary	Employed	Lower middle	>3	No	followup		
	REKA	23	Postabortal	Primigravi	Primary	Employed	Lower middle	>3	No	followup		
	REVATHI	22	Postabortal	Primigravi	Primary	Employed	Lower middle	>3	No	followup		
	PANIMALAR	22	Postabortal	Primigravi	Primary	Employed	Lower middle	>3	No	followup		
	ANUPAMA	22	Postabortal	Primigravi	Primary	Employed	Lower middle	>3	No	followup		
	ALAMELU	22	Postabortal	Primigravi	Primary	Employed	Lower middle	>3	No	followup		
	AMALYA	22	Postabortal	Multigravi	Primary	Employed	Lower middle	>3	No	followup		
	SONA	22	Postabortal	Multigravi	Primary	Employed	Lower middle	>3	No	followup		
	VAIDHEKI	22	Postabortal	Multigravi	Primary	Unemployed	Lower middle	>3	No	followup		
	VAISHALI	22	Postabortal	Multigravi	Primary	Unemployed	Lower middle	>3	No	followup		
	INDHU	22	Postabortal	Multigravi	Primary	Unemployed	Lower middle	>3	No	followup		
	BHUVANA	22	Postabortal	Multigravi	Primary	Unemployed	Lower middle	>3	No	followup		
	VIDHYA	22	Postabortal	Multigravi	Primary	Unemployed	Lower middle	>3	No	followup		
	RAMYA	22	Postabortal	Multigravi	Primary	Unemployed	Lower middle	>3	No	followup		
	NIVETHA	22	Postabortal	Multigravi	Primary	Unemployed	Lower middle	>3	No	followup		

	PAVITHRA	24	Postabortal	Multigravi	Primary	Unemployed	Lower middle (	>3	No	followup		
	VASUKI	24	Postabortal	Multigravi	Primary	Unemployed	Lower middle (	>3	No	followup		
	VIJIYA	24	Postabortal	Multigravi	Primary	Unemployed	Lower middle (	>3	No	followup		
	VIJI	24	Postabortal	Multigravi	Primary	Unemployed	Lower middle (	>3	No	followup		
	VIMALA	24	Postabortal	Multigravi	Primary	Unemployed	Lower middle (	>3	No	followup		
	MALA	24	Postabortal	Multigravi	Primary	Unemployed	Lower middle (	>3	No	followup		
	SUMITHA	24	Postabortal	Multigravi	Primary	Unemployed	Lower middle (	>3	No	followup		
	RENUKA	25	Postabortal	Multigravi	Primary	Unemployed	Lower middle (	>3	No	followup		
	SOPHIA	25	Postabortal	Multigravi	Primary	Unemployed	Lower middle (	>3	No	followup		
	SANGEETHA	25	Postabortal	Multigravi	Primary	Unemployed	Lower middle (	>3	No	followup		
	DIANA	25	Postabortal	Multigravi	Primary	Unemployed	Lower middle (	>3	No	followup		
	TAMILKHANI	25	Postabortal	Multigravi	Primary	Unemployed	Lower middle (	>3	No	followup		
	KALPANA	25	Postabortal	Multigravi	Primary	Unemployed	Lower middle (	>3	No	followup		
	HINDHUMATHI	25	Postabortal	Multigravi	Primary	Unemployed	Lower class	>3	No	followup		
	JEYASRI	31	Postabortal	Multigravi	Primary	Unemployed	Lower class	>3	No	followup		
	DURGA	31	Postabortal	Multigravi	Primary	Unemployed	Lower class	>3	No	followup		
	DEEPA	31	Postabortal	Multigravi	Primary	Unemployed	Lower class	>3	No	followup		
	EZHILI	32	Postabortal	Multigravi	Primary	Unemployed	Lower class	>3	No	followup		
	THAMILINI	32	Postabortal	Multigravi	Primary	Unemployed	Lower class	>3	No	followup		
	SHANTHI	32	Postabortal	Multigravi	Secondary	Unemployed	Lower class	>3	No	followup		
	SARANYA	33	Postabortal	Multigravi	Secondary	Unemployed	Lower class	>3	No	followup		
	SARADHA	33	Postabortal	Multigravi	Secondary	Unemployed	Lower class	>3	No	followup		
	RADHAI	33	Postabortal	Multigravi	Secondary	Unemployed	Lower class	>3	No	followup		
	KODHAI	34	Postabortal	Multigravi	Secondary	Unemployed	Lower class	>3	No	followup		
	JAYAKUMARI	34	Postabortal	Multigravi	Secondary	Unemployed	Lower class	>3	No	followup		
	SHEELA	34	Postabortal	Multigravi	Secondary	Unemployed	Lower class	>3	No	followup		
	SELVI	35	Postabortal	Multigravi	Secondary	Unemployed	Lower class	>3	No	followup		
	KALYANI	35	Postabortal	Multigravi	Secondary	Unemployed	Lower class	>3	No	followup		
	KARPAGAM	35	Postabortal	Multigravi	Secondary	Unemployed	Lower class	>3	No	followup		
	LIZZY	33	Postabortal	Multigravi	Secondary	Unemployed	Lower class	>3	No	followup		
	SUGUMARI	32	Postabortal	Multigravi	Secondary	Unemployed	Lower class	>3	No	followup		
Missed injection date	SANGEETHA	36	Postabortal	Multigravi	Secondary	Unemployed	Lower class	>3	No	followup		
Missed injection date	MANOBALA	37	Postabortal	Multigravi	Secondary	Unemployed	Lower class	>3	No	followup		