ACCEPTANCE, COMPLICATIONS, EXPULSION AND FAILURE RATE OF POST-PARTUM INTRAUTERINE CONTRACEPTIVE DEVICE IN A TERTIARY CARE HOSPITAL

Gynaecology

Dr. Biswajit Ghosh Assistant Professor, IPGMER & SSKM Hospital, Kolkata, West Bengal.

Dr. Bharat Chandra Mandi Rmo-cum-clinical Tutor, R.g.kar Medical College, Kolkata, west Bengal.

Dr. Dipa Mullick* MS, RMO-Cum-clinical tutor, Kolkata medical college, Kolkata. *Corresponding Author

Dr. Chaitali Datta Roy Professor, Raigang Medical College, West Bengal.

Dr. Debarshi Jana Young scientist, IPGMER & SSKM Hospital, Kolkata, West Bengal

ABSTRACT

INTRODUCTION: Contraception is one of the proximate determinants of fertility and the most important predictor of fertility transition. Contraceptive use helps couples and individuals realize their basic right to decide freely and responsibly if, when and how many children to have. The growing use of contraceptive methods has resulted in not only improvements in health-related outcomes such as reduced maternal mortality and infant mortality, but also improvements in schooling and economic outcomes, especially for girls and women.

AIMS & OBJECTIVES: Find out the proportion of accepting the Post-Partum Intrauterine Contraceptive Device (PPIUCD) insertion among eligible women delivering at SSKM hospital. The complications of post placental & intra caesarean PPIUCD if any among these acceptors. Determine the spontaneous expulsion rate of this contraceptive device.

MATERIALS AND METHODS: Descriptive study with a longitudinal design. The present study was a hospital based study conducted at the department of Gynecology and Obstetrics department of the Institute of Post graduate Medical Education and Research (IPGMER) and SSKM. The study was conducted for a period of 18 months between April 2017 To September 2018. All 243 pregnant eligible women who delivered either by normal vaginal or instrumental delivery or caesarean section during the data collection period.

RESULTS: The above table shows that most of the participants enrolled in the study were in the age group of 21 - 25 years (39.9%), had completed secondary education (32.0%) and were housewives (74.2%), of urban residence (63.5%). About half of the participants were Muslim (49.4%), 47.2% were Hindus while 3.4% were Christians.

SUMMARY AND CONCLUSIONS: It can be concluded that PPIUCD is a promising new approach. Cu T 380A inserted in the post-partum period is both convenient and safe. The advantage of single visit insertion can be utilised to expand the usage of IUCD to meet the unmet needs of contraception.

KEYWORDS

INTRODUCTION

Contraception is one of the proximate determinants of fertility and the most important predictor of fertility transition.¹ Contraceptive use helps couples and individuals realize their basic right to decide freely and responsibly if, when and how many children to have. The growing use of contraceptive methods has resulted in not only improvements in health-related outcomes such as reduced maternal mortality and infant mortality, but also improvements in schooling and economic outcomes, especially for girls and women.²

The choice of the contraceptive method, however, is influenced by a host of interdependent demographic, cultural, economic, and social factors which means that a multidimensional approach needs to be adopted for analysing the contraceptive use pattern. Any analysis based on a single indicator is unlikely to capture all the dimensions of contraceptive method choice.

Contraceptive use can be characterised in terms of both prevalence of different contraceptive methods and specific characteristics of acceptors which differentially influence use of different contraceptive methods. The challenge is how to classify contraceptive use pattern on the basis of a selected set of characteristics of acceptors. Identification of similarities and dissimilarities in the acceptors of different contraceptive methods is important in understanding contraceptive use dynamics.³

Contraceptives are used by the majority of married or in-union women in almost all regions of the world. Worldwide in 2017, 63 per cent of these women were using some form of contraception. Contraceptive use was above 70 per cent in Europe, Latin America and the Caribbean, and Northern America, while being below 25 per cent in Middle and Western Africa.⁴

AIMS & OBJECTIVES

1. To find out the proportion of accepting the Post-Partum

Intrauterine Contraceptive Device (PPIUCD) insertion among eligible women delivering at SSKM hospital.

2. To assess the complications of post placental & intra caesarean PPIUCD if any among these acceptors.
3. To determine the spontaneous expulsion rate of this contraceptive device.

MATERIALS AND METHODS

Study type and design: Descriptive study with a longitudinal design.

Study settings: The present study was a hospital based study conducted at the department of Gynecology and Obstetrics department of the Institute of Post graduate Medical Education and Research (IPGMER) and SSKM.

Study period: The study was conducted for a period of 18 months between April 2017. And September 2018

Study population: All 243 pregnant eligible women who delivered either by normal vaginal or instrumental delivery or caesarean section during the data collection period. Of them 51 were excluded for not fulfilling the eligibility criteria and 14 were not willing to attend IPGMER for follow up. All 178 women who were willing to come back for follow-up were included in the study. They were followed up at 48 hours, 6 weeks and at the end of 6 months.

- **EXCLUSION CRITERIA:** The following were the exclusion criteria
- Chorio-amnionitis or puerperal sepsis
- Prolonged rupture of membrane > 18hrs
- Extensive genital trauma
- Unresolved PPH
- Any abnormality of Uterus or a large Fibroid distorting its cavity.
- Pelvic inflammatory disease
- Malignant or Benign Trophoblastic Disease
- Sample size

The sample size calculations were based on the acceptance rates of PPIUCD as calculated by Kant S et al. The lowest acceptance rate (26.1) was seen among women in the < 5000 rupees income per month age group was used to calculate the sample size for the present study.⁵ Using a 95% confidence interval and an absolute precision of 5%, the calculated sample size was 208. Adding a 20% non-response rate the final sample size was calculated as 248.

RESULTS

The above table shows that most of the participants enrolled in the study were in the age group of 21 - 25 years (39.9%), had completed secondary education (32.0%) and were housewives (74.2%), of urban residence (63.5%). About half of the participants were Muslim (49.4%), 47.2% were Hindus while 3.4% were Christians.

We showed that the highest rate of acceptance of PPIUCD among women in the age group of > 35 years (50%), followed by 21-25 years (39.4%). Although differences are noted in the acceptance rates of PPIUCD among the reported age groups none of the differences are statistically significant. Table 3 shows that the highest rate of acceptance of PPIUCD among women with para 3 (69.2%), followed by para 2 (51%) and para 1 (28.1%).

We found that the acceptance of PPIUCD is highest among Government service holders (60%) followed by private sector working women participants (48.8%). The rate is lowest in women who are housewives 9(33.3%). The differences in the rates of PPIUCD acceptance between the groups is however, not statistically significant. Table shows that the acceptance of PPIUCD is higher among women having urban residence compared to women with rural residence (35.4%), however, the differences are not statistically significant. Table shows that the acceptance of PPIUCD is highest among Christians (50%) followed by Muslims (38.6%) The rate is lowest in Hindu women (35.7%). The differences in the rates of PPIUCD acceptance between the groups are not statistically significant.

We found that the acceptance of PPIUCD is higher among women having vaginal delivery compared to women having lower uterine caesarean section (LUCS). However, the differences are not statistically significant. Our study showed that the rates of complications between vaginal and Intra-caesarean insertion PPIUCD insertion. The most frequently seen complication at 6 months is missing string. Missing strings are the commonest complication in both the vaginal and intra-caesarean insertion groups with a higher frequency in the later.

DISCUSSION

Population explosion is proving an epidemic for the whole world with an epicenter in the third world countries. Post-placental PPIUCD insertion is a highly effective, safe and easily accessible contraceptive method, especially in developing countries where chances of parturient women returning to health care centres for contraception are uncertain.⁶

Socio-demographic characteristics of the study population

A total of 243 women delivered in the labour room of the Gynecology and Obstetric department of IPGMER and SSKM Hospital during the study period from April 2017 to September 2018. Of them 65 were excluded from the study based on the exclusion criteria of the study. The rest of the 178 were offered PPIUCD. Of the population eligible for the study most were in the age group of 21 - 25 years (39.9%), had completed secondary education (32.0%) and were housewives (74.2%), of urban residence (63.5%).

Obstetric characteristics of the study population

Among the 178 enrolled participants, the maximum were para 2 (43.8%) while 14.6% were para 3 or more. About half of the participants (51.7%) had normal vaginal delivery. Post Partum Intra Uterine Contraceptive Device (PPIUCD) was accepted by 67 (37.6%) of the participants.

Acceptance of PPIUCD

Rates of acceptance of PPIUCD

In a study by Kant S⁵, the acceptance rate of PPIUCD among eligible women in primary health centres in Uttar Pradesh was found to be 39%. A study conducted in the District Head Quarters Hospital of Bolangir, Odisha reported an overall acceptance rate of 17.5%.⁷

Based on socioeconomic characteristics

Based on age

The present study shows that the highest rate of acceptance of PPIUCD among women in the age group of > 35 years (50%), followed by 21-25 years (39.4%). Although differences are noted in the acceptance rates of PPIUCD among the reported age groups none of the differences are statistically significant.

Based on education

Acceptance of PPIUCD was higher with increasing education and the differences were statistically significant in the present study as well as in studies undertaken in other parts of India.

Based on Residence

Women from urban areas were more likely to accept PPIUCD than women from rural areas. A study by Safwat et al. supports this (women with no formal education had an acceptance of 9.4 %, while those with formal education were 19.4 %).⁸

Based on Religion

In the present study the Muslim population was more likely to accept PPIUCD as compared to the Hindu population. Similarly increased acceptance, among muslim women compared to the hindu population was seen in the study by Kant S in North India.⁹

Based on Parity

The present study reveals that the highest rate of acceptance of PPIUCD among women with para 3 (69.2%), followed by para 2 (51%) and para 1 (28.1%). In a similar study conducted by Shukla et al, among acceptors of PPIUCD about two thirds were multiparous and one third of the study population were primiparous.¹⁰ A study reported that the acceptance of PPIUCD was high among women who had at least one male child.

Type of delivery

In the present study the acceptance rate of PPIUCD was almost similar in women having vaginal delivery (38.0%) compared to women having lower uterine caesarean section (LUCS) (37.2%).

Probable reasons for non acceptance

Hesitancy in the immediate post partum period, ample other options in the contraceptive basket, more over recent addition of newer contraceptives in the form of injection and centchroman may be the cause of non motivation and non acceptance of PPIUCD.

One of the primary reasons for non-acceptance in women was because of partner's non-involvement. This reveals the importance of partner involvement during counseling and decision making.

Complications of PPIUCD

Bleeding per vaginum and pain abdomen

The women reported no complications at discharge that is 48 hours after the insertion if the PPIUCD either through the vaginal or the intra-caesarean insertion. At 6 weeks pain abdomen (6% overall, 5.7% in VI and 6.3% in ICI) bleeding per vaginum (4.5% overall, 5.7% in VI and 3.1% in ICI) were the commonest side effects.

Infection

There was no infection at 48 hours. The rates of infection at 6 weeks were 1.5% overall. All the infections were seen in women with vaginal insertion of the PPIUCD.

Expulsion

There was no expulsion in the first 6 weeks of insertion after either the vaginal or intra-caesarean insertion of PPIUCD. At 6 months, expulsion rates in the present study were 4.5% overall (5.1% in the vaginal and 3.1% in the intra-caesarean insertion).

Long strings

Long strings leading to uneasiness and discomfort were the second most common complain in women with PPIUCD (8.9%). It was more common following vaginal than intra caesarean insertion. The differences were not statistically significant possibly because of the small number of cases in both the groups.¹¹

Missing strings

None of the mothers complained of missing strings at the first and 6 weeks after insertion of PPIUCD. However, several of them

complained of the same at 6 months. These mothers were examined for missing threads and the numbers were confirmed.

SUMMARY AND CONCLUSIONS

From the study results, it can be concluded that PPIUCD is a promising new approach. Cu T 380A inserted in the post-partum period is both convenient and safe. The advantage of single visit insertion can be utilised to expand the usage of IUCD to meet the unmet needs of contraception. The side effects of PPIUCD are minimal and can be easily controlled. Expulsion rate is also very low. Both vaginal and intra-caesarean insertions are safe in terms of complications except that the strings of IUCD after caesarean section are less likely to be visible at follow-up in comparison to vaginal insertion. The PPIUCD had no reported incidence of pregnancy or perforations in the 6 months of follow up in the present study. Continuation rate in intra-caesarean insertion was higher compared to vaginal insertion.

Table : Obstetric characteristics of the study population

Variable	Category	Frequency	Percentage
Parity	1	74	41.6
	2	78	43.8
	3	26	14.6
Mode of Delivery	LUCS	86	48.3
	VD	92	51.7

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