

**PROSPECTIVE ANALYTICAL STUDY ON THE  
MEDICAL TERMINATION OF PREGNANCIES  
IN A TERTIARY CARE CENTRE.**

**M.S. (OBSTETRICS AND GYNAECOLOGY)  
DEGREE EXAMINATION  
BRANCH – II**



**MADURAI MEDICAL COLLEGE  
THE TAMIL NADU DR. M.G.R. MEDICAL UNIVERSITY  
CHENNAI**

**APRIL – 2013**

## **CERTIFICATE**

This is to certify that this dissertation entitled “**PROSPECTIVE ANALYTICAL STUDY ON THE MEDICAL TERMINATION OF PREGNANCIES IN A TERTIARY CARE CENTRE**” is a bonafide record of the work done by Dr. S. Gayathrie Devi under my supervision and guidance in the department of Obstetrics and gynaecology at Government Rajaji Hospital of Madurai Medical College, Madurai during the period of her post graduate study from May 2011 to April 2013 for the partial fulfillment of M.S. (Branch II - Obstetrics and gynaecology) degree.

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## **DECLARATION**

I, Dr. S. Gayathrie Devi, hereby declare that, I carried out this work on **“PROSPECTIVE ANALYTICAL STUDY ON THE MEDICAL TERMINATION OF PREGNANCIES IN A TERTIARY CARE CENTRE”** at the Department of Obstetrics and gynaecology, Government Rajaji Hospital, Madurai, under the guidance of Prof. **Dr. P. ANGAYARKANNI M.D., (OG), DCH.**, during the period of November 2011 to October 2012. I also declare that this bonafide work has not been submitted in part or full by me or any others for any award, degree or diploma to any other university or board either in India or abroad.

This is submitted to the Tamilnadu DR. M.G.R. Medical University, Chennai in partial fulfillment of the rules and regulations for the M.S degree examination in Obstetrics and Gynaecology (branch II) to be held in April 2013.

Place:  
Date:

**DR. S. GAYATHRIE DEVI**

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## INTRODUCTION

Medical termination of pregnancy (MTP) is defined as termination of pregnancy before the fetus becomes viable (<20 weeks). Unlike spontaneous abortion that occurs without any interventions, MTP is known to be induced either by medical or surgical interventions for various reasons based on social, eugenic, medical and humanitarian conditions (The MTP act of 1971).

Conditions are as follows

1. Social cause includes unintended pregnancies in low socioeconomic status, contraceptive/sterilisation failures<sup>1</sup> and families not able to afford more children.
2. Medical where the continuation of pregnancy may endanger the life of the pregnant women<sup>2</sup> or cause grave injury to her physical and mental health
3. Eugenic where the risk of child being born with physical and mental abnormalities<sup>3</sup>
4. Humanitarian where the pregnancy caused by rape<sup>4</sup>.

Various medical and surgical methods are available for MTP all over the country. More commonly, medical method involving induction of



abortion with Mifepristone and Misoprostol and surgical method involving priming of cervix with misoprostol followed by manual vacuum aspiration or dilatation and curettage (D & C)/ Hysterotomy is under practice <sup>6,7</sup>. These methods mainly depend on the gestational age of the pregnancy (first trimester and second trimester). Techniques for first trimester MTP includes menstrual regulation, vacuum aspiration, suction curettage and dilatation and curettage and techniques for second trimester includes intra amniotic instillation of saline, mannitol and prostaglandins (PG), extra amniotic instillation of PG, ethacrydine lactate / aspirotomy / hysterotomy /hysterectomy.

Though MTP is justified legally as per the MTP act of 1971 it is essential to be performed by well trained and qualified doctors with experience in gynaecology and obstetrics at MTP registered institutions approved by government, as unsafe abortion has been found to increase the maternal mortality drastically. Globally 15% of maternal mortality has been found to be reported due to unsafe abortion. However, in India despite of law, 40-50% of unsafe abortion has been found to be reported. Therefore it is not only essential to provide high quality safe abortion services but also essential to ensure high quality services are made affordable and available to

those women seeking such services. Thus this study is carried out to estimate the incidence of MTP and analyse the causes of MTP and the outcome in a tertiary care center (Government Rajaji Hospital Madurai). This study may provide the baseline measure for safe abortion practices and to increase the awareness among men and women of reproductive age regarding the availability of safe abortion services at the locality.

## **AIMS & OBJECTIVE**

1. To know the incidence of Medical termination of pregnancies in a tertiary level hospital.
2. To study the reasons for seeking MTP
3. To analyse the success of the method of Induction, Induction abortion interval, Adoption of family planning methods.
4. To study the morbidity of the woman who had undergone MTP.

## **REVIEW OF LITERATURE**

Several studies predicting the incidence of induced abortions has been carried out in India and abroad since 1966. As per 1994, the induced abortions was reported to be 6.7 million annually in India (Chabra and Nuna). Abortion rate was reported to be 29/1000 and 26/100 in the developing and developed world respectively<sup>8</sup>. (According to Chabra and Nuna 1994, Mishra et al 1998, in India the no of abortions a women will undergo throughout her reproductive period estimated to be between 1 and 2.6). In ICMR studies carried out between 1983-1984, among the 19/1000 pregnancies terminated 6/1000 were terminated legally and 13/1000 were terminated illegally. Even with the increase in MTP centers, there was no corresponding increase in the number of MTP reported which was due to under reporting (Mathai 1997).

Profile of women seeking abortion carried out by ganguly et al showed that women of all age group seeked induced abortion but majority were in the age group 20-30yrs<sup>9</sup>. Both married and unmarried women seeked Abortion. Majority of married women had a family income of >500 / month. Most of the unmarried women had a family income of <500 / month. Most of the women who underwent MTP were illiterate. Majority of women had 3

children. In those who underwent II trimester abortion majority were unmarried (Avas 1987, Jejeebhoy 1996). Social implication of pregnancy among unmarried women carried out by chowdry et al showed that increased incidence of induced abortion in low socioeconomic group, low educational status, poor residential status. Among married women tendency of abortion is increased more in the parity than with age (Skjeldestal et al) India's II trimester abortion rate increased as evidence given by Chaba and Nuna in 1994. Reasons for the increase in II trimester abortion was initially not recognizing pregnancy and postponing the communicating news to the decision maker and lack of awareness of available services.

Risk to maternal health and contraceptive failure were the leading causes for induced abortion <sup>1,2</sup>. According to ICMR(1989) for adolescent and unmarried women, the confidentiality of the abortion services was particularly crucial and there was delay in access to abortion early. Studies carried out Forest JN et al. showed the adolescent, separated, divorced and widows and women of low socioeconomic group have increased incidence of contraceptive failure compared to married woman of all age group. Considering the personal and social factors for abortion (Barge et al 1997) showed that too many female children, becoming pregnant soon after

marriage and increased cost of rearing a child, to provide basic needs to the existing children were the other important factors. Risk to maternal and fetal health and pregnancy resulting from rape, incest were other factors.

American study has concluded that half of the women at the time of abortion were using a form contraception. Unmarried, rural women, woman of low socioeconomic group, illiterate, those in second trimester of gestation seek self induction more than urban, educated, high socioeconomic group women<sup>10</sup>. Self induction carried out by untrained persons under septic conditions lead to increased morbidity and mortality<sup>11, 12</sup>. Although abortion services were legalized, many women were unaware of the legal procedure and unaware of the conditions under which MTP is undertaken<sup>13,14,15</sup>.

Misconceptions existed about the need of husband's consent for abortion<sup>16</sup>, and the unawareness of pregnancy by unmarried women. MTP Act 1972 had led strict and stringent conditions for undertaking abortions<sup>17</sup>. It emphasized that only trained persons like gynaecologist or physicians who received training in MTP are allowed to do abortion and it also emphasized the place of MTP, like the place approved by the government for this purpose and 2 doctors for performing abortions for second trimester. These criteria

restricted the expansion of registered facilities<sup>18, 19, 20</sup>. But now the Act has decentralized the authorities for MTP and this had led to the abortion services at PHC<sup>21, 22</sup>. But these services are unevenly distributed with facilities more in urban. Also lack of equipment and manpower play a role In PHC there is only one trained M.O and trained doctors do not have much experience<sup>23, 24</sup>.

Khan et al 1999 said that according to national norms all the community health centers, postpartum centers, are expected to provide abortion services. In Tamilnadu 2/3<sup>rd</sup> of the centers provide the services. In Tamilnadu 95% of CHC and sub district hospitals offer MTP. Regarding the morbidity and mortality – 18% of Maternal death result from abortion (office of the Registrar general of India). MMR from unsafe abortions range from 4.5 – 16.9%. Complications from unsafe abortions were pelvic infection, haemorrhage, incomplete abortion, uterine injury and cervical injury (Barge et al 1997). Some cases present with grade III septic abortion, shock, ARF, DIC (Sharma et al 1992). Gas gangrene, tetanus with use of fetex paste were also reported (Mathai 1998)

According to consortium on National consensus for Medical Abortion in Indian, annually 11 million abortions takes place, 20000 women die every year due to abortion related complication and most due illegal abortions.

## History

During the past centuries, induced abortions was considered to be a illegal action in different religions. In Christianity during (1585-90) abortion was considered to be a homicide regardless of the stage of pregnancy<sup>25</sup>. According to Muslims abortion was permitted only upto 120days of conception because they believed that the soul enters the fetus after this period of conception<sup>26</sup>.

Pregnancies were terminated through a number of methods, administration of abortifacient herbs like tanry pennyroyal, black cohosl, silphium (causes multiorgan failure)<sup>27, 28</sup>. Use of sharpened instruments like sticks, herb roots, foreign bodies like pins, laminaria tent and fetex paste and other methods using ayurvedic medicine, (Bandewar Mathai 1998 et al), intramniotic saline and glycerine with iodine were used to induce abortion. Oral drugs like, chloroquine tablets, prostaglandins, high dose progesterone and estrogens, papaya seed, Liquor before distillation, seeds of custard apple and carrots etc were used (Mathai et al) and also used forceful abdominal massage<sup>29</sup>.



Beginning in the 2<sup>nd</sup> half of twentieth century abortion was legalized in a great number of countries<sup>30</sup>. In United States abortion was considered to be more dangerous than childbirth until 1930. Soviet Union (1919) Iceland (1935) and Sweden (1938) were among the first countries to legalise abortion<sup>31</sup>.

## **MTP Act**

MTP Act was approved in India in 1971 and enacted in 1972. This act was amended in 2002. In 2003 MTP rules were further amended. MTP act 1972 had listed the various ground, social, medical humanitarian and eugenic ground for MTP. According to the act, Induced abortions were legalized in women with medical disorders like, hypertension, cardiac disease, diabetes, psychiatric illness, genital and breast cancer, epilepsy under strict guidelines. These guidelines extended to pregnancies caused by rape or incest and the risk of child being born with anomalies and social grounds like socioeconomic class, sterilisation and contraceptive failure (United Nation 1993).

Though abortion legalized in above said conditions according to MTP act of 1972, it must be strictly performed by a registered physician within first 20 wks of pregnancy in a hospital established or maintained by the

government (Mathai 1998). As per amendments made in 2003, facilities including the operation tables, instrument for performing surgeries, Anaesthetic equipment Resuscitation and strict sterillisation procedure required for II second trimester abortion. For first trimester abortion the requirements are gynaecologic or labour table, resuscitation and sterilisation and not anaesthetic equipments. This enables the practioner to provide surgical abortion in case of failed or incomplete abortion <sup>32</sup>.

Thus the guidelines of MTP Act Documented patients age, gestational maturity and the indication for MTP. It insisted essential investigations, Hemoglobin %, Routine urine, Blood grouping and typing and ultrasonogram (Fig 1,2). Opinion of one medical practitioner for first trimester and opinion of two medical practioners for second trimester.

To be performed by a registered medical practitioner approved for undertaking MTP in a place recognized under the act Documenting Form I, Form II and Admission Register.

### **Type of Abortion – They are of two types**

They are induced abortion and spontaneous abortion and the method selected is dependent on the gestational age of embryo<sup>33, 34</sup>. Induced abortion – Either therapeutic (or) elective. It is therapeutic when performed to save the

life of pregnant woman, prevent harm to her physical and mental health and when the child will have lethal anomalies (or) disabilities (or) selectively to reduce the number of fetus to lessen the risk associated with multiple pregnancy.

It is elective (or) voluntary abortion when it is performed at the request of women for non medical reasons. Spontaneous abortion also known as miscarriage is the unintentional expulsion of the embryo (or) fetus before 20 wks of gestation.

Spontaneous abortion can present in following forms

1. Threatened abortion
2. Inevitable abortion
3. Incomplete abortion
4. Complete abortion
5. Septic abortion
6. Missed abortion
7. Habitual abortion
8. Hydatiform mole.

Most common causes during I trimester abortions are

1. Chromosomal abnormalities – 50%
2. Lupus

3. Diabetes
4. Hormonal problems
5. Infections
6. Abnormalities of uterus
7. Advanced maternal age
8. H/o previous spontaneous abortion
9. Trauma of stress

### **Criteria to be fulfilled before medical termination of pregnancy**

Women seeking MTP should be counselled regarding the

1. Need for contraception
2. Options for concurrent contraception / sterilization
3. Information about the warning signs and symptoms of complications that may occur following abortion.
4. Physical examination and USG should be done and Informed and written consent should be obtained from the patient if she is fit for the procedure. If patient is below 18yrs of age, then consent of the parents / guardians is required.
5. The day before the procedure lignocaine sensitivity test is carried out with 0.1 to 0.2 ml intradermally over the forearm. If after 10 minutes itching, wheal, general reaction occurs the drug should not be given.

6. Immunization status should be enquired. She should be immunized with 0.5 cc of inj TT if she has received her last dose 1 year back.
7. Rh negative women should be immunized with inj Anti D after the procedure.
8. On the day of surgery she should take bath wear clean and loose clothes. Fast over night and empty her bowels in a morning.
9. Preoperative antibiotics should be given 1 hour before the procedures.

### **Regarding Anaesthesia**

The procedures are done under TIVA, under strict aseptic precautions. It can be done with paracervical block also in patients with medical disorders and whom short period of sedation is required. Local anaesthetic agent is injected through the reflected vaginal epithelium to a depth of 2-3 mm at the cervico vaginal junction at 3 and 9'o clock position around the cervix.

### **Methods of MTP**

Methods of MTP are medical and surgical methods

Drug controller of India approved the use of medical abortion in April 2002<sup>35</sup>. Medical abortion offer women great independence, privacy not necessitating the need of hospitalization extensive infrastructure. But there

was a increased risk of misuse because the tablets are widely available over the counter and sold without supervision<sup>36, 37, 38</sup>.

### **Medical methods for First Trimester Abortion:**

For I trimester abortion upto 49days combination of Mifepristone – Misoprostol was effective than surgical method. Mifepristone (MIFEGEST-RU 486) - derivative of 19-Nortestosterone with antiprogestogenic effect. It has antiglucocorticoid and weak anti and ogenic action<sup>39, 40</sup>. Regimen – 200 mg of Mifepristone single dose on Day 1 and on Day 3 – 800 µg of vaginal misoprostol is administered. The patient to be followed up on Day 14

### **Contraindication to Mifepristone**

1. Medical disorders like hypertension, Asthma, heart disease, Anemia
2. Previous Cesarean Section
3. Personal habits like smoking
4. Lactating mother
5. Those with gestational age > 49 days

Complications of Mifepristone include incomplete abortion signs and symptoms like skin rash, fever headache, malaise.

## **Misoprostol**

Misoprostol is methyl ester of PGE1. It is available as 100, 200 µg tablets. It can be administered orally or vaginally. Following oral administration reach a peak plasma concentration in 30 min. Following vaginal administration the peak plasma level is reached in 1-2 hrs.

Misoprostol is considered to be teratogenic as it cause Mobius syndrome in fetus and hence avoided in pregnancy. Surgical evacuation is needed in case of incomplete abortion and hence long term follow up is a must.

### **Other Protocols are**

1. 200mg of oral mifepristone followed by 800 µg vaginal misoprostol on the third day. WHO has shown that low dose Mifepristone is as affective as 600mg dose.
2. 200 mg of mifepristone and 1 mg of tablet of PGE1, gemeprost vaginally
3. Methotrexate 50 mg 1m (or) oral followed 5-7 days later by 800 µg of vaginal misoprostol  
Epostane – 200 µg every 6 hrs for 7 days.

## **Prostaglandins**

Carboprost injection 250 µg intramuscular every 3 hrs upto maximum 10 doses. Side effects of prostaglandins are Gastrointestinal side effects like;

- Nausea
- Vomiting
- Diarrhea
- Abdominal pain
- Bronchospasm
- Mild Fever.

## **Surgical Methods of First trimester MTP**

### 1. Menstrual Regulation

It is effective within 42 days of last menstrual period under paracervical block as a outpatient procedure with a Karman's cannula – 50 ml/syringe with a vacuum over 60 cm of H<sub>2</sub>O.

## **Complications of Menstrual Regulation are**

1. Continuation of pregnancy causing anxiety to the patient.
2. Incomplete abortion necessitating curettage
3. Hemorrhage
4. Cervical laceration
5. Perforation



## 6. Infection

### **Manual vacuum Aspiration (MVA) <sup>5</sup> (Figure 3)**

Most efficient and safe method upto 12 wks of gestation. Cannula is made of flexible plastic material. It is performed under paracervical block with a standard negative suction of 650 mmhg and the products are aspirated. In case of previous surgical procedure general anaesthesia is preferred. Electric vacuum aspiration uses electric pump and metal cannula for uterine evacuation in first trimester of pregnancy.

### **Complications of MVA**

1. Incomplete abortion necessitating curettage
2. Uterine infection can occur
3. Uterine perforation
4. Bleeding in < 2% of cases

Methods of second trimester MTP are surgical methods and medical methods.

### **Dilatation and Curettage (Figure 4)**

Safe only in the first trimester of pregnancy. Priming of the cervix done with T.misoprostol followed by dilatation and gentle curettage.

## **Complication:**

- Injury to the cervix
- Increased bleeding
- Retained products
- Infection

## **Surgical Methods of second trimester MTP**

1. **Dilatation and Evacuation** Dilatation of the Cervix with laminaria tents, followed evacuation by vacuum aspiration (or) ovum forceps.

Dilatation of the cervix with laminaria tent shorten the duration of procedure.

Laminaria tent is a mechanical cervical dilators. They are thin, long pieces of a plant laminaria japonica which swell with increase in diameter when placed in moistened form.

They are of three sizes small, medium and large. They are placed in the endocervical canal 12-24 hrs before the time of the procedure.

This can be followed in cases who have contraindication to misoprostol like Asthmatics and in second trimester of abortion which is followed by misoprostol.

## **Complications following Dilatation and Evacuation are**

1. Incomplete Abortion leading to increased blood loss
  2. Trauma to cervix
  3. Perforation of the uterus
  4. Infection
2. **Aspirotomy:** Involves suction aspiration followed by evacuation of fetal parts with help of aspirotomy forceps
  3. **Hysterotomy** <sup>(37)</sup>: Involves removal of the fetus through an abdominal incision before the viability of the fetus.
    - Invasive methods Dilatation and Evacuation, Aspirotomy have been overcome by the non invasive methods like the use of prostaglandins combined with high dose intravenous oxytocin as infusion drip.
    - Check curettage was done following the expulsion of products of conception.

Oxytocin used as an adjunct to prostaglandins to accelerate the expulsion of products of conception in second trimester pregnancy and also to control haemorrhage with expulsion of products of conception.

## **Medical methods of Second trimester MTP are**

1. Extraovular instillation of drugs Ethacridine lactate 0.1% solution instilled into extraovular space. Dose is 10ml / week of gestation upto maximum of 150 ml. Induction Abortion interval between 24-36 hrs.
2. Intracervical or Extraovular instillation of cerviprime gel (PGE<sub>2</sub>) 99% abort in 24 hours.
3. Oral mifepristone 200 mg followed (38) 36-48 hrs later by 600 µg of vaginal misoprostol and then 400 µg of vaginal misoprostol every 3 hourly maximum 5 doses.
4. 200 – 600 µg of vaginal misoprostol every 12<sup>th</sup> hourly
5. T.Misoprostol 400 µg 8<sup>th</sup> hourly for five doses.

## **Contraindications to Prostaglandin's are**

1. Cardiac disease
2. Renal disease
3. Hypertension
4. Bronchial Asthma
5. Previous LSCS

## **Combined methods are**

1. Emecedil plus prosaglandins
2. Prostaglandins and laminaria tent
3. Emecedil and oxytocin

## **Late Complications of MTP**

1. Chronic pelvic inflammatory disease
2. Chronic pelvic pain
3. Infertility
4. Ectopic pregnancy
5. Trauma to the cervix leading of Incompetency
6. Retained placenta in future pregnancies
7. Rh isoimmunisation
8. Psychiatric problems

## **Postoperative patient care**

Postoperatively patient discharged when she is alert and ambulatory, vitals are stable and normal.

- Resume normal work 48 hrs after the procedures.

- Resume normal diet
- Have intercourse after 2 weeks of MTP.
- Patients are advised to report if they have increased abdominal pain, distension, vomiting, fever, bleeding, foul smelling discharge.
- She is advised to come for follow up after 1 wk and after next menstrual cycle.
- If she has missed her cycles or if she has any menstrual abnormality, fresh pregnancy or continuation of pregnancy should be ruled out.

### **Postabortive contraceptive choices**

Regarding the postabortal contraceptive choices oral contraceptive pills can be started immediately. Injectables (DMPA or Net) may be given immediately. Implants like Norplants can also be implanted following MTP. Diaphragm can be advised immediately after first trimester abortion. Following a second trimester abortion, it should be used only after the uterus returns to normal size.

On no account natural methods are recommended.

According to B.S. Dillon et al only half of the woman who undergo induced abortion adopt concurrent sterilization. Acceptance of vasectomy by

the husband is least. Temporary methods of contraception like intrauterine contraceptive device is adopted by some women.

Intrauterine contraceptive insertion in the immediate postabortal period has many advantages, safe and effective (WHO 1983 b). The women can be easily motivated and they can be assured of its long term effects, immediate reversal of fertility on removal and its efficacy same as that of tubal sterilisation (Peterson et al, Miffal et al).

Copper IUD is a type of long acting reversible contraception and a effective form of birth control.

CuT is made up of polyethylene with BaSO<sub>4</sub> (Barium Sulphate) so that its presence can be detected by its radio opacity. Nylon thread attached to the terminal end can be felt by the patient easily and the patient are motivated to feel the thread during each menstrual cycle avoiding undue fear and it also helps in easy removal.

The discovery of the intrauterine device dates from the Arab traders inserting small stones into the uterus of their camels to prevent pregnancy to the discovery of the CuT 380 A by Dr. Tatum which is the most recommended. The recent one is Gynaefix. The method of insertion of CuT is by the with drawl technique. CuT contains copper wire of surface area 200 mm<sup>3</sup> wrapped around the vertical stem of polypropylene frame. There are

many devices carrying copper. They have long lifespan of 3-5yr Paragard has the longest lifespan of 10 years.

Patients ideal for CuT insertions are women with atleast one children, living with husband, who are desiring long term but reversible method of contraception. Particularly, couples who are unaccustomed to the barrier contraceptives and daily pill in take with OCP are ideal candidates for CuT insertion.

But there are contraindications for its insertion. They are

1. Suspected pregnancy
2. Menstrual disorders
3. Severe Anemia
4. Pelvic inflammatory disease.
5. Diabetes / heart disease because of the risk of infection
6. History of Ectopic pregnancy in the past.

Some complications are expected at the time of insertion

There may be pain shock (Vasovagal attack) leading to collapse of the patient. Uterine cramps can occurs leading to expulsion of the IUCD, which is most common after second trimester abortion.



Perforation is also common in the immediate postpartum period.

Post abortal insertion of IUCD similar to interval insertion (Walsh 1998, Farley 1992)

### **Other complications are**

1. Intermenstrual spotting, menorrhagia<sup>47</sup>.
2. PID mainly due to chlamydia or gonorrhoea infection not due to IUCD.  
Infection is largely prevented by the “No touch insertion technique”.
3. Actinomycosis which occur in 7% in IUCD users than 2% in non users

### **Late Complications are**

1. Pelvic inflammatory disease
2. Pregnancy rate 1-3/100 woman years
3. Ectopic pregnancy
4. Perforation of the uterus
5. Menstrual disorders.

Though there are many methods sterilisation we adopt Trans Abdominal tubectomy by modified Pomeroy's method and Laproscopic sterilization

**Certain criteria are to be fulfilled before sterilisation is carried out.**

- Age of the client should be atleast 21 and her husband 25 yrs.
- She should have atleast one living child age more than one year.
- Medical disorders, previous surgeries, allergies to drugs are enquired H/o. blood transfusion and RTI / STI / PID and in case of male prostatitis and epididymitis should be ruled out.
- As mentioned early, vitals examination, CVS, RS examination done. Local examination should be carried out. Lab investigation should be completed.
- Regarding the consent form she should give written and informed consent.
- They should informed clearly the other available contraceptive methods.
- Couple should be aware that the procedures is permanent and also be aware of the failure rate of the procedure.
- They should be explained about the complications of the procedure. They should report to the hospital within 2 weeks of missed periods and opt for MTP.
- They are eligible to get compensation given by the government for the failure or any complication.

- They cannot claim for the rearing of the child after sterilisation failure.

## **Standards of Female Sterilisation are**

Iodophor chlorhexidine is safe to use for painting the surgical site wait for about 1-2 min for the release of iodine.

Painting should be done at least 2 times on and around the operative site applied in a circular motion.

Only 1 cm isthmus loop is ligated through the avascular window of mesosalpinx.

Single round or square suture is sufficient for tubal occlusion. Never go round the tube or in between the cut ends.

Look for anomalous or additional fallopian tubes.

Document any problem.

Do not perform fimbriectomy

Modified Pomeroy's is the most common method combined with the MTP. In this method fallopian tube is grasped with Babcock at about its middle and the loop is held up and ligated with No 1 plain catgut. Transfixation ligature passed through the mesosalpinx loop is then cut beyond the ligature. Failure rate is 0.2/1000. It is surgically reversible.

Permanent sterilisation procedures are done for

1. Multiparous women

2. In those women with 3 or more Cesarean deliveries.
3. Those with high risk disease.
4. Psychiatric patients
5. Breast Cancer
6. Eugenic conditions

The other methods of sterilisation are Pomeroy, Madlener, Iring, Aldridge, Cornual resection and Fimbriectomy and these methods requires a incision well over 5 cm and these methods are done during cesarean Section and during gynaecological surgery.

Minilaparotomy procedure include Pomeroy's, Madlener, Aldridge, Uchida and Fimbriectomy is carried out through a suprapubic incision of size 2 – 4 cm in length.

## **Laposcopic Sterilisation**

Regarding the concurrent sterilisation procedure, Postabortal, laproscopic sterilisation is a effective procedure (Hernandez et al) compared with minilaparotomy in that it has short duration of stay in the hospital, in being performed as a outpatient to resume early household work early and the surgery should produce a invisible scar (cosmetic effect). There is no difference in the morbidity between the two procedures.

Laparoscopic sterilisation is carried out under local or general anaesthesia. A subumbilical incision, diameter of trocar is made and pneumoperitoneum is created using CO<sub>2</sub> upto 15 mmHg. Tubal occlusion done by silastic rings. Silastic rings are applied in the isthmic area of the tube 2-3 cm from the cornua.

Good quality fallope ring should revert to its original shape after stretching for 1 min. Fallope silastic ring destroys 2-3 cm of the fallopian tube. The Hulka and Filshie clips destroy 3-4 mm of the tube.

Fallope ring is a silastic band with a outer ring and inner ring of diameter 3.6mm and 1mm respectively and it is 2.2mm thick. Impregnation with Barium sulphate makes it radiologically visible. It was discovered by Yoon in 1974.

Failure rate varies from 0.2 to 1.5% complications are

- Bleeding from the mesosalpinx
- Broad ligament hematoma.
- Perforation of the uterus.
- Spontaneous recanalization.
- Ectopic pregnancy 0.2 – 0.3%.

Laparoscopic sterilisation is contraindicated in patients with cardiac,

pulmonary disease, trendlenberg position and Co<sub>2</sub>.

It is not applicable to immediate postpartum patients.

Risk of injury to other structures occur in the presence of adhesions.

## **Male Sterilization**

NSV is the method adopted for male sterilization. Single incision is made with a special forceps and no skin stitch is made. Procedure consists of dividing the vas deferens and thus interfere (or) disrupts the sperm passage.

Complications are local pain, hematoma (1 – 2%) infection, granuloma formation (1 – 3%), formation of antibodies and granuloma formation (1 – 3%), spontaneous recanalisation. It is done as outpatient procedure under local anaesthesia and rest is advised only for 1 - 2 days and intercourse only after 3 months or temporary contraception is to be followed the till then.

## **MATERIALS AND METHODS**

This study was carried out in Govt. Rajaji Hospital, Madurai during the period of 12 months (one year) from September 2011 to August 2012. Of the 3518 patients attending the family planning OP 496 women sought MTP. Among them every 5<sup>th</sup> woman was selected and thus 100 cases were included in this study.

### **Patients**

#### **Inclusion Criteria**

Pregnant women belonging to I and II trimester of pregnancy seeking MTP in family planning OP in Government Rajaji Hospital were included in the study.

#### **Exclusion Criteria**

Pregnant women with H/o. threatened abortion, Missed abortion and incomplete abortion were excluded in this study.

In this study social and obstetric parameters contributing to induced abortions were analysed.

Social parameters like Age, Educational Status, Place of residence, Marital Status, Family Pattern, Sex of the living children, included in this study. Obstetric Parameters – Parity, trimester of abortion, gestational age, methods of induction, induction abortion interval, reasons for MTP, Sterilisation contraceptive failure, H/o. induction of tablets over counter are studied.

General condition of the women seeking MTP are assessed. This assessment include anemia, temperature, body weight, pulse, blood pressure. Auscultation of heart and lungs is done. Confirmation of pregnancy done by per vaginal examination and urine pregnancy test which is mandatory.

Patient seeking MTP belonging to first and second trimester were evaluated with the basic investigations like Hb%, Urine Albumin and Sugar, Renal function test, Blood grouping and typing, PPTCT. Ultrasonogram was done to confirm the uterine pregnancy and gestational age. Patients with underlying medical disorders were evaluated with specific investigations and concerned opinion were obtained. ECG should be taken when a concurrent sterilisation procedure to be undertaken.

In case of medical abortion T.Mifepristone 200 mg got as a sample was given orally followed by 800 µg of vaginal T.Misoprostol 48 hrs later. On the 14<sup>th</sup> day ultrasonogram was done to confirm the emptiness of uterine



cavity. For the other 2 cases T. Misoprostol 200 µg was repeated 6<sup>th</sup> hrly vaginally for 5 doses and USG done to confirm that the abortion has occurred.

Surgical methods adopted for First trimester MTP are Manual vacuum aspiration, Dilatation and curettage. In these cases ripening of the cervix is done with T.Misoprostol 400 µg followed 6 hrs later by the procedures. In case of second trimester abortion, pregnancy was terminated with tablet T.Misoprostol 200 µg 6<sup>th</sup> hrly. This was combined with 10 units of intravenous oxytocin infusion drip to expel the products of conception. Check curettage was done following the expulsion of products of conception. Laminar tent was used in few cases to dilate the cervix, shortened the duration of induction abortion interval. Hysterotomy was performed in case of failed induction of abortion. Either postabortal CuT insertion / permanent sterilisation concurrent with first trimester MTP carried out with the consent of the patient.

## **Statistical Tools (To be included at the end of Materials and Methods)**

The information collected regarding all the selected cases were recorded in a Master Chart. Data analysis was done using **Epidemiological**

**Information Package (EPI 2010)** developed by Centre for Disease Control, Atlanta.

Using this software range, frequencies, percentages, means, standard deviations, chi square and 'p' values were calculated. Kruskal Wallis chi-square test was used to test the significance of difference between quantitative variables and Yate's chi square test for qualitative variables. A 'p' value less than 0.05 is taken to denote significant relationship.

## RESULTS

A total of 3518 patients attended the family planning OP at government Rajaji Hospital between September 2011 to August 2012. 496 patients out of them seeked abortion. Among who seeked MTP every 5<sup>th</sup> patient was selected and thus 100 patients were included in this study. Incidence of induced abortion at Government Rajaji Hospital is estimated to be 14% (Table 1).

In this study social and obstetric parameters contributing to induced abortions were analysed.

Age : Mean age of the patients included in this study was 26. 7 yrs (S.D). Rate of induced abortions was found to be more in the age group 20-29 yrs (70%) compared to those in the age group of <20 yr (9%) and more than 30yr (21%)<sup>9</sup> (Table 2).

Parity : Rate of induced abortion was found to be more in third gravida (42%) and least in sixth gravida (1%) (Table 3).

Religion : In this study group among those patients who seeked abortion 91% of them belonged to Hinduism, 3% of them belonged to Christianity and 6% of them were following Islam (Table 4).

Residence : In this study 62% of the women who seeked MTP hail from the rural areas while the urban women contribute to 38% (Table 5).

Regarding the family pattern, 56% women who sought MTP belonged to Nuclear family (Table 6).

Table 7 shows the educational status of the women who sought MTP. About 38% of the women who sought MTP were illiterate. Among the 62% educated women, 33% of the women had primary level of school education 21% of women had completed middle school and 8% had entered high school.

Marital status of women has been depicted which show 84% of the women who sought MTP were married and 16% of them unmarried (Table 8).

This study has analysed the social parameters among unwed women Age, Residence, Family Pattern Education and the separated parents.

Majority of the unmarried women hail from rural areas (68.7%) illiterate (75%), belonging to joint family (93.8%) and are in the age group of 18-21 yrs. About 25% of them had separated parents (Table 9).

Majority of the women sought MTP in the first trimester of pregnancy more in the gestational age group of 8-12 wks (58%) (Table 10,11).

In this study, second trimester abortion is more common in the unmarried 81.3% compared to the married women which is 16.7% and this is significant (Table 12).

In this study majority of the pregnancies were terminated by the surgical method (97%). Among the surgical method Dilatation and curettage including check curettage was adopted in 79% of the women and MVA was adopted in 16% of the women Hysterotomy contributed to 2% of the cases<sup>37</sup>.

In this study 3 cases were terminated by medical method using the combined Regimen of Mifepristone and Misoprostol for one patient and misoprostol alone for 2 patients (Table 13)<sup>39,40</sup>.

In this study the success of induction is shown by the induction abortion interval within 12 hrs in 73% of cases and only 3% had an interval of more than 24 hrs (Table 14).

In the study, the reasons for MTP has been analysed social causes contributing to 63%, medical cause to 32%, and Eugenic causes 8% (Table 15)<sup>1,2</sup>.

Table 16 analysed the various medical reasons for MTP. Medical disorders like HT / Diabetes / Heart disease / epilepsy / asthma / TB / Thyroid and Renal disorders contributed to majority. MTP was done in patients with cancer / CVT The adoption of family planning method among patients with medical disorders has been analysed in this study.

About 84.9% of the women had adopted TAT as the concurrent method of sterilisation, 4.5% of them had adopted laproscopic sterilisation

9.1% had accepted postabortal intrauterine device insertion. NSV was done for a patient's husband who had undergone MVA which contributed to 1.5% (Table 17).

Table 18 shows the distribution of cases according to last child birth. 19.3% of the women had delivered in less than one year. 37.3% of the women had last child birth more than 3 yrs. 18.1% of them had delivered by LSCS (Table 19)

In this study 55.4% of the cases sought MTP with 2 living children following the two child norm. About 22.9% of the women sought MTP with 3 or more children (Table 20).

In this study comparing patients having only male children / having both male and female children, only 20.5% sought MTP with only female children (Table 21).

Table 22 shows the availability of drugs for medical abortion over counter which is only 3% due to under reporting<sup>36, 37, 38</sup>.

## RESULTS

**Table 1 : Incidence of Medical Termination of Pregnancies**

<b>Total no. of patients attended family planning OP during Study period</b>	<b>No.of patients seeking MTP during Study period</b>	<b>Incidence</b>
3516	496	14.1%

Table 1 shows the Incidence of Medical Termination of pregnancies in Govt. Rajaji Hospital.

**Table 2 : Age wise distribution of cases**

<b>Age</b>	<b>No.of cases</b>	<b>Percentage</b>
< 20 years	9	9%
20-30 years	70	70%
> 30 years	21	21%
Total	100	100%
Mean	26.7 years	
SD	4.97 years	

Table No 2 shows the distribution of cases according to age.

In the age group <20 yrs the percentage of induced abortion is 9%, in age group > 30 yrs it is >21%. It is highest in age group 20-30yrs 70%.



**Table 3 : Parity wise distribution of cases**

<b>Total no. of patients</b>	<b>No.of patients seeking MTP</b>	<b>Percentage</b>
Primi	1	1%
G <sub>2</sub>	13	13%
G <sub>3</sub>	42	42%
G <sub>4</sub>	21	21%
G <sub>5</sub>	6	6%
G <sub>6</sub>	1	1%
Unwed	16	16%
Total	100	100%

Table No 3 shows the distribution of cases according to parity.

It is highest in the 3<sup>rd</sup> Gravida group which is 42%

Least in Primi and 6<sup>th</sup> Gravida 1%

Unwed group contributes to 16% of total distribution.

**Table 4 : Impact of Religion on induced abortion**

<b>Religion</b>	<b>No.of cases</b>	<b>Percentage</b>
Hindu	91	91%
Christianity	3	3%
Muslim	6	6%
Total	100	100%

Table No 4 shows distribution according to religion with Hinduism contributing 91%, Christianity 3% and Muslims 6%.

**Table 5 : Distribution of cases according to residence**

<b>Residence</b>	<b>No.of cases</b>	<b>Percentage</b>
Urban	38	38%
Rural	62	62%
Total	100	100%

Table No 5 show the distribution of cases according to residence

Majority of women came from the rural area which is 62%

Urban women contributed to 38%.

**Table 6: Distribution of cases according to family pattern**

<b>Family pattern</b>	<b>No.of cases</b>	<b>Percentage</b>
Nuclear family	56	56%
Joint family	44	44%
Total	100	100%

Table No 6 shows the distribution of cases according to Family Pattern

Majority of the women who seeked induced abortion belonged to Nuclear Family.

**Table 7 : Impact of literacy on the percentage of induced abortion**

**(a) Educational status among women who underwent MTP**

<b>Literacy</b>	<b>No.of cases</b>	<b>Percentage</b>
Educated	62	62%
Uneducated	38	38%
Total	100	100%

Table No 7 show the Impact of literacy on induced abortions

62% of the women who seeked MTP were educated, 38% of the women were illiterate.

**(b) Level of Education among the literate women**

<b>Educational Status</b>	<b>No.of cases</b>	<b>Percentage</b>
Illiterate	38	38%
Primary School	33	33%
Middle	21	21%
High School	8	8%
Total	100	100%

33% of women completed primary level of school education, 21% of the women completed middle school and 8% of the women entered high school.

**Table 8 : Distribution of cases according to marital status**

<b>Marital status</b>	<b>No.of cases</b>	<b>Percentage</b>
Married	84	84%
Unmarried	16	16%
Total	100	100%

Table No 8 shows distribution according to marital status

Majority of the group seeked induced abortion were married which is 84%

Unmarried contributes to 16%.

**Table 9 : Social Parameters among unwed women**

**(a) AGE**

<b>Age</b>	<b>No.of cases</b>	<b>Percentage</b>
< 20	11	50%
20 – 30	3	44%
>30	2	6%

Majority of the unwed women are in the age group < 20

**(b) RESIDENCE**

<b>Residence</b>	<b>No.of cases</b>	<b>Percentage</b>
Urban	5	31.3%
Rural	11	68.7%
Total	16	100%

Majority of them belong to rural areas

**(c) LITERACY**

<b>Literacy</b>	<b>No.of cases</b>	<b>Percentage</b>
Educated	4	25%
Uneducated	12	75%
Total	16	100%

Most of them are uneducated

**(d) FAMILY PATTERN**

<b>Family pattern</b>	<b>No.of cases</b>	<b>Percentage</b>
Nuclear family	1	6.2%
Joint family	15	93.8%
Total	16	100%

Majority of unwed women belong to joint family.

**(e) EDUCATIONAL STATUS**

<b>Educational Status</b>	<b>No.of cases</b>	<b>Percentage</b>
Illiterate	12	75%
Primary School	3	18.8%
Middle	Nil	Nil
High school	1	6.2%
Total	16	100%

Majority (75%) of the unwed women are illiterate.

**(f) DISTRIBUTION OF PARENT'S MARITAL STATUS OF UNMARRIED**

**WOMEN IN STUDY GROUP**

<b>Marital status of parent's of unmarried women in Study group</b>	<b>No.of cases</b>	<b>Percentage</b>
Total unmarried women	16	100%
Parents separated	4	25%
Parents living together	12	75%

25% of the unwed women have their parents separated.



**Table 10 : Distribution of cases according to weeks of gestation**

<b>Weeks of gestation</b>	<b>No.of cases</b>	<b>Percentage</b>
< 8 weeks	15	15%
8 -12 weeks	58	58%
> 12 weeks	27	27%
Total	100	100%

Table No 10 shows the distribution of cases according to weeks of gestation

Highest percentage 58% in 8-12 wks gestation.

**Table 11 : Distribution of cases according to Trimester of abortion**

<b>Trimester</b>	<b>No.of cases</b>	<b>Percentage</b>
I	73	73%
II	27	27%
Total	100	100%

Table No 11 shows the distribution of cases according to trimester of abortion

Majority of cases belong to I trimester.

**Table 12: Marital status according to trimester of abortion**

Marital status	No.of cases	Trimester of abortion			
		I		II	
		No	%	No	%
Married	84	70	83.3%	14	16.7%
Unmarried	16	3	18.8%	13	81.3%
'p'	<b>0.0001</b> <b>Significant</b>				

Table No 12 compared the marital status according to Trimester of Abortion. Increased percentage of second trimester abortion reported among unmarried women 81.3% compared to 16.7% in married women. This is ('P' – 0.0001) Significant.

**Table 13 : Distribution of cases according to method of induction**

<b>Method</b>	<b>No.of cases</b>	<b>Percentage</b>
<b><u>Medical</u></b>		
Mife+Miso	1	1%
Miso.	2	2%
Total Medical	3	3%
<b><u>Surgical</u></b>		
MVA	16	16%
D&C / Check curettage	79	79%
Hysterotomy	2	2%
Total Surgical	97	97%
Total	100	100%

97% of the cases were terminated by surgical method of induction and only 3% by medical method of induction.

Among the surgical method D & C / Check curettage contributed to 79%, MVA 16% hysterotomy 2%

**Table 14 : Distribution of cases according induction abortion interval**

<b>Induction abortion interval</b>	<b>No.of cases</b>	<b>Percentage</b>
< 12	73	73%
12-24	24	24%
> 24	3	3%
Total	100	100%

Table No 14 show the distribution of cases according to induction abortion interval

73% of abortions terminated in less than 12 hrs

Only 3% case took > 24 hrs for termination.

**Table 15 : Distribution of cases according to Reasons for MTP**

<b>Reasons</b>	<b>No.of cases</b>	<b>Percentage</b>
Medical	32	32%
Social	63	63%
Eugenic	5	5%
Total	100	100%

Table No 15 shows the distribution of cases according to reasons

Social causes contributing to majority upto 63%

Medical causes 32% and Eugenic 5%.

**Table 16 : Cases with Medical disorders**

<b>Medical disorders</b>	<b>Cases</b>	
	<b>No</b>	<b>%</b>
Asthma	3	3%
Cancer	2	2%
CVT	2	2%
Diabetes	1	1%
Epilepsy	4	4%
Heart disease	5	5%
Heart disease /Epilepsy	1	1%
Hypertension	2	2%
HT/DM	1	1%
Thyroid	4	4%
Psychiatry	3	3%
Renal disease / Xanthogranulomatosis pyelonephritis	2	2%
TB	2	2%
<b>Total disorders</b>	<b>32</b>	<b>32%</b>
<b>Nil disorders</b>	<b>68</b>	<b>68%</b>
<b>Total cases</b>	<b>100</b>	<b>100%</b>

Table 16 shows the percentage of women who underwent induced abortions with medical disorders contributing to 32%.

**Table 17 : Adoption of family planning methods**

<b>Method</b>	<b>No.of cases</b>	<b>Percentage</b>
<b>Temporary method</b>		
MTP with Cu'T'	6	9.1%
<b>Permanent method</b>		
MTP with TAT	56	84.9%
MTP with LS	3	4.5%
NSV	1	1.5%
Total	66	100%

Table 17 shows the adoption of family planning methods 9.1% of the women have adopted temporary method of contraception (IUCD). Majority of them (84.9%) have adopted TAT. 4.5% of them had underwent LS.NSV contributes only 1.5% of the total.



**Table 18 : Distribution of cases according to LCB**

<b>LCB</b>	<b>No.of cases</b>	<b>Percentage</b>
Upto 1 year	16	19.3%
1-3 years	36	43.4%
> 3 years	31	37.3%
Total	83	100%

Table No 18 shows the distribution of cases according to Last Child Birth 19.3% of the women have delivered in <1 yr. 43.49% of the women have last child birth between 1-3 yrs. 37.3% of the women have last child birth more than 3 yrs.

**Table 19 : Distribution of cases according to mode of delivery**

<b>Family pattern</b>	<b>No.of cases</b>	<b>Percentage</b>
Labour Natural	68	81.9%
LSCS	15	18.1%
Total	83	100%

Table No 19 show the distribution of cases according to mode of delivery 18.1% of cases had undergone cesarean section.

**Table 20 : Distribution of cases according to number of children**

<b>Number of children</b>	<b>No.of cases</b>	<b>Percentage</b>
1	18	21.7%
2	46	55.4%
3 & above	19	22.9%
Total	83	100%

Table No 20 show the distribution of cases according to no of children 55.4% of cases seeked induced abortion with 2 living children.

**Table 21 : Distribution of cases according to sex of the living children**

<b>Sex</b>	<b>No.of cases</b>	<b>Percentage</b>
Male	32	38.5%
Female	17	20.5%
Male / Female	34	41.0%
Total	83	100%

Table No 21 show the distribution of cases according to the sex of the living children 20.5% patients seeking induced abortions had only female children.

**Table 22 : Distribution of cases according to intake of tablet over counter**

<b>Intake of tablets over counter</b>	<b>No.of cases</b>	<b>Percentage</b>
Yes	3	3%
No	97	97%
Total	100	100%

Table No 22 show the distribution according to intake of tablet over counter

Only 3% gave the H/o. intake of tablet over counter.

# DISCUSSION

## **Incidence**

Incidence of MTP in Government Rajaji Hospital is reported to be 14%. Incidence of induced abortion varies throughout the world from 10-30%.

## **Age**

Current scenario in India on induced abortion had shown that majority of women seeking induced abortion were in the age group 20-29 year (K.G.Santhya et al)<sup>9</sup>.

In our study also the mean age of the patient who seeked induced abortion was 26.7 yr (S.D). Therefore the majority of women are in the age group 20-30 yrs contributing to 70%. High fertility rate in this age group reflect the increased rate of pregnancy. This is also concordant with the CDC stastics 2000 and Skjeldestad et al

## **Parity**

Skjeldestad et al and Ganguly et al have shown that the tendency for abortion among married women increased with parity than age.

Unlike the above studies, in our study the percentage of induced abortion in married women with high parity decreases.

Percentage of third gravida who seeked induced abortion is 42% with the decrease in percentage with 4<sup>th</sup> gravida with 21%, 5<sup>th</sup> gravida 6% and 6<sup>th</sup> gravida 1% .

This disparity may be due to high parity women seeking self induction which is under reported. Other reasons may be the pressure to accept sterilization, lack of awareness of the legally available services and the hesitation to hear comments made by providers as they provide treatment (Barge et al 1997, Chabra and Nuna 1994).

## **Residence**

Though Abortion services are decentralized, the facilities are unevenly distributed between the rural and the urban areas. With approved facilities concentrated in urban areas there is limited access to women in rural areas.

In our study majority of the women are from rural areas contributing to 62% which may reflect their increased awareness of the legal and safe procedures, and confidential services available at the tertiary care centre or this may reflect the limited facilities including the trained medical officer in the rural areas.

Urban women contribute to 38%. This may be due to literacy level among the urban women and adoption of contraceptive method or permanent sterilisation methods among them.

## **Religion**

Majority of women who seeked MTP belonged to Hinduism (91%) which is followed by the majority of people of India. Christianity contributed to 3% and Islam 6%.

Also the variation among the religions may be due to the limited access to the authorized abortion providers, the threat of forced contraceptive acceptance, stigma associated with induced abortion and the low level of awareness of the legal procedures (Khan et al 1999, Sinha et al 1998).

## **Family Pattern**

Majority of the women in our study belong to Nuclear family which is 56% and joint family 44%.

Family pattern plays a major role as there may be delay in decision making, women find it difficult to communicate the decision of abortion to the head of the family and they may face opposition from the family members in joint families.



This is particularly important in unwed pregnancies because of the stigma attached to abortion.

### **Education**

Studies on the profile of women undergoing MTP majority were educated (Ganguly et al).

In our study also majority of the women who seeked induced abortion were educated reflecting the place of literacy in women making them aware of the place of safe abortions and helping them to avoid unnecessary / unwanted pregnancies safely.

In our study 62% of the women who seeked induced abortion were educated. Among them 33% of women had primary level of school education, 20% completed middle school and 8% entered high school.

### **Marital Status / Social Parameters among unwed women**

In our study 84% of women are married and 16% unmarried.

In our study social parameter like Age, Residence, Family pattern, Educational status among the unwed women has been analysed. Majority of the unwed women were from rural areas (68.7) uneducated (75%) belonging to joint family 93.8% and are in the age group of 18-21yr

These data are concordant with the study on the profile of women on MTP (Ganguly et al) and the study on the sociological implication of pregnancy in unmarried women (Chowdry NN et al) and current scenario in India on induced abortion.

These parameters reflects the place of unwed women in our society.

The prevalence of illiteracy and the unawareness that they are pregnant is the cause of increased incidence of second trimester of abortion among unmarried women. Since many of them belong to joint family delay in decision making, criticism by the family members and social stigma contribute to the increased percentage of second trimester abortion among unmarried compared to married.

### **Trimester of abortion and weeks of gestation**

In our study majority of the cases belonged to first trimester of pregnancy 73% and 27% in the second trimester.

Increased percentage of induced abortions in the first trimester reflects the increased availability of medical and surgical methods for first trimester of abortion. It is 58% in the gestational age group 8-12wks.

### **Marital Status according to trimester of abortion**

Percentage of second trimester abortion was 83.3% among unmarried and 16.7% among married women.

This is concordant with the study on profile of women undergoing MTP (Ganguly et al).

This increase in second trimester abortion may be due to delay in recognizing pregnancy, delay in decision making, lack of awareness of the facilities and laws and the social stigma.

Also the fear existing regarding the confidentiality of the procedures contributes to the increase in second trimester abortion among unmarried (Ganatra et al 1997, ICMR 1989, Mathai et al 1998)

### **Methods of Abortion**

In our study 97% of the abortions were terminated surgically. This is concordant with CDC stastics 2000, 2003

<b>Method of Abortion</b>	<b>CDC 2000</b>	<b>CDC 2003</b>	<b>Present study</b>
Surgical Method	97%	90.9%	97%

Among the surgical methods Dilatation and curettage, including check curettage hysterotomy was adopted in 79% of the women MVA was adopted among 16% of the women.

Hysterotomy contributed to 2% of the cases

Case No 1 in master chart G<sub>2</sub>P<sub>1</sub>L<sub>1</sub> / Previous LSCS LCB 1½ yrs with left CP angle tumour – schwannoma with obstructive hydrocephalus. MRI – Evidence of ice cream cone shaped extra axial lesion situated at the left CP angle.

Case No 83 G<sub>5</sub>P<sub>4</sub>L<sub>4</sub> LCB 3½ yr known case of pyelonephritis with failed induction with T.Misoprostol.

Medical method of abortion was adopted among 3 cases

Combined regimen Mifepristone got as a sample and Misoprostol was given to a case and only misoprostol in other 2 cases.

All of them were followed up and USG done to confirm the abortion has occurred.

### **Induction Abortion Interval**

In our study the success of induction with T. Misoprostol shown by the induction abortion interval of < 12 hrs in (73%) majority and only 3% had and induction abortion interval of >24 hrs.

This reflects the efficacy of Misoprostol in priming the cervix.

### **Reasons for MTP**

In this study the reasons for MTP has been analysed. Risk to health of women and contraceptive failure are the leading causes of induced abortion (Current scenario in India on induced abortion)

There are a wide range of social, medical, Eugenic causes including the urge to preserve the physical and mental health of a women in case of unwanted pregnancies, to terminate the pregnancy in view of teratogenic effects and in cases of sterilisation and contraceptive failure (United Nations 1993)<sup>1,2</sup>.

Other social causes being unwed pregnancies, pregnancies in destituted woman and widows. In our study the social causes contribute to the majority 63%. Eugenic to 5% and medical 32%. Medical cause were Heart disease 5 cases, Epilepsy – 4 cases, Diabetes / hypertension together 4 cases, Asthmatic / TB – 5 cases. Others including Renal 2 cases, Thyroid disorder contributing to 4 cases MTP was done for pregnancies arising out of contraceptive failure in 4 case and 6 cases of sterilisation failure.

## **Adoption of Family Planning Methods**

Only half of the women undergoing induced abortion adopt concurrent sterilisation (B.S. Dillon et al)

Postabortal IUCD is effective method of contraception and has its own advantages (Mittal et al).

In our study 9.1% of women who underwent induced abortion had CuT inserted by the withdrawl technique under strict aseptic precautions. This prevents unwanted pregnancies and mental agony arising out of it.

For a patient who underwent MVA, NSV was done for her husband. (case no 26 in master chart).

Majority 86.2% adopted concurrent sterilisation method TAT and others adopted Laproscopic sterilisation (4.6%). These figures shows strengthening of our family planning programmes.

Least percentage of NSV reflects the misconceptions existing in the society regarding male sterilisation.

## **Age of the last child / No of living children / Sex of the living children.**

In our study 55.4% of the women seeked induced abortion with 2 living children about 21.7% seeked MTP with only one child. This may be

due to social causes like destituted women, widow and may be due to medical reasons.

About 19.3% of the women had delivered in less than 1yr.

Only 22.5% of women came for MTP with only female children compared to those with only male child and those with both male and female children. This reflects the preference for male child among the people.

In our study 18.1% of the women who underwent MTP had undergone LSCS in their previous child birth. Sterilisation in these cases was not done due to fetal causes and social causes like the unwillingness by the patient and her husband for want of another child mostly male.

Only 2 cases gave H/o. intake of tablets over counter which is under reported<sup>35</sup>.

### **Among the Eugenic causes specific cases are**

1. Case No 67 – MVA with CuT done for I trimester abortion. Mitral Valve Replacement done for Mitral valve prolapse with severe MR patient now on anticoagulants. MVA was done under paracervical block. As the patient was Rh negative inj Anti D was given.
2. Case No 71 – MVA with CuT for I trimester abortion. This is a case of Bipolar mood disorder on Anti psychiatric drugs.

3. Case No 76 – II trimester MTP done for fetal cardiac anomaly – pulmonary atresia.
4. Case No 86 – I trimester abortion done for case of hypochondriasis. Patient on anti psychiatric drugs.
5. Case No 30 – I trimester abortion done for case of primi para who has consumed poison.

**Among the Social Causes / Specific are**

1. Case No 26 MVA done for I trimester abortion NSV done for husband 4 days before.
2. Case No 33 – MTP for I trimester gestation for a case of widow – husband died 2 months back
3. Case No – 57 & 58 – MTP for II trimester of pregnancy done. These patients are destituted women.



## SUMMARY

Among 3518 patients who attended the family planning OP at government Rajaji Hospital between Sept 2011 and Aug 2012 every 5<sup>th</sup> patient was selected among 496 patients who sought induced abortion and thus 100 cases were studied. Women in this study reported to belong to the low socioeconomic group.

Rate of induced abortion was highest 70% among the age group 20-29 years<sup>9</sup>, the percentage of induced abortion was 42% among the third gravida and less with increasing parity. Most of the study people (62%) are from the rural areas. About 56% of them belonged to Nuclear family. 84% of the women were married and 16% were unmarried. Among the unmarried women majority of them were from the rural areas 68.7%, uneducated 75%, belonging to joint family 93.8% and most of them were in the age group 18-21 yr. 62% of the women were educated, 38% of them were illiterate.

Majority of the study people 73% belonged to first trimester of pregnancy and among them 58% were in the gestational age of 8-12 wks.

Percentage of second trimester abortion was 81.3% in unmarried and 16.7% among the married women.

About 97% of the pregnancies were terminated by the surgical method and only 3% of cases had undergone medical abortion. D&C including check curettage in 79% of cases, MVA in 16%, hysterotomy in 2% cases.

73% of the case had an induction abortion interval of <12hr and 3% of cases >24 hrs.

Among the reasons for MTP social causes contributed to 63% medical reasons 32% and Eugenic 5%.

Among the women who underwent induced abortions 86.2% adopted TAT as the concurrent sterilisation 4.6% of the study people adopted laproscopic sterilisation. 9.1% of them accepted postabortal CuT insertion as the temporary contraceptive method.

About 55.4% of women seeked induced abortion with two living children 21.7% seeked induced abortion with only one child. About 19.3% of the women had a last child 1yr back. 37.3% of the women had last child birth 3yr back. Only 20.5% of the women seeked MTP with only female children. 18.1% of women who underwent MTP were delivered by LSCS. Only 2% of

the study people gave the H/o. intake of tablets over the counter<sup>35</sup>. There was no complication in this study. There were no morbidity and mortality among the study people.

## **CONCLUSION**

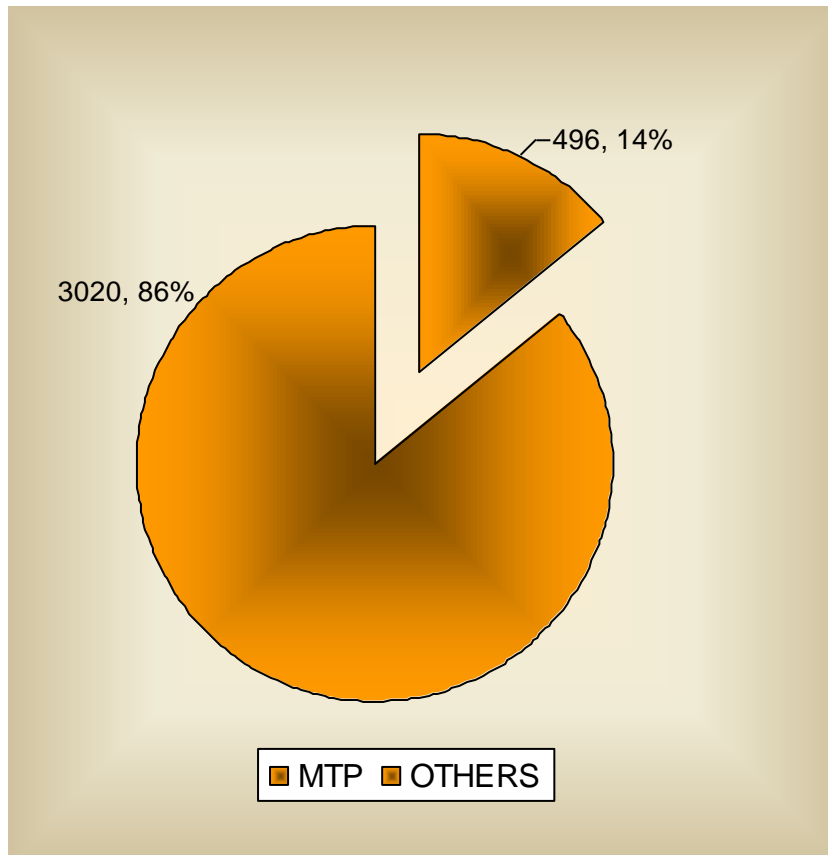
This study analysed the incidence, method of abortion and adoption of family planning and outcome. The variables in this study bring into light the social impacts of medical termination of pregnancy.

Such study bring into light the awareness of legal services available at the government centers maintaining confidentiality, availability of manpower, resources at free of cost.

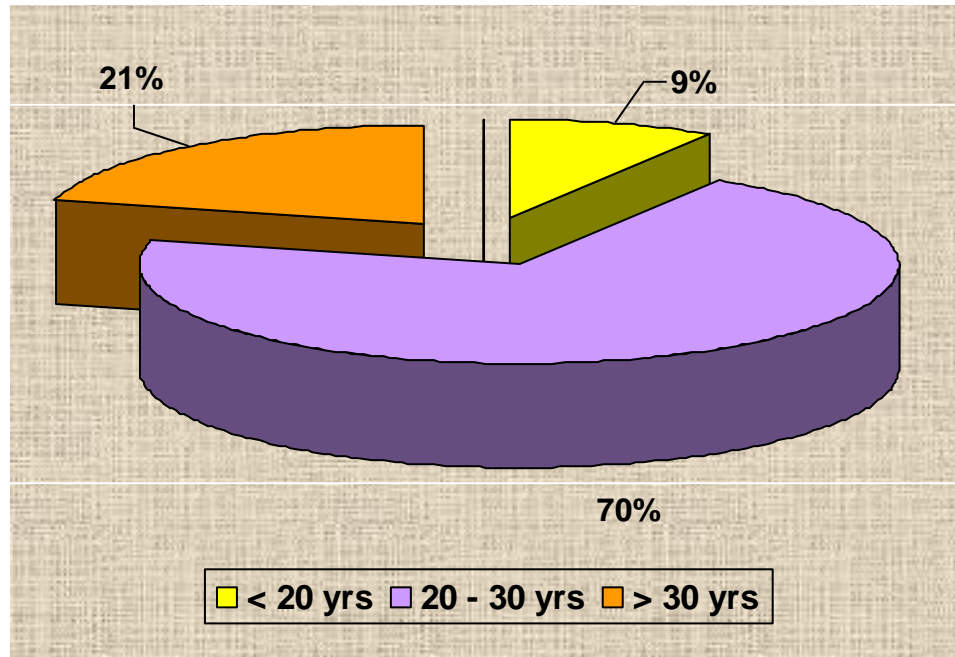
The absence of complication morbidity and mortality will enlighten the people access to seek legal induced abortion of by the trained persons.

Such studies strengthen the family planning programs, reduce the maternal mortality by bring into knowledge of public the safe, effective, legal procedures and maintaining confidentiality.

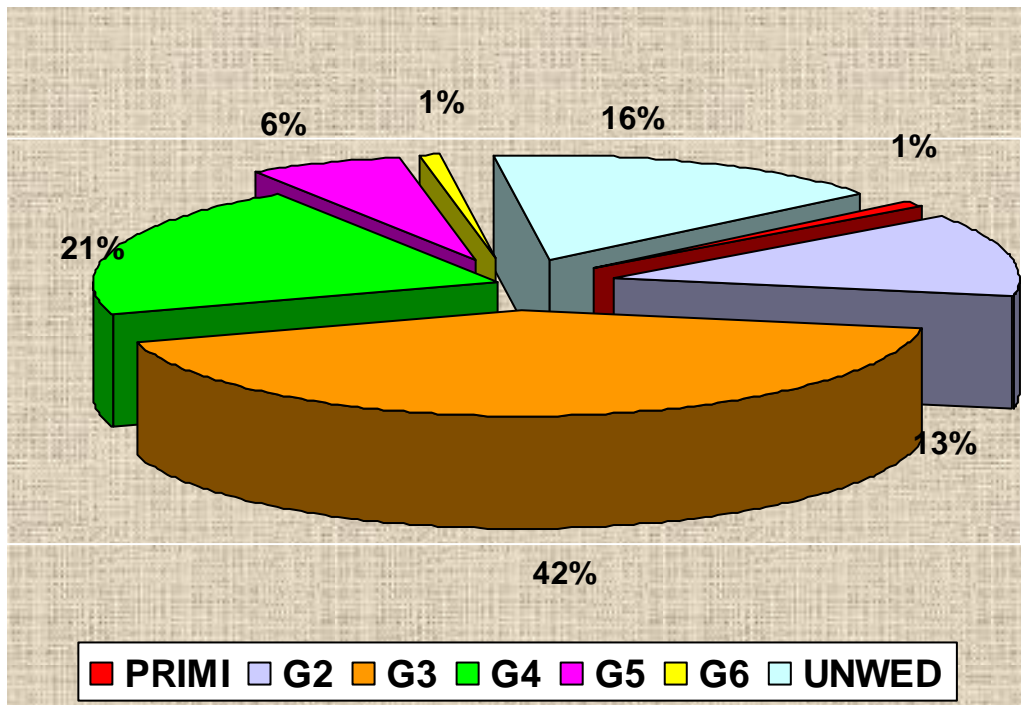
**Diagram 1 : Incidence of Medical Termination of pregnancies**



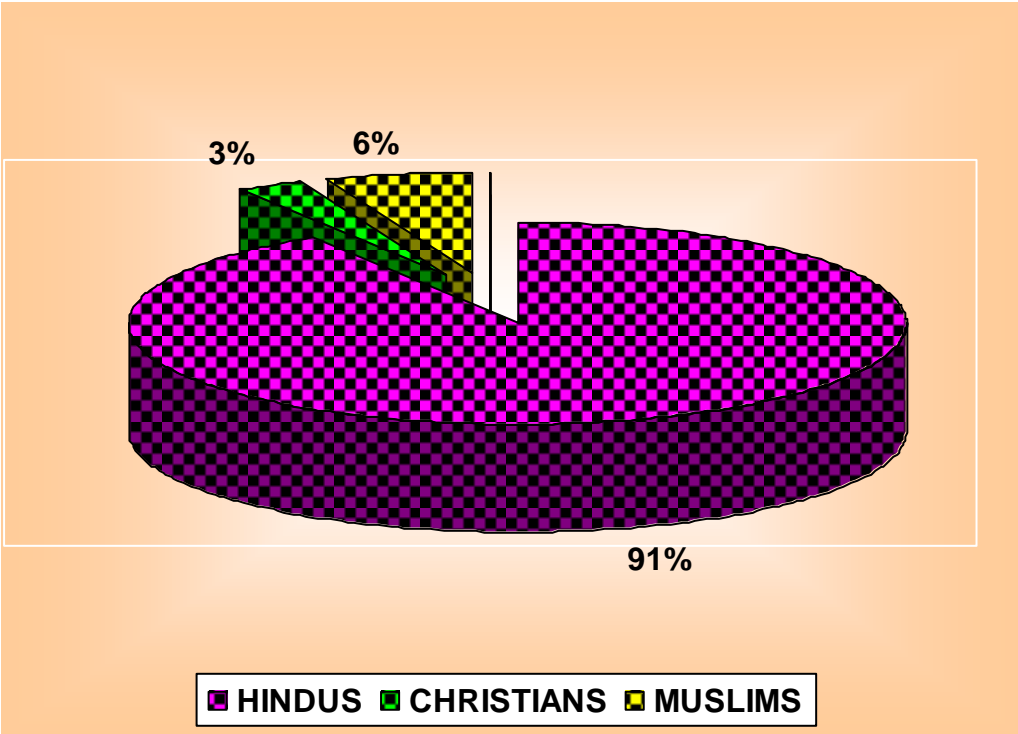
**Diagram 2 : Age wise distribution of cases**



**Diagram 3: Parity wise distribution of cases**

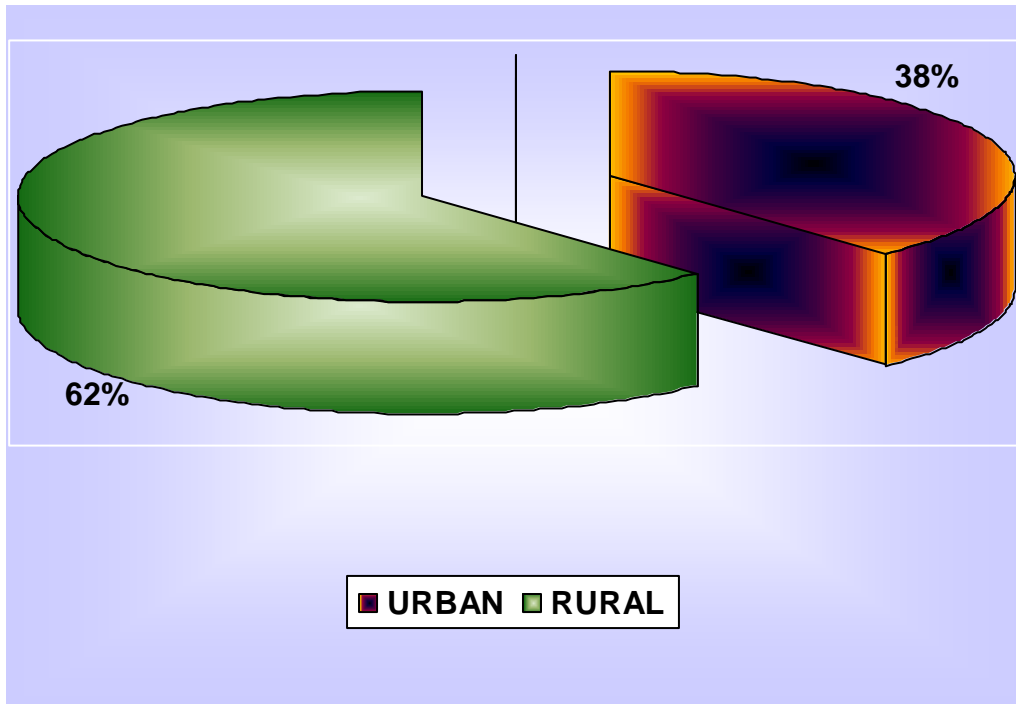


**Diagram 4: Impact of Religion on induced abortions**

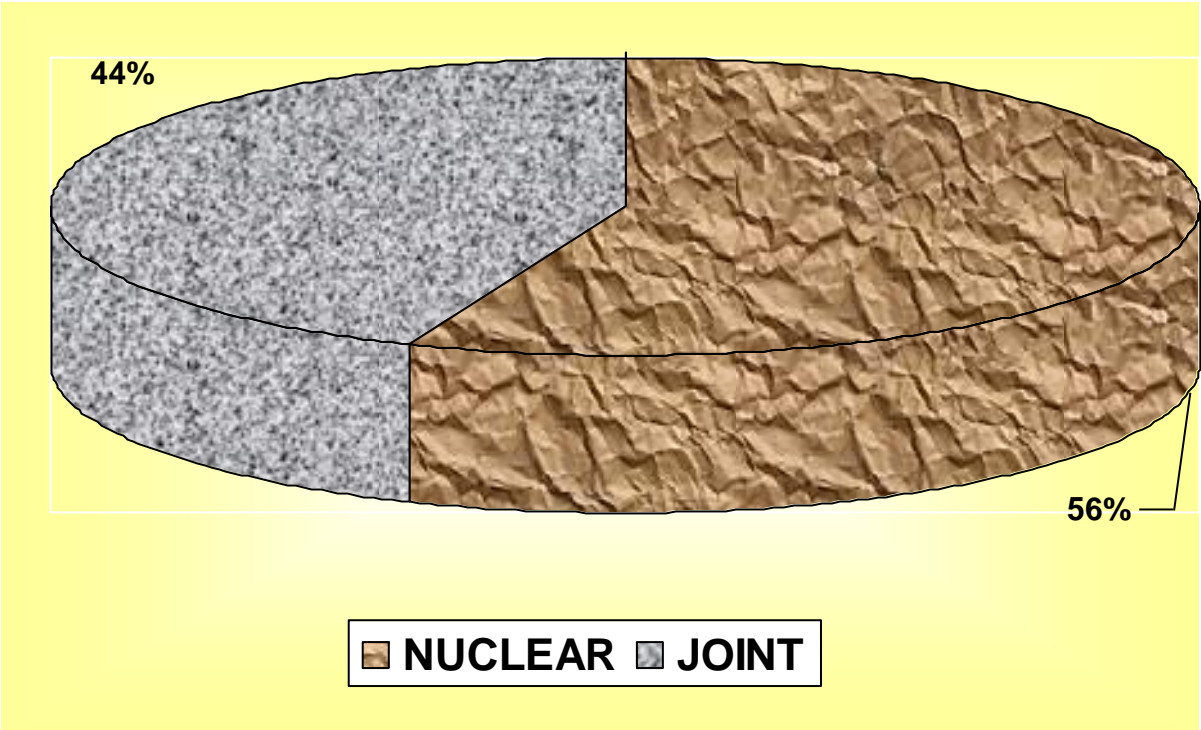




**Diagram 5 : Distribution of cases according to residence**

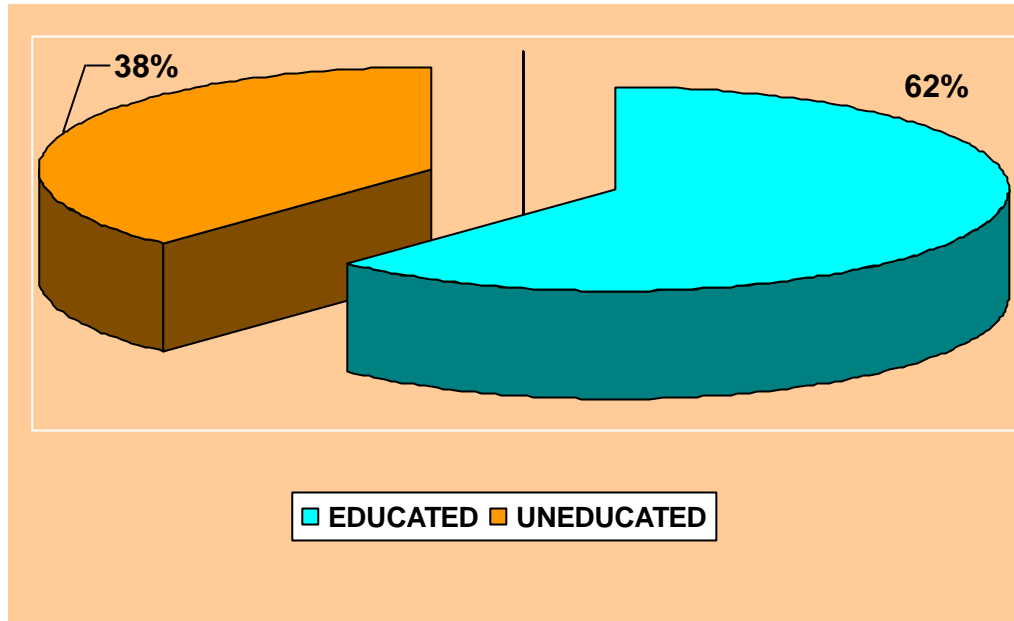


**Diagram 6: Distribution of cases according to family pattern**

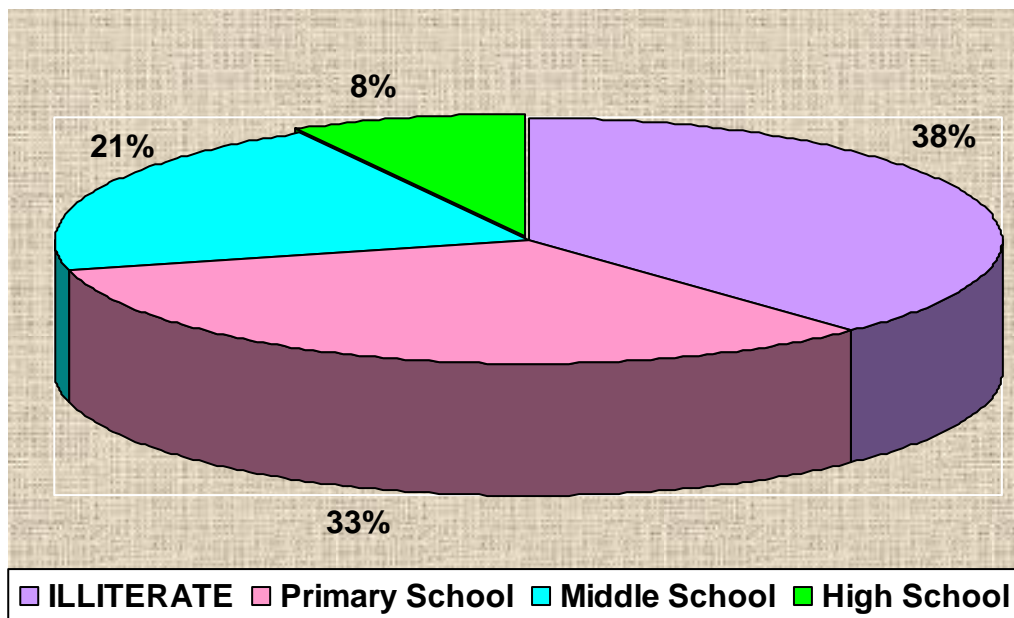


**Diagram 7: Impact of literacy on the percentage of induced abortion**

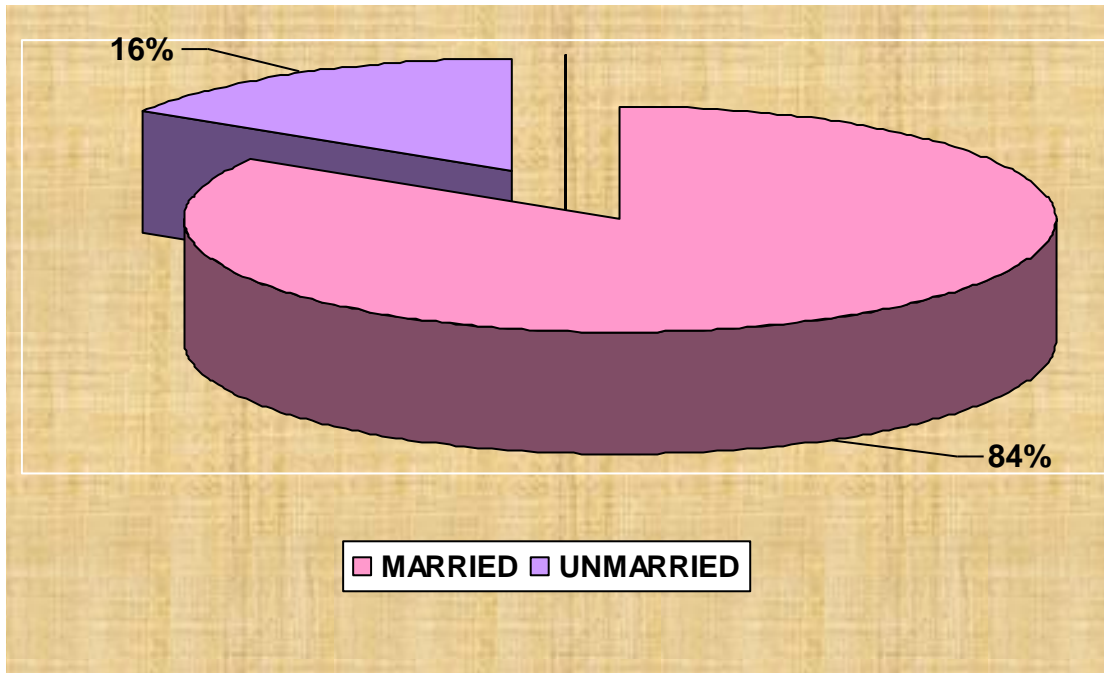
**(a) Educational status among women who underwent MTP**



**(b) Level of Education among the literate women**

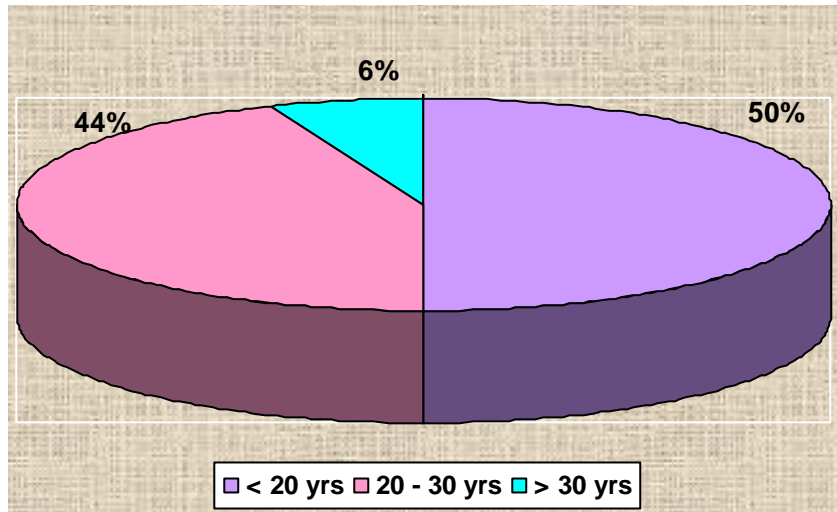


**Diagram 8: Distribution of cases according to marital status**

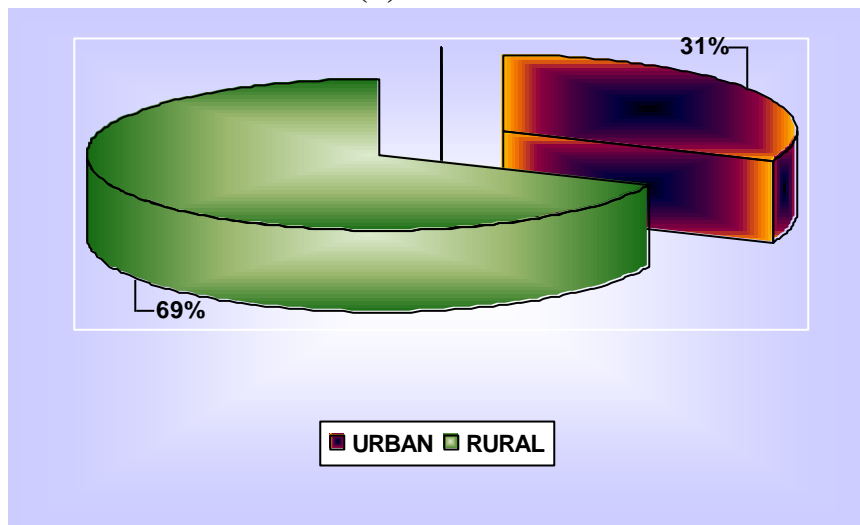


**Diagram 9: Social Parameters among unwed women**

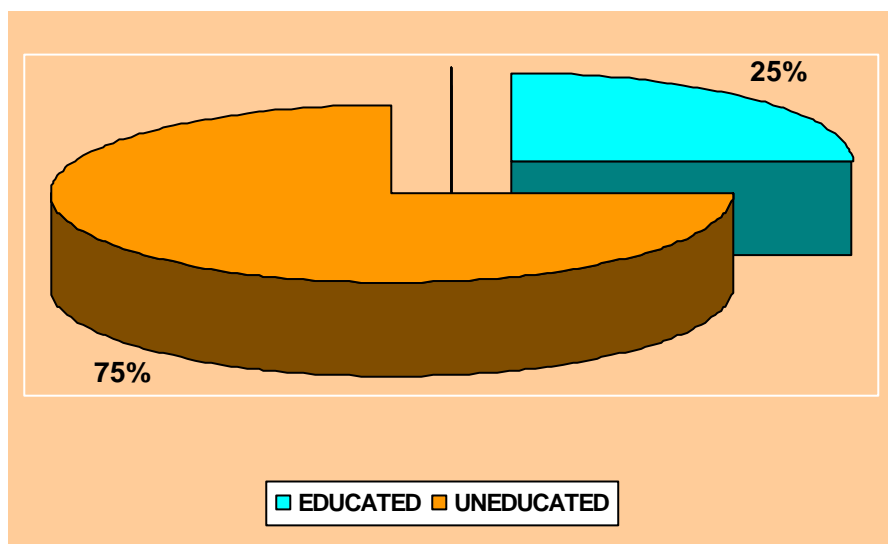
**(a) AGE**



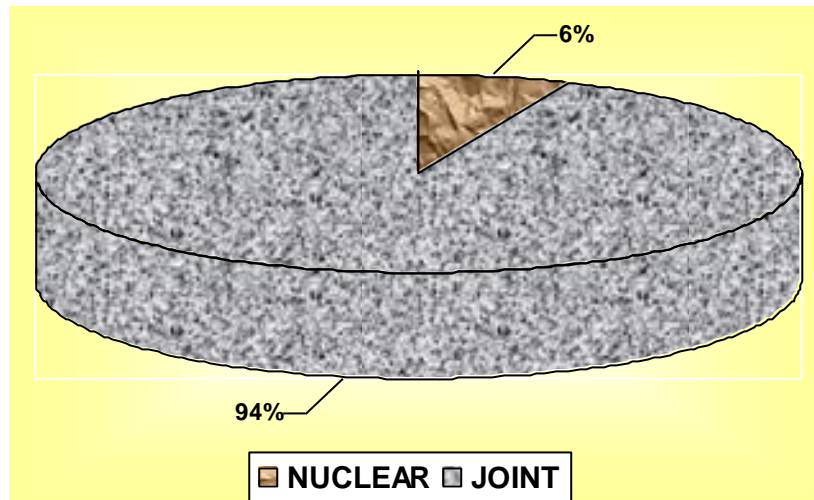
**(b) RESIDENCE**



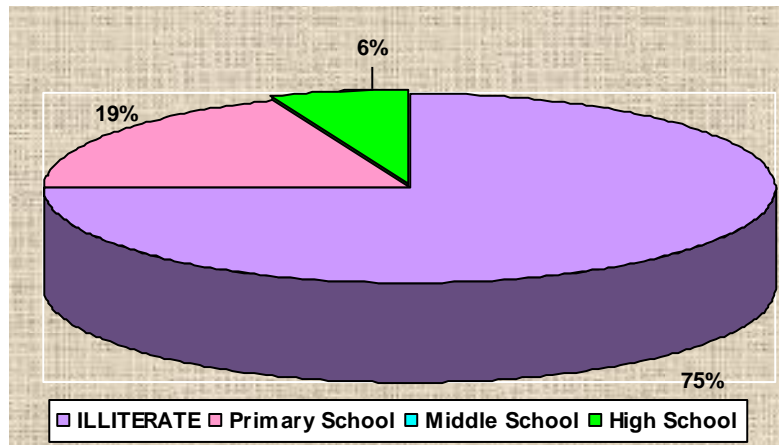
**(c) LITERACY**



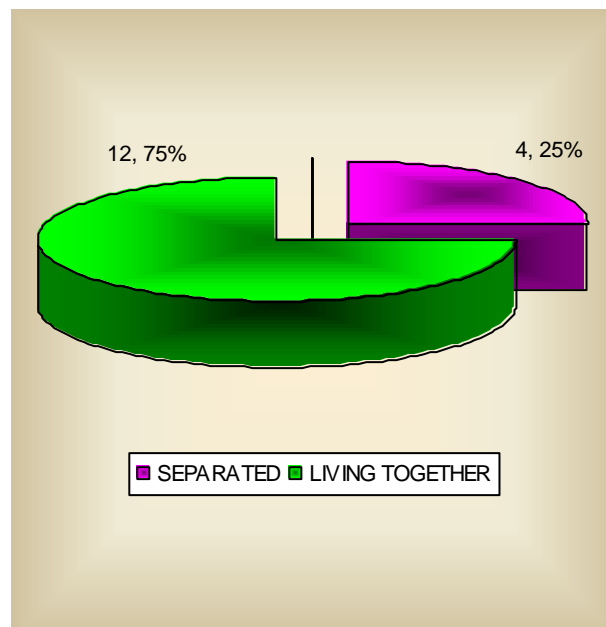
**(d) FAMILY PATTERN**



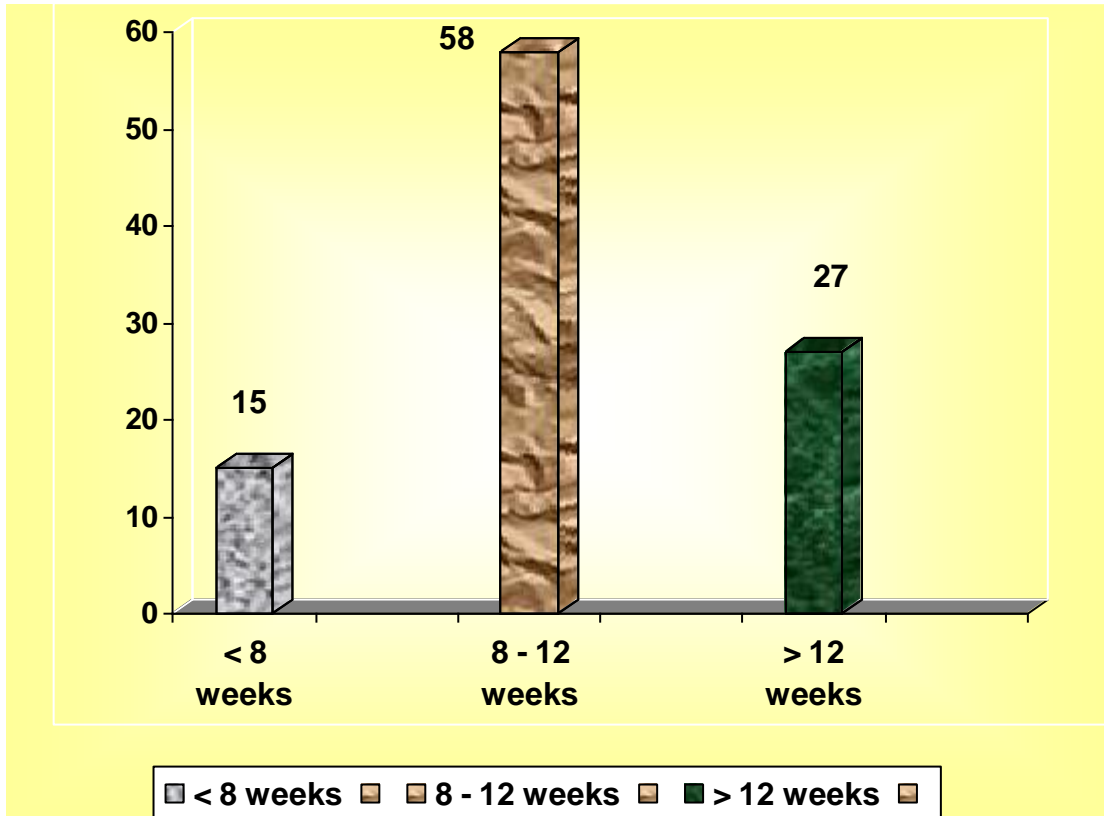
**(e) EDUCATIONAL STATUS**



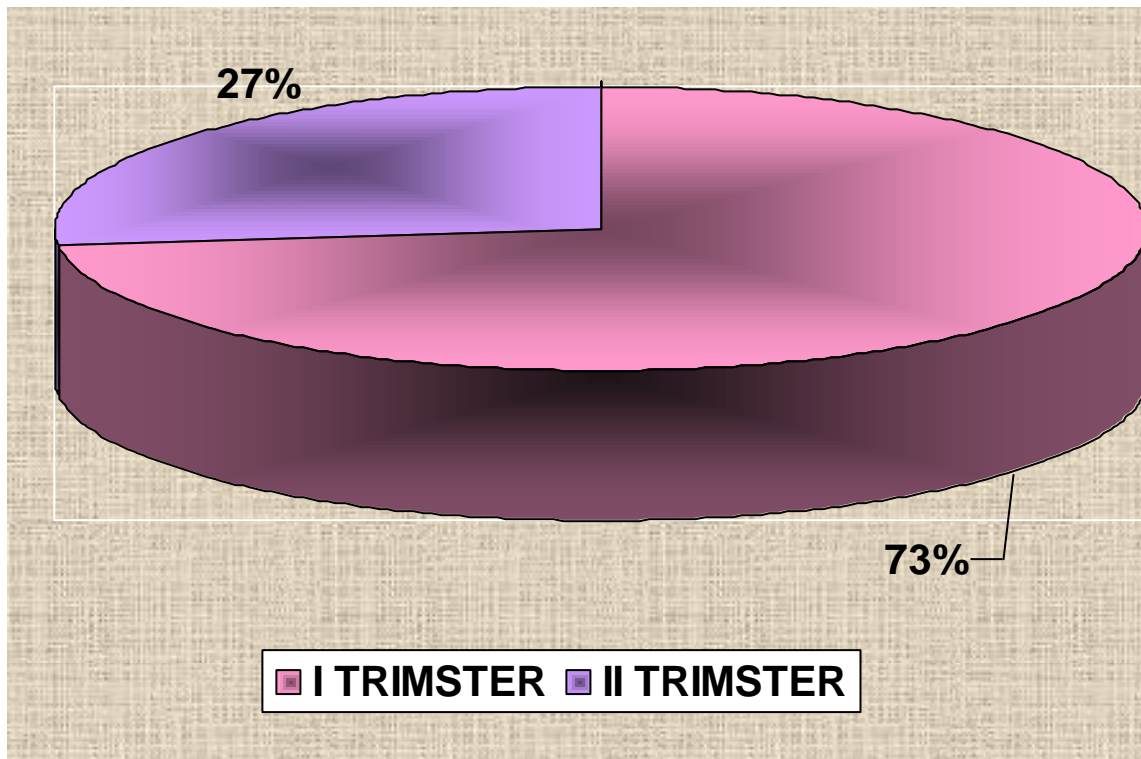
**(f) MARITAL STATUS OF PARENTS OF UNMARRIED WOMEN**



**Diagram 10 : Distribution of cases according to weeks of gestation**

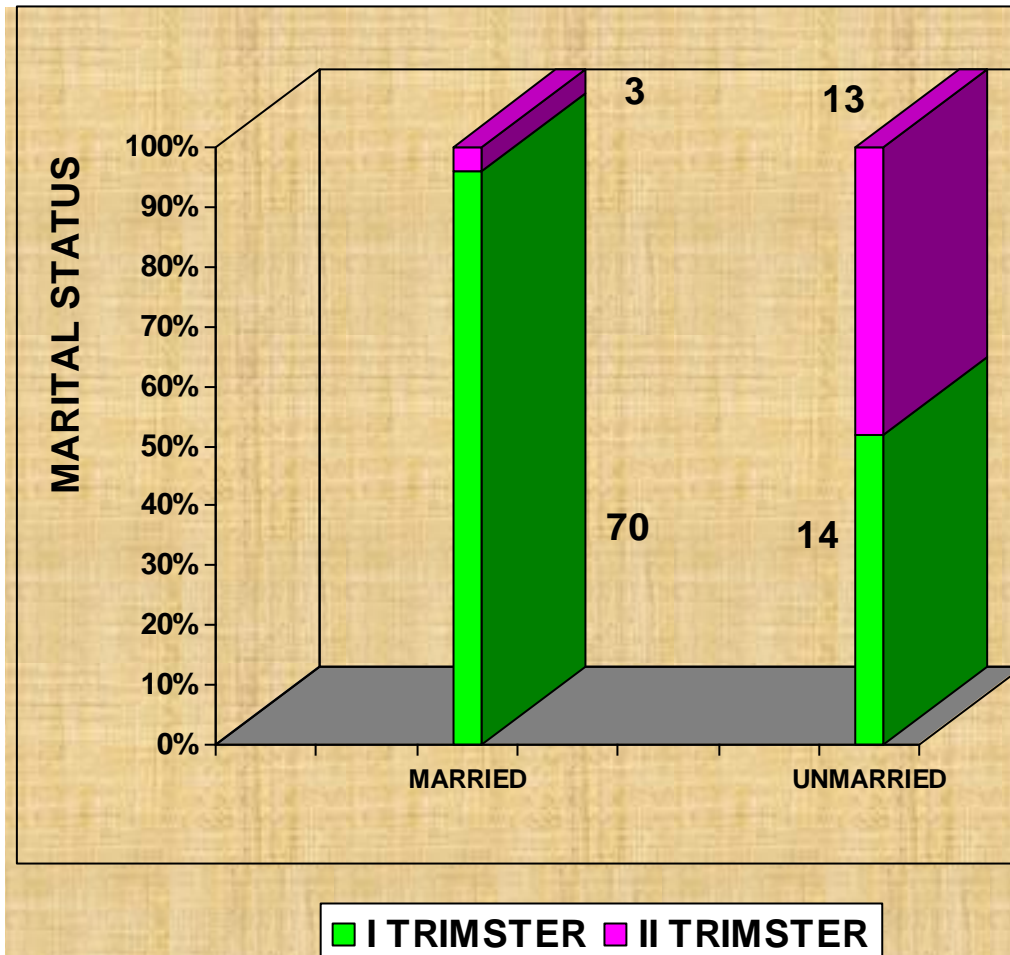


**Diagram 11 : Distribution of cases according to Trimester of abortion**

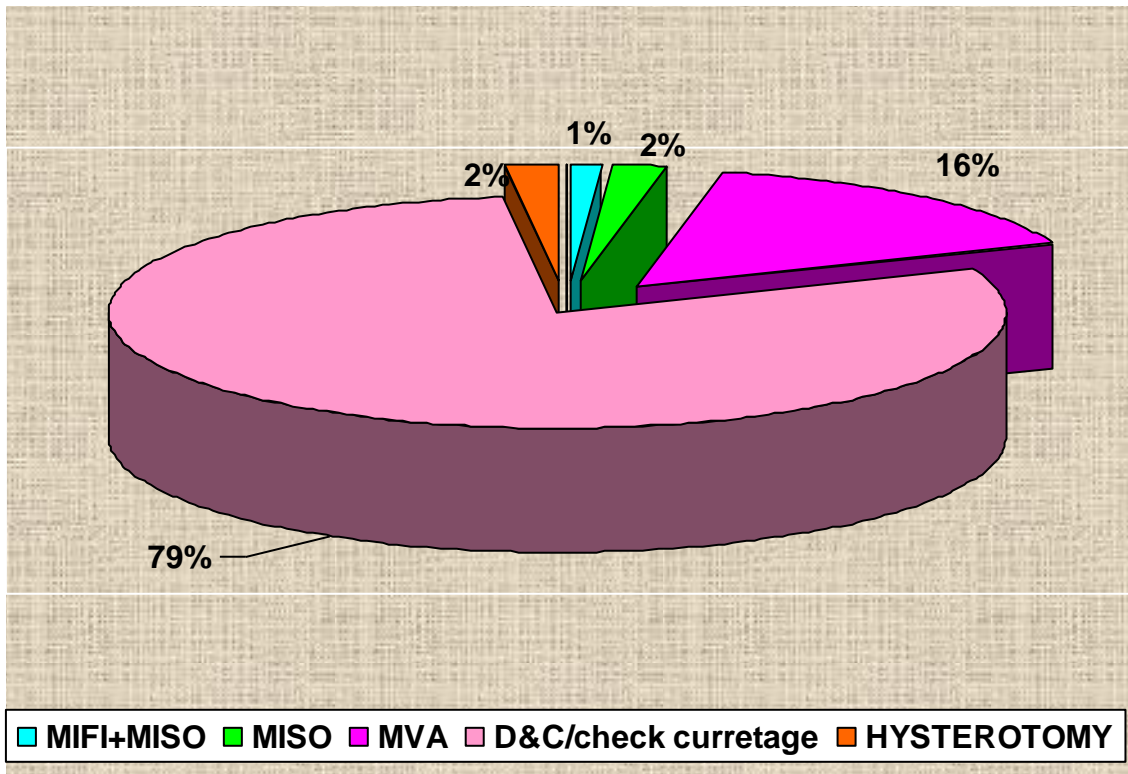




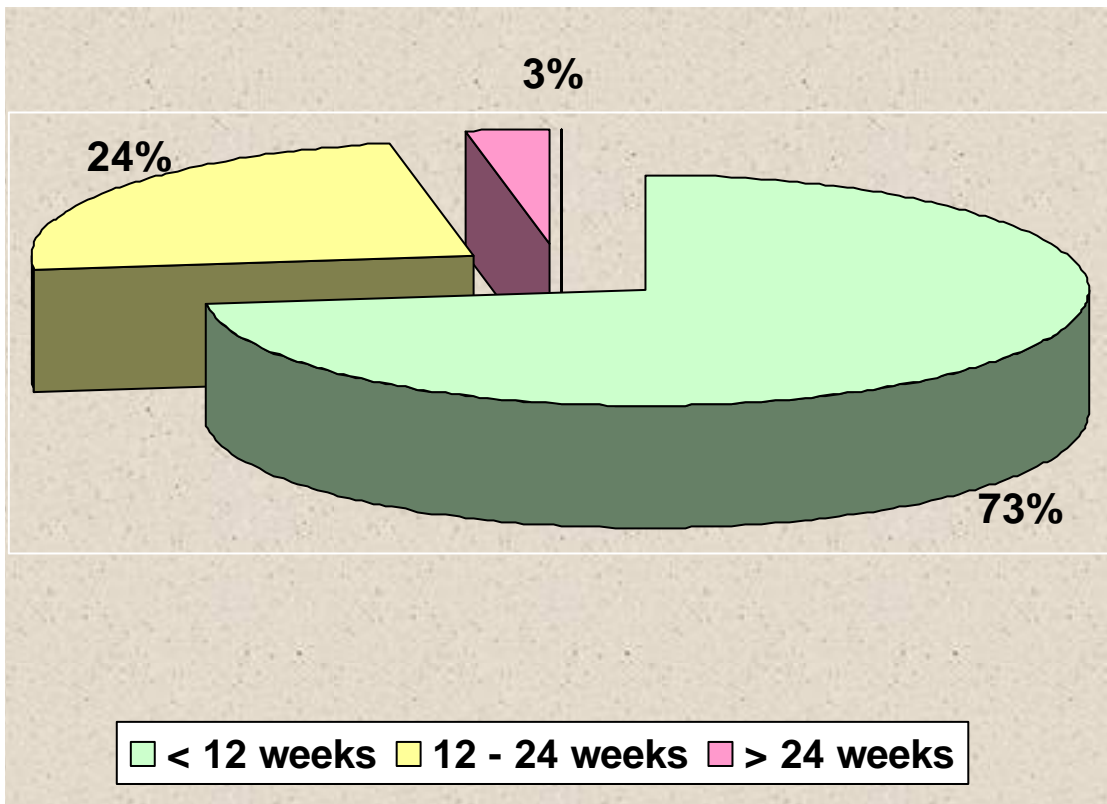
**Diagram 12: Marital status according to trimester of abortion**



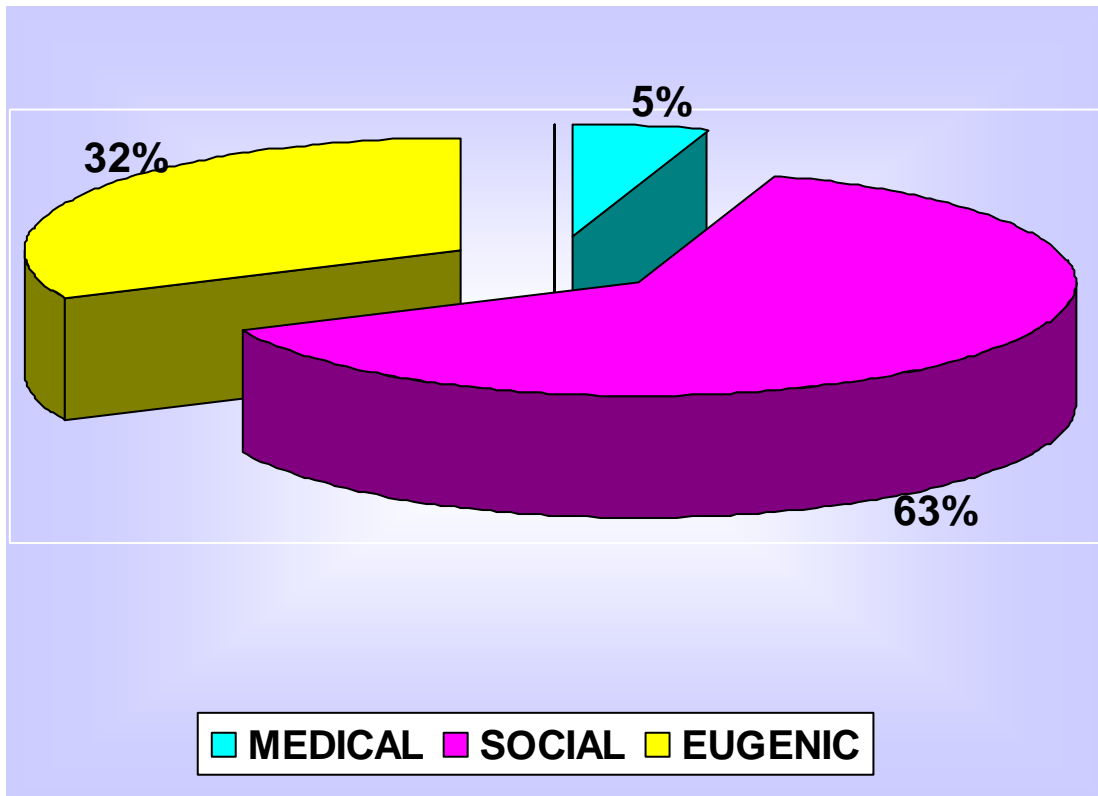
**Diagram13: Distribution of cases according to method of induction**



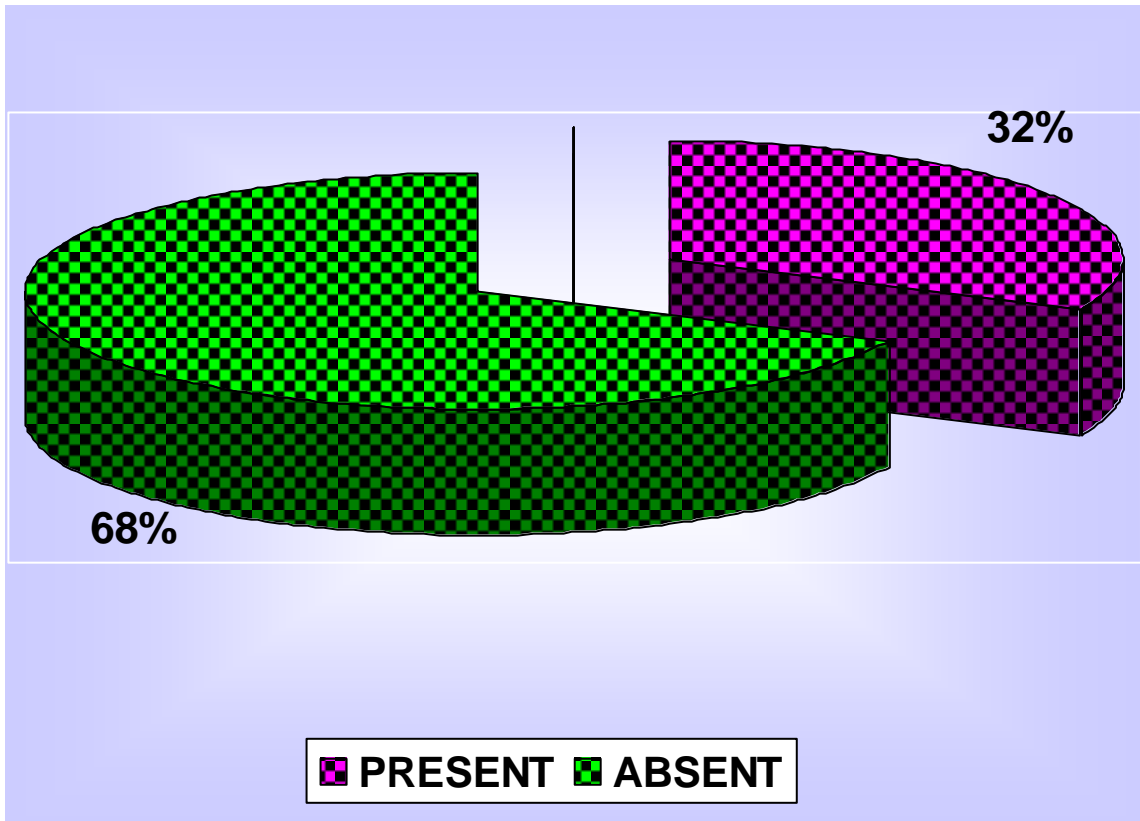
**Diagram 14: Distribution of cases according induction abortion interval**



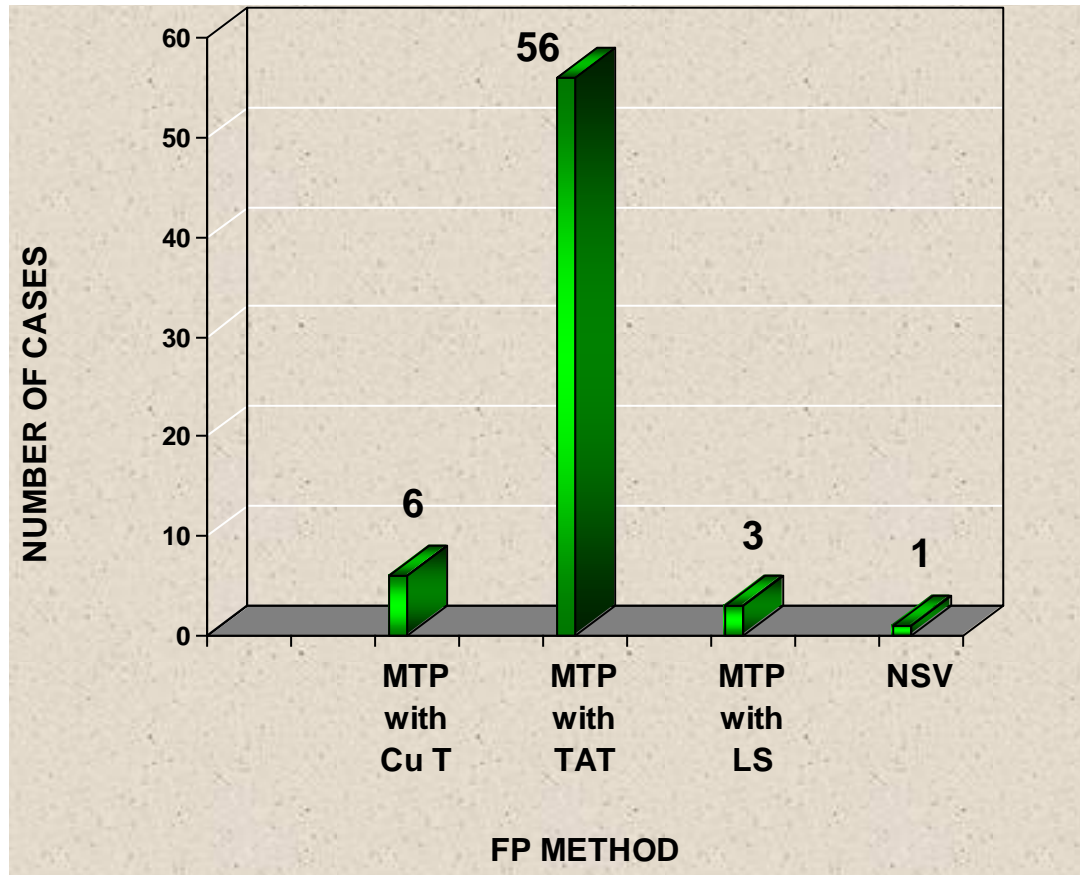
**Diagram 15: Distribution of cases according to Reasons**



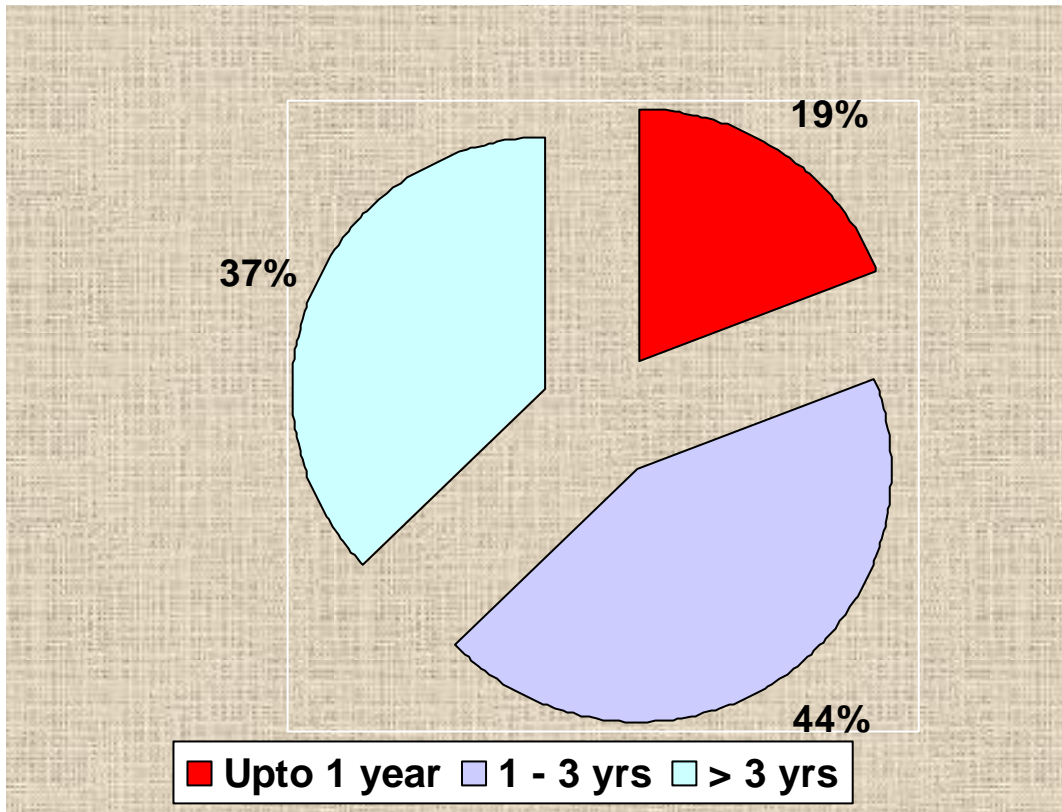
**Diagram 16: Cases with medical disorders**



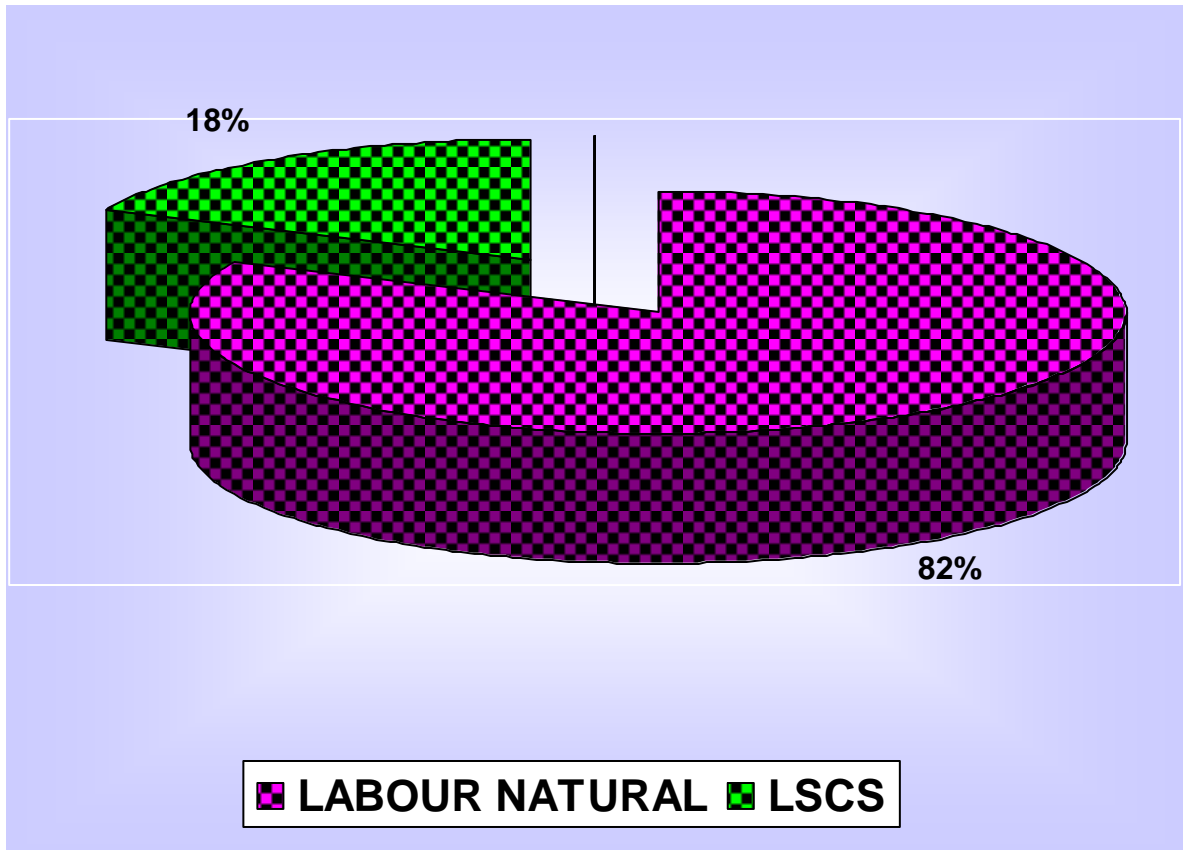
**Diagram17 : Adoption of Family Planning Methods**



**Diagram 18: Distribution of cases according to LCB**

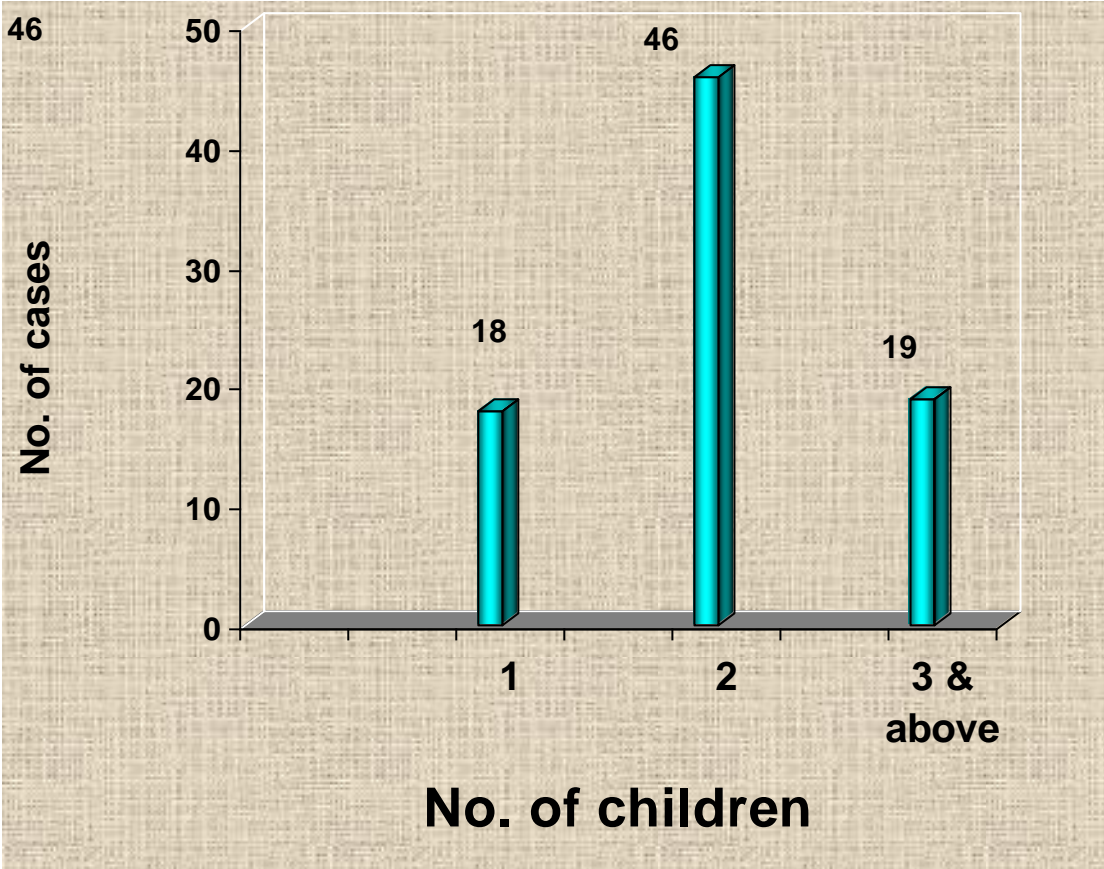


**Diagram 19: Distribution of cases according to mode of delivery**

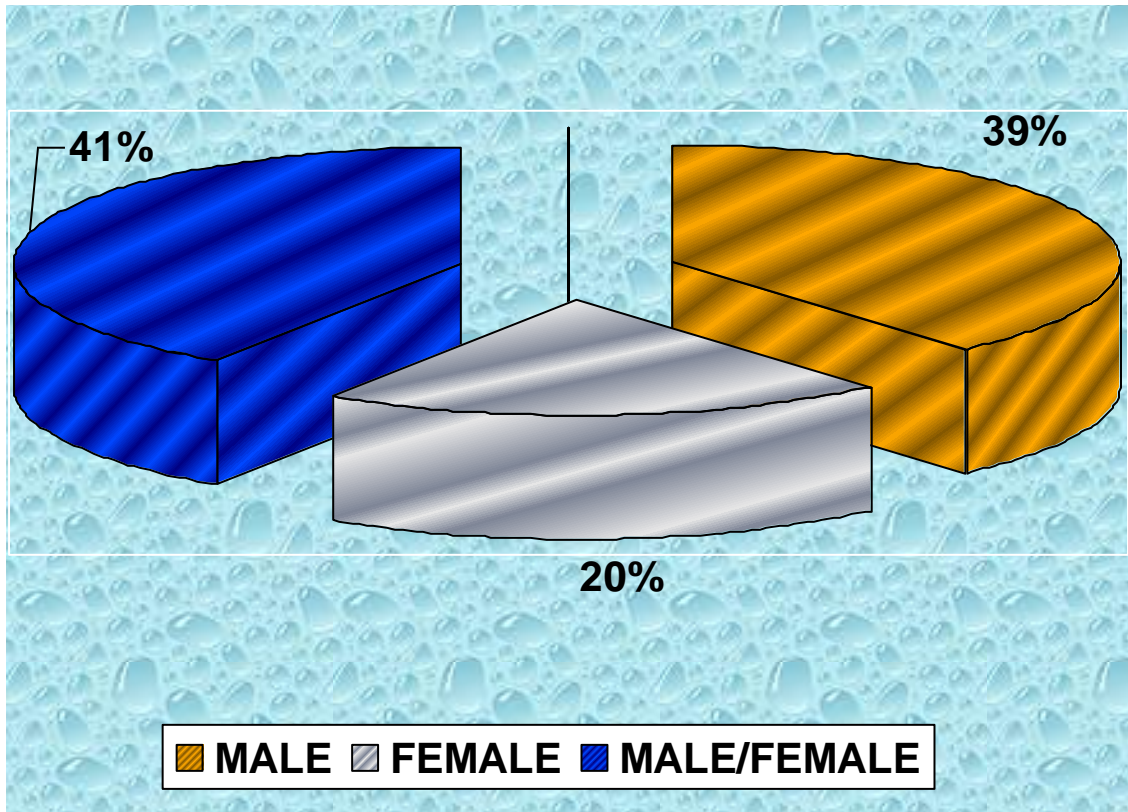




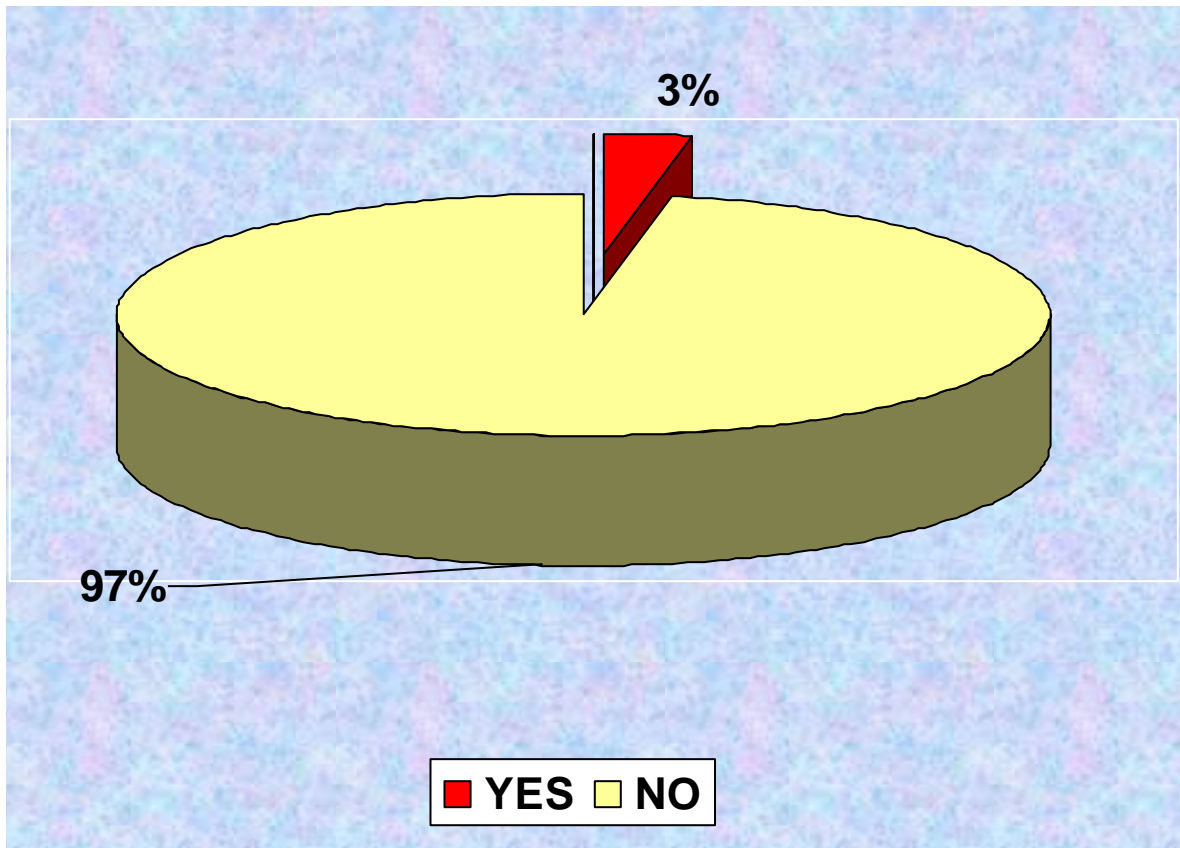
**Diagram 20 : Distribution of cases according to number of children**



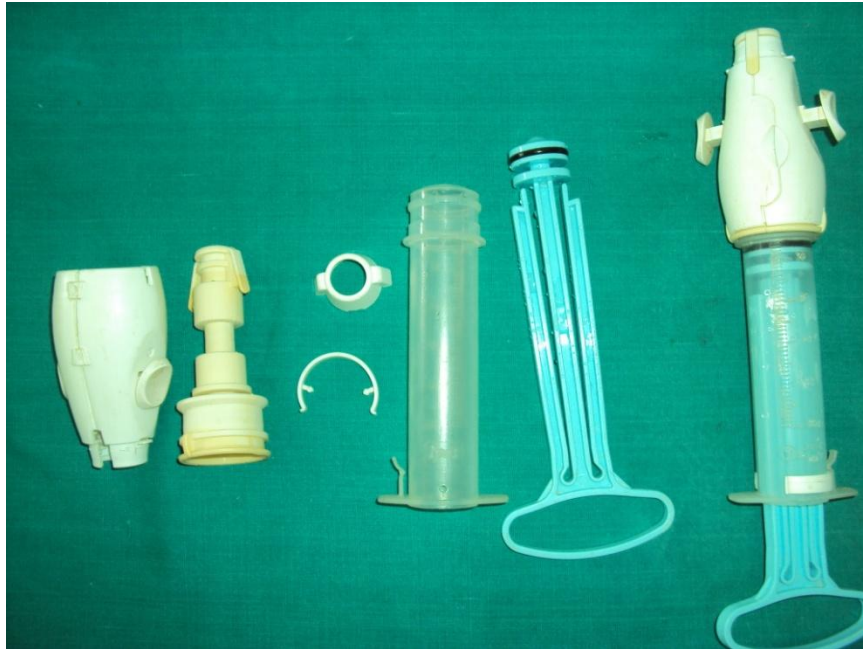
**Diagram 21: Distribution of cases according to sex of the living children**



**Diagram 22: Distribution of cases according to intake of tablet over counter**



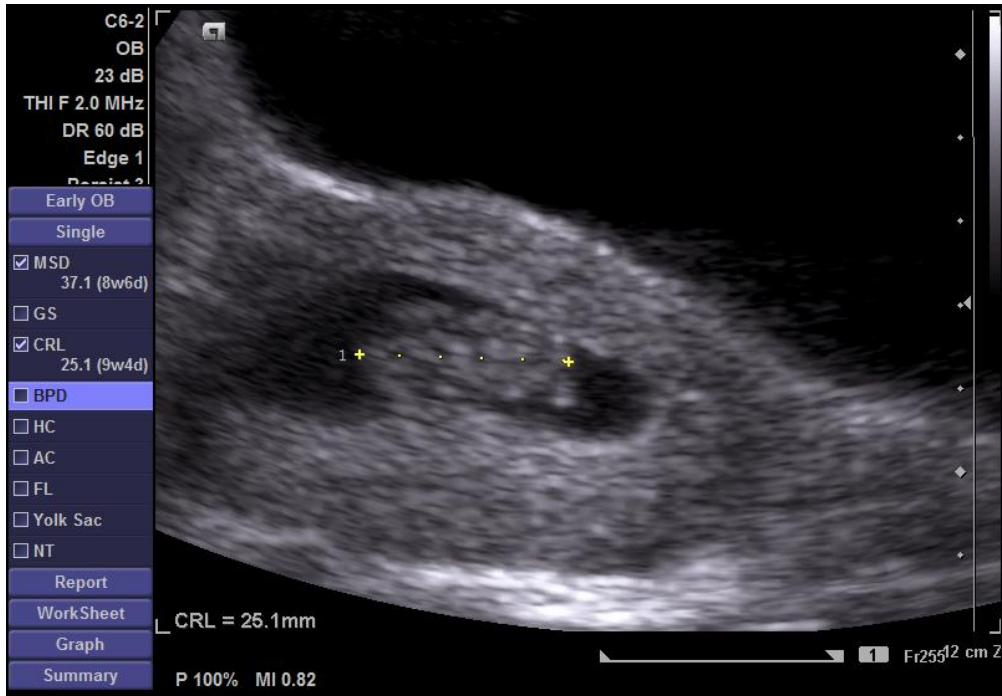
**FIGURE 3 : MVA SYRINGE**



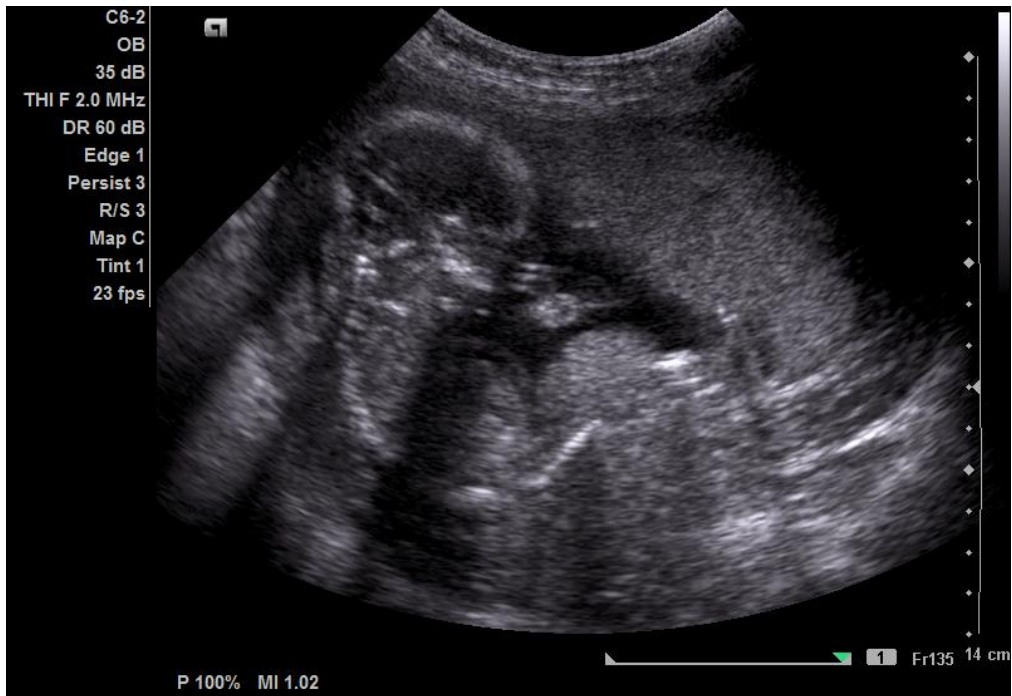
**FIGURE 4 : INSTRUMENTS USED IN DILATATION AND CURETTAGE**



**FIGURE 1 : FIRST TRIMESTER ULTRASONOGRAM**



**FIGURE 2 : SECOND TRIMESTER ULTRASONOGRAM**



## BIBLIOGRAPHY

1. Chhabra, R. and S.C. Nuna. 1994. *Abortion in India: An Overview*. New Delhi: Veerendra Printers.
2. Sood, M., Y. Juneja and U. Goyal, 1995. Maternal mortality and morbidity associated with clandestine abortions. *Journal of the Indian Medical Association*, 93(2): 77-79.
3. Malhotra, A., S. Parasuraman, L. Nyblade et al. 2003. *Realizing Reproductive Choices and Rights: Abortion and Contraception in India*. International Centre for Research on Women (ICRW).
4. Grimes, D. A.; Benson, J.; Singh, S.; Romero, M.; Ganatra, B.; Okonofua, F. E.; Shah, I. H. (2006). "Unsafe abortion: The preventable pandemic" (PDF). *The Lancet* 368 (9550): 1908–1919.
5. Jauniaux E, Kaminopetros P, El-Rafaey H (1999). "Early pregnancy loss". In Whittle MJ, Rodeck CH. *Fetal medicine: basic science and clinical practice*. Edinburgh: Churchill Livingstone. p. 837.
6. Jones RK, Kooistra K (March 2011). "Abortion incidence and access to services in the United States, 2008". *Perspect Sex Reprod Health* 43 (1): 41–50.
7. Hammond C, Chasen ST (2009). "Dilation and evacuation". In Paul M, Lichtenberg ES, Borgatta L, Grimes DA, Stubblefield PG, Creinin MD

- (eds.). Management of unintended and abnormal pregnancy: comprehensive abortion care. Oxford: Wiley-Blackwell. pp. 178–192.
8. Shah, I.; Ahman, E. (December 2009). "Unsafe abortion: global and regional incidence, trends, consequences, and challenges" (PDF). *Journal of Obstetrics and Gynaecology Canada* 31 (12): 1149–58.
  9. Ganatra, B. 2000. Abortion research in India: What we know, and what we need to know. In R.Ramasubban and S.J. Jejeebhoy, eds., *Women's Reproductive Health in India*: 186-235. Jaipur: Rawat Publications.
  10. Gupte M., S. Bandewar and H. Pisal. 1999. Women's perspective on the quality of care: Evidence from rural Maharashtra. In M.A. Koenig and M.E. Khan, eds., *Quality of Care Within the Indian Family Welfare Programme*: 117-39. New York: Population Council.
  11. Jejeebhoy, S. 1996. *Adolescent Sexual and Reproductive Behaviour: A Review of the Evidence from India*. Washington, D.C.: International Centre for Research on Women.
  12. Johnston, H.B. 2002. *Abortion Practice in India: A Review of the Literature*. Mumbai: CEHAT.

- 13.Elul B., S. Barge, S. Verma et al. 2003 (forthcoming). Unintended Pregnancy and Abortion: A Community-based Study in Rajasthan – Summary Report . New Delhi: Population Council.
- 14.Khan, M.E., S. Barge and G. Philip. 1996. Abortion in India: An overview. *Social Change*, 26(3-4): 208-25.
- 15.Indian Council of Medical Research (ICMR). 1989. *Illegal Abortion in Rural Areas: A Task Force Study*. New Delhi: ICMR.
- 16.Gupte M., S. Bandewar and H. Pisal. 1997. Abortion needs of women in India: A case study of rural Maharashtra. *Reproductive Health Matters*, 9 (May): 77-86.
- 17.Khan, M.E., S. Barge, N. Kumar et al. 1999. Abortion in India: Current situation and future challenges. In S. Pachauri, ed., *Implementing a Reproductive Health Agenda in India: The Regional Health Forum – Volume 8, Number 2, 2004 13 Beginning*: 507-29. New Delhi: Population Council.
- 18.Barua, A. 2002. Availability and accessibility of abortion care: Provider perspectives. Paper presented at the Population Council Workshop on ‘Abortion in India: How Can Research Help Us Move Forward?’ Goa.



19. Iyengar K. and S. Iyengar. 2002. Experience with manual vacuum aspiration in a rural primary health care setting. Paper presented at the Population Council Workshop on 'Abortion in India: How Can Research Help Us Move Forward Goa.
20. Sheriar, N.K. 2001. Navigating the MTP Act in clinical practice. *Journal of Obstetrics and Gynaecology of India*, 51: 25-29.
21. Government of India (GOI). 2002. The Medical Termination of Pregnancy (Amendment) Bill (Bill No. XXXV).
22. Mallik, R. 2002. India -Recent Developments Affecting Women's Reproductive Rights. Centre for Health and Gender Equity (CHANGE).
23. Verma, S., H. Bracken and B. Elul. 2003. Sexselective abortions in Rajasthan, India, unpublished.
24. Khan M.E., S. Rajagopal, S. Barge et al. 1998. Situation analysis of MTP services in Gujarat, Maharashtra, Tamil Nadu and Uttar Pradesh. Paper presented at the International Workshop on 'Abortion Facilities and Post-abortion Care and Operation Research,' New York, 19-21 January.
25. Susan A. Cohen: Abortion and Women of Color: The Bigger Picture, *Guttmacher Policy Review*, Summer 2008, Volume 11, Number 3.

26. Finer, L. B.; Frohworth, L. F.; Dauphinee, L. A.; Singh, S.; Moore, A. M. (2005). "Reasons U.S. Women Have Abortions: Quantitative and Qualitative Perspectives". *Perspectives on Sexual and Reproductive Health* 37 (3): 110–118.
27. Healthwise (2004). "Manual and vacuum aspiration for abortion". WebMD. Archived from the original on 28 October 2008.
28. World Health Organization (2003). "Dilatation and curettage". *Managing Complications in Pregnancy and Childbirth: A Guide for Midwives and Doctors*. Geneva: World Health Organization.
29. Riddle, John M. (1997). *Eve's herbs: a history of contraception and abortion in the West*. Cambridge, Massachusetts:
30. Jones, R. K.; Darroch, J. E.; Henshaw, S. K. (2002). "Contraceptive Use Among U.S. Women Having Abortions in 2000-2001" (PDF). *Perspectives on Sexual and Reproductive Health* 34 (6): 294–303.
31. Brind'Amour, Katherine (2007). "Effraenatam". *Embryo Project Encyclopedia*. Arizona State University. Archived from the original on 1 February 2012.
32. Ministry of Health and Family Welfare (MOHFW). 2000. *National Population Policy, 2000*. New Delhi: Government of India.

33. Bankole et al. (1998). "Reasons Why Women Have Induced Abortions: Evidence from 27 Countries". International Family Planning Perspectives 24 (3): 117–127 & 152.
34. Finer, Lawrence B.; Frohworth, Lori F.; Dauphinee, Lindsay A.; Singh, Susheela; Moore, Ann M. (2005). "Reasons U.S. Women Have Abortions: Quantitative and Qualitative Perspectives" (PDF). Perspectives on Sexual and Reproductive Health 37 (3): 110–118.
35. Coyaji, K. 2002. Medical Abortion. Paper presented at the Population Council Workshop on 'Abortion in India: How Can Research Help Us Move Forward?' Goa.
36. Times of India. 2002. Abortion-made-easy pill causes alarm in the state, Manjari Mishra, 5 August.
37. Hindustan Times. 2003. Abortion gets a medical edge. Sutirtho Partranobis, 13 March.
38. India Today. 2003. Foetal extraction. Supriya Bezbaruah, 12 May.
39. Stöppler, Melissa Conrad. "Miscarriage (Spontaneous Abortion)". In Shiel, William C., Jr.. MedicineNet.com. WebMD.
40. Jauniaux E, Kaminopetros P, El-Rafaey H (1999). "Early pregnancy loss". In Whittle MJ, Rodeck CH. Fetal medicine: basic science and clinical practice. Edinburgh: Churchill Livingstone. p. 837.

# PROFORMA

## Prospective Analytical Study on the Medical termination of pregnancies in a Tertiary Care Centre.

**Name**

**Age**

**D.O.A.**

**Address**

**Education**

**IP No.**

Parity

Socioeconomic status

Employed / Un Employed

**Urban / Rural**

**Religion**

**Mobile No:**

**Period of MTP:** I trimester – Gestational age <8 weeks,

8-12 weeks

II trimester

**Menstrual History**

: Attained menarche

Cycles-Regular/Irregular

LMP

wks of amenorrhea

**Marital Status** : Married / Unmarried / Widow /

Destituted woman

Married Since

**Obstetric History** : G P L A

Sex of the living children

LCB

### **Previous Deliveries**

- LCB
- Mode of Delivery
- Labour Natural
- Assisted Breech
- Instrumental
- LSCS

### **Previous MTP**

- Duration of Amenorrhea
- Method of termination
- Reason for termination

**H/O Contraception** : Yes / No

**If yes** : Natural

Barrier

OCP

TCU

Sterilisation

### **Present Pregnancy**

Confirm pregnancy by UPT-

USG

Duration of Amenorrhea

<8 weeks

8-12 weeks

>12 weeks

### **Past History**

- Anemia / Blood transfusion
- Hypertension
- Diabetes
- Heart diseases
- Epilepsy
- Pulmonary TB

- Cancer
- Renal disease
- Bleeding disorders
- Psychiatric illness
- Others –
- History of surgery – LSCS / appendicectomy / laporatomy Ovariotomy

**History of induction:** Oral / vaginal

If tablet – over the counter Yes / No

**Family History :** Medical / Surgical / Illness

Nuclear / Joint Family

Children: School going / Child Labour

**Personal History :** Veg / Non Veg / Mixed diet

**Treatment History :** Drug intake

### **General Examination**

O/E

Ht

wt

Built

Patient afebrile

Anemic

Lymphadenopathy

JVP

Pedal oedema

**PR** :

**BP** :

**CVS** : S1S2+

Murmur

**RS** : NVBS

**P/A** : Scar

**P/S** :

**P/V** :

**Investigations:** Hb%

Urine Alb

Sugar

Blood Sugar

Urea

Creatinine



Blood grouping and Typing

ECG

**Special Investigations** : Echo

CT

EEG

**Opinion** :

**Methods of MTP** - Medical / Surgical

Medical Abortion - Induction with misoprostol

**Induction-Abortion Internal**

Check curettage - Yes / No

Surgical - MVA / MTP / D & C / Hysterotomy

Anaesthesia

Priming of Cx with misoprostol

Combined with    CuT  
Sterilisation

Complication

Follow up

**Causes of MTP**

<b>Social</b>	<b>Medical</b>	<b>Humanitarian</b>	<b>Eugenic</b>

## ABBREVIATIONS USED IN MASTER CHART

FP	-	Family Pattern
SES	-	Socio economic status
MTP	-	Medical termination of pregnancy
MMI	-	Method of MTP induction
IA interval	-	Induction Abortion interval
Combined FP	-	Combined family planning method
LCB	-	Last child birth
NOC	-	No of children
HOS	-	History of sterilisation
MD	-	Medical disorders
NA	-	Not applicable
ND	-	Not done
N	-	Nuclear
J	-	Joint family
ME	-	Medical method of Induction
Xanthogra	-	Xanthogranulomatous pyelonephritis
HT	-	Hypertension
HD	-	Heart Disease
Psychia	-	Psychiatry
Reasons for MTP	-	1 : Medical, 2: Social, 3: Eugenic
Sex of the living children	-	1: Male child, 2: Female child, 3: both male and female
Educational status	-	1: Primary School, 2: Middle School, 3: High School

27/3/2012  
Ref. No. 3104/E4/3/2012

Govt. Rajaji Hospital, Madurai. 20.

Dated: .03.2012

**Institutional Review Board / Independent Ethics Committee.**

**Dr. A. Edwin Joe, M.D (FM), BL.,**  
Dean, Madurai Medical College & 2521021 (Secy)  
Govt Rajaji Hospital, Madurai 625020.  
**Convenor**  
grhethicssecy@gmail.com.

**Sub: Establishment-Govt. Rajaji Hospital, aMadurai-20-  
Ethics committee-Meeting Agenda-communicated-regarding.**

The Ethics Committee meeting of the Govt. Rajaji Hospital, Madurai was held at 11.00 Am to 1.00Pm on 29.03.2012 at the Dean Chamber, Govt. Rajaji Hospital, Madurai. The following members of the committee have been attended the meeting.

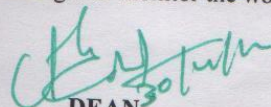
- |   |  |                     |
|---|--|---------------------|
| 1. Dr.N.Vijayasankaran, M.ch(Uro.)<br>094-430-58793<br>0452-2584397 | Sr.Consultant Urologist<br>Madurai Kidney Centre,<br>Sivangai Road, Madurai              | Chairman            |
| 2. Dr.P.K. Muthu Kumarasamy, M.D.,<br>9843050911                    | Professor & H.O.D of Medical,<br>Oncology(Retired)                                       | Member<br>Secretary |
| 3. Dr.T.Meena, MD<br>094-437-74875                                  | Professor of Physiology,<br>Madurai Medical College                                      | Member              |
| 4. Dr. S. Thamilarasi, M.D (Pharmacol)                              | Professor of pharmacology  |                     |
| 5. Dr. Moses K. Daniel MD(Gen.Medicine)<br>098-421-56066            | Professor of Medicine<br>Madurai Medical College   | Member              |
| 6. Dr.M.Gobinath, MS(Gen.Surgery)                                   | Professor of Surgery<br>Madurai Medical College  | Member              |
| 7. Dr.S. Dilshadh, MD(O&G)<br>9894053516                            | Professor of OP&Gyn<br>Madurai Medical College   | Member              |
| 8. Dr.S.Vadivel Murugan., M.D,<br>097-871-50040                     | Professor of Medicine<br>Madurai Medical College   | Member              |
| 9. Shri.M.Sridher, B.sc.B.L.<br>099-949-07400                       | Advocate,<br>2, Deputy collectors colony<br>4 <sup>th</sup> street KK Nagar, Madurai-20. | Member              |
| 10. Shri.O.B.D.Bharat, B.sc.,<br>094-437-14162                      | Businessman<br>Plot No.588,<br>K.K.Nagar, Madurai.20.                                    | Member              |
| 11. Shri. S.sivakumar, M.A(Social)<br>Mphil<br>093-444-84990        | Sociologist, Plot No.51 F.F,<br>K.K Nagar, Madurai.                                      | Member              |

Following Projects were approved by the committee

Sl. No	Name of P.G.	Course	Name of the Project	Remarks
1.	Gayathridevi .S	PG. M.D (ob gyn)	Clinical study of medical terminations of pregnancy	Approved

Please note that the investigator should adhere the following: She/He should get a detailed informed consent from the patients/participants and maintain Confidentially.

1. She/He should carry out the work without detrimental to regular activities as well as without extra expenditure to the institution to Government.
2. She/He should inform the institution Ethical Committee in case of any change of study procedure site and investigation or guide.
3. She/He should not deviate for the area of the work for which applied for Ethical clearance. She/He should inform the IEC immediately, in case of any adverse events pr Serious adverse reactions.
4. She/he should abide to the rules and regulations of the institution.
5. She/He should complete the work within the specific period and apply for if any Extension of time is required She should apply for permission again and do the work.
6. She/He should submit the summary of the work to the Ethical Committee on Completion of the work.
7. She/He should not claim any funds from the institution while doing the word or on completion.
8. She/He should understand that the members of IEC have the right to monitor the work with prior intimation.

  
DEAN


To  
All the above members and Head of the Departments concerned.  
All the Applicants.

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TNMGRMU APRIL 2013 EXAMINAT... Medical - DUE 31-Dec-2012 What's New

Originality GradeMark PeerMark PROSPECTIVE ANALYTICAL STUDY ON THE MEDICAL TERMINATION OF  
BY GAYATHRIE DEVI 22112701 M.S. OG turnitin 11% SIMILAR OUT OF 0

**PROSPECTIVE ANALYTICAL STUDY ON THE  
MEDICAL TERMINATION OF PREGNANCIES  
IN A TERTIARY CARE CENTRE.**

**M.S. (OBSTETRICS AND GYNAECOLOGY)  
DEGREE EXAMINATION  
BRANCH - II**



**Match Overview**

Rank	Source	Similarity
1	www.searo.who.int Internet source	4%
2	www.bioscience.ws Internet source	2%
3	www.cehat.org Internet source	1%
4	Khanna, N.M.. "Isapten..." Publication	1%
5	OTTO BILLIG. Publication	<1%
6	Submitted to Universit... Student paper	<1%
7	www.cluteinstitute-onl... Internet source	<1%
8	files.dcp2.org Internet source	<1%

PAGE: 1 OF 100

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**MASTER CHART**

S.No	Name	Case No	IPNo	age group	Age	Religion	Background	FP	SES	Education	Marital status	Contraception	Parity	MTP	MTP-Trimester	MMI	IA interval	Morb/Mort	combinedFP	LCB	Noc	Hos	LSCS	MD	Reasons MTP	Tab over counter	Sex	educationstatus
1	1	1	14197	2	28	hindu	Rural	N	low	yes	1	no	G2	18	2	s	12 to 24	Nil	ND	1.5	1	no	yes	cancer	2	no	1	2
2	2	2	13882	2	24	hindu	rural	N	low	yes	1	no	G3	6	1	s	<12	Nil	ND	2.5	2	no	no	Thyroid	2	no	3	2
3	3	3	5083	2	27	hindu	Rural	N	low	yes	1	no	G3	6	1	s	<12	Nil	ND	1.5	2	no	yes	HT	2	no	3	1
4	4	4	19129	2	23	hindu	Urban	N	low	yes	1	no	G3	8	1	s	12 to 24	Nil	ND	3	2	no	no	no	3	no	3	2
5	5	5	12273	2	22	hindu	Rural	N	low	no	1	no	G3	10	1	s	<12	Nil	2	3	2	no	no	HD	3	no	3	illiterate
6	6	6	12390	2	23	hindu	Rural	N	low	yes	1	no	G2	16	2	s	12 to 24	Nil	ND	2	1	no	no	xanthogra	2	no	2	2
7	7	7	104	2	24	hindu	Urban	J	low	no	2	NA		16	2	s	<12	Nil	NA	NA	NA	NA	NA	HT	3	no	NA	illiterate
8	8	8	431	1	18	hindu	Rural	J	low	no	2	NA		18	2	s	12 to 24	Nil	NA	NA	NA	NA	NA	no	3	no	NA	illiterate
9	9	9	788	1	19	hindu	Rural	J	low	no	2	NA		12	1	s	<12	Nil	NA	NA	NA	NA	NA	no	3	no	NA	illiterate
10	10	10	1409	1	18	hindu	Rural	J	low	no	2	NA		20	2	s	12 to 24	Nil	NA	NA	NA	NA	NA	no	3	no	NA	illiterate
11	11	11	1511	1	18	hindu	Rural	J	low	no	2	NA		18	2	s	12 to 24	Nil	NA	NA	NA	NA	NA	no	3	no	NA	illiterate
12	12	12	20735	1	18	hindu	Rural	J	low	no	2	NA		20	2	s	12 to 24	Nil	NA	NA	NA	NA	NA	no	3	no	NA	illiterate
13	13	13	62940	2	20	hindu	Rural	J	low	no	2	NA		8	1	s	<12	Nil	NA	NA	NA	NA	NA	no	3	no	NA	illiterate
14	14	14	9096	2	20	hindu	Urban	J	low	no	2	NA		20	2	s	12 to 24	Nil	NA	NA	NA	NA	NA	no	3	no	NA	illiterate
15	15	15	8011	1	18	muslim	Rural	J	low	yes	2	NA		18	2	s	> 24	Nil	NA	NA	NA	NA	NA	no	3	no	NA	1
16	16	16	3435	1	18	hindu	Urban	J	low	yes	2	NA		20	2	s	12 to 24	Nil	NA	NA	NA	NA	NA	no	3	no	NA	1
17	17	17	3142	2	30	hindu	Rural	J	low	no	2	NA		20	2	s	12 to 24	Nil	NA	NA	NA	NA	NA	no	3	no	NA	illiterate
18	18	18	3773	2	27	hindu	Rural	J	low	yes	1	no	G3	8	1	s	<12	Nil	2	5Months	2	no	no	no	3	no	2	2
19	19	19	3937	2	27	hindu	Urban	J	low	yes	1	no	G4	8	1	s	<12	Nil	2	3	2	no	yes	no	3	no	3	1
20	20	20	2022	3	35	hindu	Rural	J	low	no	2	NA		18	2	s	12 to 24	Nil	NA	NA	NA	no	no	no	3	no	NA	illiterate
21	21	21	3283	2	28	hindu	Urban	N	low	yes	1	no	G3	8	1	s	<12	Nil	ND	5	2	no	no	HD	2	no	3	1
22	22	22	4034	2	22	Christian	Urban	J	low	yes	2	NA		20	2	ME	<12	Nil	NA	NA	NA	NA	NA	no	3	no	NA	3
23	23	23	3123	2	29	hindu	Urban	J	low	no	1	no	G3	8	1	s	<12	Nil	2	1	2	No	no	TB	2	no	3	illiterate
24	24	24	4215	2	29	hindu	Urban	N	low	no	1	no	G5	12	1	s	<12	Nil	2	5	3	no	yes	no	3	no	3	illiterate
25	25	25	24201	2	22	hindu	Urban	N	low	yes	1	no	G3	10	1	s	<12	Nil	1	8Months	1	no	yes	Thromb	4	no	1	1
26	26	26	13932	2	23	hindu	Rural	N	low	no	1	no	G3	10	1	s	<12	Nil	4	2	2	no	no	TB	2	no	3	illiterate
27	27	27	2516	1	18	hindu	Urban	N	low	yes	2	NA		20	2	ME	12 to 24	Nil	NA	NA	NA	NA	NA	epilepsy	3	no	NA	1
28	28	28	13941	3	32	hindu	Rural	J	low	no	1	no	G4	10	1	s	<12	Nil	2	5	3	yes	no	no	3	no	2	illiterate
29	29	29	429	2	28	hindu	Urban	N	low	yes	1	yes	G2	8	1	s	<12	Nil	ND	1 MONTH	1	no	no	no	3	no	1	1
30	30	30	25191	1	19	Christian	Urban	J	low	yes	1	no	primi	10	1	s	<12	Nil	ND	NA	NA	NA	NA	POISON	4	no	NA	2
31	31	31	24856	3	39	Hindu	Urban	N	low	no	1	no	G4	10	1	s	<12	Nil	ND	6yrs	2	no	no	HT/DM	2	no	3	illiterate
32	32	32	13951	2	25	muslim	Urban	J	low	yes	1	no	G3	12	1	s	<12	Nil	ND	3	2	no	no	HD	2	no	3	1
33	33	33	22203	2	23	hindu	Rural	J	low	yes	1	no	G2	20	2	s	> 24	Nil	ND	1.5	1	no	no	asthma	3	no	1	1
34	34	34	23046	2	25	hindu	rural	J	low	no	1	no	G4	6	1	s	<12	Nil	1	2	2	no	no	CVT	2	no	3	illiterate
35	35	35	19624	3	34	hindu	Urban	N	low	no	1	no	G5	8	1	s	<12	Nil	2	5	2	no	no	asthma	2	no	3	illiterate
36	36	36	19610	2	23	hindu	Urban	N	low	yes	1	yes	G2	7	1	s	<12	Nil	ND	5Months	1	no	no	asthma	2	no	1	1
37	37	37	24209	2	27	hindu	Rural	N	low	no	1	no	G3	8	1	s	<12	Nil	1	2	2	no	no	hypothy	2	no	1	illiterate
38	38	38	13785	3	32	hindu	Urban	N	low	no	1	no	G4	6	1	s	<12	Nil	2	3	3	no	no	no	3	no	1	illiterate
39	39	39	13489	2	24	Christian	Urban	N	Low	no	1	no	G3	16	2	s	12 to 24	Nil	2	2	2	no	no	no	3	no	3	illiterate
40	40	40	13857	2	30	hindu	Urban	N	low	yes	1	no	G3	16	2	s	12 to 24	Nil	2	2	2	YES	no	no	3	no	1	1
41	41	41	15420	3	35	hindu	Rural	J	low	no	1	no	G3	10	1	s	<12	Nil	ND	10	1	no	no	CANCER	2	no	1	illiterate
42	42	42	16141	2	29	hindu	Rural	J	low	no	1	no	G4	18	2	s	12 to 24	Nil	2	1.5	3	yes	no	no	3	no	3	illiterate
43	43	43	13171	2	25	muslim	Rural	J	low	yes	1	no	G3	10	1	s	12 to 24	Nil	2	5	2	no	no	no	3	no	1	1
44	44	44	7235	2	23	hindu	Urban	J	low	yes	1	no	G3	12	1	s	<12	Nil	2	2	2	no	no	epilepsy	2	no	3	2
45	45	45	7987	2	27	hindu	Urban	J	low	no	1	no	G3	10	1	s	<12	Nil	2	5	2	no	no	no	3	yes	1	illiterate
46	46	46	8738	2	28	hindu	Urban	J	low	yes	1	no	G2	8	1	s	<12	Nil	ND	8	1	no	no	HD	2	no	1	2
47	47	47	7473	2	23	hindu	Rural	J	low	yes	1	no	G4	10	1	s	<12	Nil	2	1.5	3	no	no	no	3	no	1	2
48	48	48	5554	2	28	hindu	Urban	J	low	yes	1	no	G3	10	1	s	<12	Nil	2	3.5	2	no	no	epilepsy	2	no	1	2
49	49	49	13588	2	27	hindu	Urban	J	low	yes	1	no	G4	14	2	s	<12	Nil	ND	7	2	no	no	/PERTHYRO	2	yes	2	1
50	50	50	10364	2	29	hindu	Rural	J	low	no	1	no	G4	8	1	s	<12	Nil	1	8 MONTHS	2	no	no	HD/EPILEPS	2	no	2	illiterate
51	51	51	6207	2	29	hindu	Rural	N	low	no	1	no	G3	6	1	s	<12	Nil	2	6	2	yes	no	no	2	no	1	illiterate
52	52	52	18000	3	37	hindu	Urban	J	low	yes	1	no	G3	8	1	s	<12	Nil	2	4	2	no	yes	no	2	no	1	2
53	53	53	18014	3	32	hindu	Rural	N	low	yes	1	no	G4	10	1	s	<12	Nil	2	4	3	no	no	no	2	no	3	1
54	54	54	18036	3	34	hindu	Urban	N	low	yes	1	no	G4	10	1	s	<12	Nil	2	6	3	yes	no	no	2	no	3	1
55	55	55	18190	2	25	hindu	Urban	N	low	yes	1	no	G4	8	1	s	<12	Nil	3	3	3	no	no	no	2	no	2	3
56	56	56	18223	2	26	hindu	Rural	N	low	yes	1	no	G2	10	1	s	<12	Nil	2	8	2	no	yes	no	2	no	1	2



57	57	57	14342	2	25	hindu	Urban	N	low	yes	1	no	G2	20	2	s	12 to 24	Nil	NA	6	1	no	no	no	2	no	1	1
58	58	58	14933	2	24	hindu	Rural	J	low	no	1	no	G2	14	2	s	<12	Nil	2	10month	1	no	no	no	2	no	2	illiterate
59	59	59	15001	3	36	hindu	Urban	J	low	yes	1	no	G3	9	2	s	<12	Nil	2	9	2	no	yes	no	2	yes	1	1
60	60	60	14758	2	28	hindu	Urban	N	low	yes	1	no	G3	12	1	s	<12	Nil	2	5Months	2	no	no	no	2	no	1	1
61	61	61	5015	2	25	hindu	Rural	J	low	yes	1	yes	G3	18	2	s	12 to 24	Nil	2	4	2	no	no	no	2	no	3	1
62	62	62	5918	2	20	hindu	Urban	N	low	no	1	yes	G3	8	1	s	<12	Nil	2	18month	2	no	no	no	2	no	1	illiterate
63	63	63	6197	2	25	hindu	Rural	N	low	yes	1	no	G3	10	1	s	<12	Nil	2	10month	2	no	yes	no	2	no	1	2
64	64	64	6210	2	27	hindu	Rural	N	low	yes	1	no	G3	10	1	s	<12	Nil	2	3	2	no	yes	no	2	no	3	2
65	65	65	6192	2	25	hindu	Urban	J	low	yes	1	no	G4	6	1	s	<12	Nil	2	14month	3	no	yes	no	2	no	3	2
66	66	66	5925	3	32	hindu	Rural	N	low	yes	1	no	G6	10	1	s	<12	Nil	2	2	4	no	no	no	2	no	3	2
67	67	67	3072	2	26	hindu	Rural	N	low	yes	1	no	G2	6	1	s	<12	Nil	1	5	1	no	no	HD	1	no	1	2
68	68	68	5213	2	22	hindu	Rural	J	low	no	2	NA		6	1	ME	<12	Nil	NA	NA	NA	NA	NA	no	2	no	NA	illiterate
69	69	69	16184	2	21	hindu	Rural	J	low	no	2	NA		20	2	s	> 24	Nil	NA	NA	NA	NA	NA	no	2	no	NA	illiterate
70	70	70	16197	2	25	muslim	Rural	N	low	yes	1	NA	G3	6	1	s	<12	Nil	2	2	2	no	yes	no	2	no	3	1
71	71	71	33732	2	26	hindu	Rural	J	low	yes	1	no	G3	8	1	s	<12	Nil	1	5	1	no	no	psychiatr	1	no	1	1
72	72	72	17052	2	26	hindu	Rural	N	low	yes	1	no	G4	20	2	s	12 to 24	Nil	2	11month	3	no	no	no	2	no	2	1
73	73	73	17337	2	30	hindu	Rural	J	low	yes	1	no	G3	8	1	s	<12	Nil	2	8	2	no	no	no	2	no	1	1
74	74	74	17086	2	29	hindu	Rural	N	low	yes	1	no	G5	8	1	s	<12	Nil	3	2	4	no	no	no	2	no	2	1
75	75	75	17005	2	26	hindu	Rural	N	low	yes	1	no	G3	10	1	s	<12	Nil	2	18month	2	no	no	epilepsy	2	no	1	3
76	76	76	16276	2	29	muslim	Rural	N	low	no	1	no	G2	18	2	s	12 to 24	Nil	ND	4	1	no	yes	no	3	no	2	illiterate
77	77	77	16676	3	33	hindu	Rural	J	low	yes	1	no	G2	20	2	s	12 to 24	Nil	2	6	1	no	no	no	2	no	1	2
78	78	78	17364	3	33	hindu	Rural	N	low	yes	1	no	G4	10	1	s	12 to 24	Nil	2	9	3	no	no	no	2	no	3	1
79	79	79	10378	2	28	hindu	Rural	N	low	no	1	no	G3	12	1	s	12 to 24	Nil	2	6	2	no	no	no	2	no	2	illiterate
80	80	80	15768	2	30	hindu	Rural	J	low	no	1	no	G2	10	1	s	<12	Nil	2	18month	1	no	no	no	2	no	1	illiterate
81	81	81	15391	2	30	hindu	Rural	N	low	yes	1	no	G4	8	1	s	<12	Nil	2	2	3	no	no	no	2	no	3	1
82	82	82	16461	2	22	hindu	Urban	J	low	yes	1	no	G4	8	1	s	<12	Nil	2	18month	1	no	yes	diabetes	2	no	1	1
83	83	83	16178	3	32	hindu	Rural	N	low	no	1	no	G5	16	2	s	12 to 24	Nil	ND	3	3	no	no	renal	1	no	3	illiterate
84	84	84	16440	3	31	hindu	Rural	N	low	no	1	no	G3	10	1	s	<12	Nil	2	1	2	no	no	no	2	no	3	illiterate
85	85	85	17715	2	24	muslim	Urban	N	low	yes	1	no	G4	1	1	s	<12	Nil	2	3	3	no	no	no	2	no	3	3
86	86	86	59984	2	27	hindu	Rural	N	low	yes	1	no	G4	1	1	s	<12	Nil	2	3	2	no	no	psychiatr	1	no	2	3
87	87	87	17623	2	30	hindu	Urban	N	low	no	1	no	G5	10	1	s	<12	Nil	2	5	4	no	no	no	2	no	3	illiterate
88	88	88	17261	3	34	hindu	Rural	N	low	yes	1	no	G3	10	1	s	<12	Nil	2	4	2	no	no	no	2	no	3	1
89	89	89	17366	2	28	hindu	Rural	N	low	yes	1	no	G3	10	1	s	<12	Nil	2	2	2	no	no	no	2	no	3	2
90	90	90	10369	2	23	hindu	Urban	N	low	yes	1	no	G5	11	1	s	<12	Nil	2	2	2	no	no	no	2	no	2	2
91	91	91	19017	2	23	hindu	Rural	N	low	no	1	no	G3	10	1	s	<12	Nil	2	12month	2	yes	no	no	2	no	1	illiterate
92	92	92	63663	2	24	hindu	Urban	N	low	yes	1	no	G3	6	1	s	<12	Nil	2	10month	2	no	yes	no	2	no	3	1
93	93	93	19079	3	32	hindu	Rural	N	low	yes	1	no	G3	6	1	s	<12	Nil	2	9	1	no	no	no	2	no	1	2
94	94	94	18740	3	37	hindu	Rural	N	low	yes	1	no	G4	10	1	s	<12	Nil	2	4	3	no	no	no	2	no	2	1
95	95	95	18658	2	22	hindu	Rural	N	low	yes	1	no	G3	6	1	s	<12	Nil	2	1yr	2	no	yes	no	2	no	2	1
96	96	96	18736	3	35	hindu	Rural	N	low	yes	1	no	G3	8	1	s	<12	Nil	2	14	2	no	no	no	2	no	2	1
97	97	97	18317	3	31	hindu	Rural	N	low	yes	1	no	G3	8	1	s	<12	Nil	2	2	2	no	no	Thyroid	1	no	3	3
98	98	98	18556	3	35	hindu	Rural	N	low	no	1	no	G4	10	1	s	<12	Nil	2	2	3	no	no	no	2	no	3	illiterate
99	99	99	18581	2	28	hindu	Rural	J	low	yes	1	no	G3	8	1	s	12 to 24	Nil	3	6months	2	no	no	no	2	no	2	3
100	100	100	18513	2	23	hindu	Rural	N	low	yes	1	no	G3	8	1	s	<12	Nil	2	7	1	no	no	psychiatr	1	no	1	3