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# A Study of Socioeconomic, Demographic Characteristics and Complications in Acceptors of Double Puncture Laparoscopic and Conventional Tubal Ligaton Procedures

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***Abstract:-***
***Objective****:-To study the socioeconomic , demographic characteristics and complications in acceptors of double puncture laparoscopy and conventional tubal ligation procedure.*
***Study Design****: It is a prospective study.*
***Study Area****:-Department of family planning. Government General hospital, GUNTUR,A.P, INDIA.*
***Materials And Methods****:-Study was conducted in Family planning unit, GGH, GUNTUR from Jan 2014-dec 2014. 200 cases of women undergoing DPL, 200 women undergoing CTL were personally interviewed before surgery and the data regarding age, literacy, last child birth were taken. Complications that occurred during procedure and after the procedure were noted and analyzed.*
***Results****:-Most of the women acceptors of DPL and CTL fall in same age group i.e21-30yrs. As the level of education increased, there was clear correlation in DPL acceptance.77% of CTL acceptors were of low socioeconomic group compared to 62.5% in DPL acceptors.DPL acceptance was more in women with previous caesarean section (63.5%) than women who underwent normal delivery(36.5%).Risk of Major intra operative complications in DPL was more than CTL. Minor postoperative complications are more with CTL than with DPL which were managed conservatively.*
***Conclusion:-****Acceptance of method of tubectomy is greatly influenced by age, mode of delivery, socioeconomic status and literacy.*
***Keywords:-*** *DPL, CTL, Acceptance, Complications.*

## I. Introduction

Today as ever there is pressing need for limiting the family size at the personal level and for the control of population at the national level. The need of control of population at the personal level has arisen through increased cost of living, scarcity of accommodation and a desire for better education of children and overall desire for an improvement in standard of living.

Even though there are wide ranges of contraceptive options available, tubal sterilization is currently the most popular form of birth control. It is an important constitution of National Family Planning Programme in India. Tubal sterilization is being done from primary health centre to tertiary health centers, govt sectors and also at private institutions and nursing homes. According to NFHS-3(2005-2006) Female sterilization accounted for 37.3% of all methods of family planning used in the country.[1]. This is influenced by the economic compensation being given and according to survey data 64% women stated they would like to go for tubal sterilization at sometime in future[2,3].

Two common methods for female sterilization practiced in Family Planning Unit,GGH,Guntur are Double puncture laparoscopic technique (DPL) and Conventional tubal ligation(CTL).

Objectives of the study is to assess the socioeconomic, demographic characteristics and complications of acceptors following DPL and CTL procedures in rural and urban communities.

## II. Materials And Methods

The present study was undertaken in the family planning unit, govt general hospital, GUNTUR ,AP.from Jan 2014 to Dec 2014. 200 voluntary CTL acceptors and 200 voluntary DPL acceptors were selected and operated. Counseling, patient assessment and screening were important prerequisites to sterilization procedures.

Preoperative patient screening is performed to ensure every patient ‘s physical and emotional fitness for the sterilization procedure, to assess patient characteristics such as age, number and ages of living children(WHO 1992)and to rule out known medical risk factors. Patient assessment consisted of taking history(medical, obstetric, gynecological history)and performing a physical examination.

The minimum recommended laboratory tests include tests to screen for anemia and to rule out current pregnancy. There are no absolute medical restriction for female sterilization[ WHO 1992][6]. While there are no

contraindications for surgery, such problems as previous abdominal surgery, obesity, diabetes mellitus are considered as potential risk factors as these represent conditions in which difficulty with the surgical procedure and complications can be anticipated (WHO1996). Hence special precautions may have to be taken before ,during or after the surgery. The selection criteria was strictly followed. Cases were personally attended during the procedure and followed up postoperatively.

## III. Results

Both the groups of tubectomy acceptors are compared in age, socioeconomic status, literacy, religion, rural or urban and complications during intra operative and postoperative period are analysed.

Among DPL acceptors,70% were in the age group of 21-25yrs compared to 85% in CTL acceptors. 21.5%of DPL acceptors were in the age group of 26-30yrs and 11.5% among CTL acceptors. 6% of DPL acceptors were in the age group of 31- 35yrs and 3.5% in CTL.

The data reveals that acceptance of DPL is 62.5%in low socioeconomic group , 27.5% in middle socioeconomic group and 10% in high socioeconomic group .Regarding literacy ,DPL acceptance was 18.5% in illiterate women,27.5% in women with primary education and 48% in women with secondary education and above. As the level of education increased, there was clear correlation in DPL acceptance . In DPL acceptors ,Hindu, Muslims and Christians were 67%,22%,and 11% respectively whereas in CTL acceptors,52.5%,25% and 22.5% respectively.DPL acceptance is more in women with previous caesarean section( 63.5%) than women who underwent normal delivery(36.5%).In DPL acceptors,63% are from rural areas and 37% are from urban areas. In CTL acceptors,46.5% are from rural and 53.5% are from urban areas.

Regarding the major intraoperative complications incidence in DPL acceptors was0.5% while nil in CTL acceptors.

Incidence of minor intraoperative complications in DPL acceptors was 3%and nil in CTL acceptors.

Incidence of post operative complications in DPL acceptors was 0.5%and 1.5%in CTL acceptors.

**Distribution of DPL and CTL acceptors based on mode of delivery**

| MODE OF DELIVERY | DPL | | CTL | | TOTAL | |
|---|---|---|---|---|---|---|
| | No of cases | % | No of cases | % | No of cases | % |
| Normal delivery | 73 | 36.5% | 190 | 95.5% | 263 | 65.75% |
| Previous LSCS | 127 | 63.5% | 10 | 5% | 137 | 34.25% |
| TOTAL | 200 | 100 | 200 | 100 | 400 | 100 |

**Distribution of DPL and CTL acceptors based on literacy**

| | DPL | | CTL | | TOTAL | |
|---|---|---|---|---|---|---|
| | No of cases | % | No of cases | % | No of cases | % |
| Illiterate | 37 | 18.5% | 58 | 29% | 95 | 23.75% |
| Primary | 55 | 27.5% | 44 | 22% | 99 | 24.75% |
| Secondary | 96 | 48% | 90 | 45% | 186 | 46.5% |
| Higher | 12 | 6% | 8 | 4% | 20 | 5% |
| Total | 200 | 100 | 200 | 100 | 400 | 100 |

**Distribution of DPL and CTL acceptors based on economic status**

| ECONOMIC STATUS | DPL | | CTL | | TOTAL | |
|---|---|---|---|---|---|---|
| | No of cases | % | No of cases | % | No of cases | % |
| Lower | 125 | 62.5% | 154 | 77% | 279 | 69.75% |
| Middle | 55 | 27.5% | 35 | 17.5% | 90 | 22.5% |
| Higher | 20 | 10% | 11 | 5.5% | 31 | 7.75% |

**Major intraoperative complications**

| COMPLICATIONS | DPL | | CTL | | TOTAL | |
|---|---|---|---|---|---|---|
| | No of cases(200) | % | No of cases(200) | % | No of cases(400) | % |
| Intraperitoneal haemorrhage | 1 | 0.5% | Nil | | 1 | 0.5% |
| Injury to bladder | Nil | - | Nil | | Nil | - |
| Injury to bowel | Nil | - | Nil | | Nil | - |

**Minor intraoperative complications**

| COMPLICATIONS | DPL | | CTL | | TOTAL | |
|---|---|---|---|---|---|---|
| | No of cases(200) | % | No of cases(200) | % | No of cases(400) | % |
| Subcutaneous emphysema | 2 | 1% | 0 | 0 | 2 | 1% |
| Mesosalpinx tear | 1 | 0.5% | 0 | 0 | 1 | 0.5% |
| Omental prolapse | 1 | 0.5% | 0 | 0 | 1 | 0.5% |
| Cardiorespiratory embarrassment | 2 | 1% | 0 | 0 | 2 | 1% |

**Minor post op complications**

| COMPLICATIONS | DPL | | CTL | | TOTAL | |
|---|---|---|---|---|---|---|
| | No of cases(200) | % | No of cases(200) | % | No of cases(400) | % |
| Wound sepsis | Nil | - | 1 | 0.5% | 1 | 0.25% |
| Abdominal wall hematoma | Nil | - | Nil | - | Nil | - |
| Shoulder pain | 1 | 0.5% | Nil | - | 1 | 0.25% |
| Pain abdomen | Nil | 0.5% | 2 | 1% | 2 | 0.5% |

## IV. Discussion

Female sterilization is a relatively simple procedure that involves permanently blocking the Fallopian tubes to prevent fertilization. By the mid 20th century, female sterilization has begun to gain popularity. Many modifications and new techniques have been developed since, to improve effectiveness, safety and reversibility.

Minilaprotomy and laparoscopy are the two most commonly used procedures of female sterilization. Minilaparotomy is recommended as the safest and easiest approach for post-partum sterilization because during post-partum period, the uterus is enlarged and fallopian tubes are easily accessible. Laparoscopic sterilization has been found to be safe, simple and effective procedure which can be performed through 1 or 2 very small inscions (holes) in the abdomen mostly under sedation and local anesthesia on an out patient basis. However Laparoscopy is not recommended for post partum procedures as the post partum enlargement of the uterus makes laparoscopic surgery difficult and injury likely[WHO1992].[6]So it is widely used for interval sterilization.

In this study 400 acceptors of tubectomy were divided into 2 groups, 200 DPL acceptors and 200 CTL acceptors. Various factors like age, literacy, religion, socioeconomic status, mode of delivery, complications were evaluated and compared with the two methods.Maximum number of acceptors (91.5%)were between 21-30yrs of age. The acceptance of DPL and CTL was same in rural and urban areas. In countries that have stonger or more stable programmes, sterilization use in rural areas often approximate that in urban areas.(Ref 1). Most of the CTL acceptors (77%) are from low socioeconomic group. In our study even DPL was accepted in 62.5% of low socioeconomic group, which was due to pooling up of the cases from rural areas strongly motivated by ANMs and ASHA workers. The DPL acceptance was expected to be high in high socioeconomic group but in our study paradoxically it was low as most of the women from high socioeconomic group opted to attend private institutions. The DPL acceptance was 81.5% in literate women[ i.e., with primary education and above] when compared to illiterate group. This shows that acceptance of method of tubectomy is influenced by literacy. Most of the CTL acceptors are of postpartum period. Increased no of hospital deliveries increases the postpartum sterilization.(Ref 1). In DPL acceptors,63.5% were women with previous history of caesarean section when compared to women with previous normal delivery[36.5%] this was to avoid another laparotomy. Female sterilization is one of the safest operative procedure. Complications are rare and occur< 1% of all female sterilization procedures(Ref 4]. Major intraoperative complications are more with DPL(0.5%) than CTL(0%). In one case, laparotomy was done for bleeding from uterus due to trocar injury. surgery was done and hemostasis secured. Patient went home safely. Minor intraoperative complications occurs more with DPL(3%) than with CTL(0%)but they are not lethal. Precautions like creating pneumoperitoneum with verres needle prevents injury to bowel and removing the trocar only after completely deflating the air, reduce the omental prolapse. Milking the tubes during application will prevent mesosalpinx tear in thickened tubes.

Complications rate vary by the quality of care provided at the service site, the expertise of the surgeon, the approach and occlusion technique used for the sterilization ,the type of anaesthesia, timing of procedure and characteristic of the patient. (eg.obese patients or those with a history of pelvic infections.) (Ref 4, 149).

## V. Conclusion

The socioeconomic and demographic factors had influence on acceptance of method of tubectomy. As the level of education increased, there was clear correlation in DPL acceptance.CTL was the choice of surgery in post partum period and DPL in the interval period.DPL was widely accepted in women with previous caesarean section.

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