

Acceptance, Follow-up and Outcome of Postpartum Intrauterine Contraceptive Device in C section and Normal delivery

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ABSTRACT

Objective: To determine frequency of acceptance, follow up and outcome (safety and efficacy) of postpartum intrauterine contraceptive device in C section and vaginal delivery.

Study Design: Randomized clinical trial

Place and Duration of Study: Department of Gynecology & Obstetrics at CMH Peshawar from 1st June 2019 to 29th February 2020.

Methodology: One hundred fifty two women were included and were randomly divided into two groups; Group A underwent vaginal delivery while Group B underwent C-section. CuT-380A intrauterine contraceptive device was used in both groups. Patients were followed after 12 weeks.

Results: Mean age of women was 29.9±5.2 years. Acceptance of postpartum intrauterine contraceptive device was 13.8% in women underwent vaginal delivery and 11.2% in women underwent C-section delivery. There was no significant difference in follow up of both groups. Vaginal delivery group had more pregnancy and discontinuance after postpartum intrauterine contraceptive device insertion as compare to C-section (p=0.05 & p=0.04 respectively). C-section group had more expulsions as compared to women undergone vaginal delivery (p=0.05). An insignificant difference in perforation, unusual vaginal discharge, infection and irregular bleeding was found in both group (p>0.005)

Conclusion: Postpartum intrauterine contraceptive devices are safe, effective and convenient contraceptive intervention in both vaginal and C-section deliveries. Postpartum intrauterine contraceptive device should be inserted by trained and skilled clinicians for reducing complications associated with insertion.

Key words C-section, Postpartum intrauterine contraceptive device (PPIUCD), Vaginal delivery

INTRODUCTION

Postpartum family planning is associated with unintended pregnancy prevention.¹ Post partum family planning leads to prevent closely spaced pregnancy after delivery (within 1st twelve months after delivery).² After delivery, women are at high risk of getting unplanned pregnancy resulting into adverse outcomes (post partum hemorrhage, fetal loss, abortion, low birth weight, premature labor and maternal deaths).³

Postpartum intrauterine contraceptive device is one of the most effective family planning methods. Postpartum intrauterine contraceptive device is highly reliable, long acting, inexpensive, immediately reversible, non hormonal and it has no harmful impact on lactation.⁴ Postpartum intrauterine contraceptive device usage helps to improve women and child health through prevention of obstetric, financial and psychological/other health related issue as a result of unplanned pregnancy after delivery.⁵ Postpartum intrauterine contraceptive device is associated with less repeated health care visits for purpose of contraceptive refills among women. Literature reported that immediate insertion of PPIUCD is effective, safe and easy as compared to interval insertion and delayed post partum insertion of intrauterine contraceptive devices. Insertion of PPIUCD can be done by skilled mid level birth attendant.⁶

Women during postpartum period are highly motivated for several family planning methods usage. Immediate post partum period is an ideal situation for

contraceptive service providers to insert PPIUCD among women where cultural and geographical contraceptive services limitation exists.⁷ Immediate postpartum contraception failure leads to unintended pregnancy occurrence due to majority of women not returning towards hospitals or health care centers for post natal services. Immediate postpartum period contraceptive method initiation and provision safeguard women from unplanned pregnancy before they return to fecundity/sexual activity resume.⁸

Utilization and acceptance of PPIUCD is found to be very low in developing world. In Africa utilization of PPIUCD was 4.6%⁹, however, in Ethiopia PPIUCD were free of cost but still its utilization is very low (2%).¹⁰ Moreover, utilization of PPIUCD globally was 13.2%.¹¹ High unmet needs and low utilization of contraceptive intrauterine devices is associated with low acceptability of immediate PPIUCD among women. Evidence exists that acceptability of contraceptive methods is an important factors for consistent utilization of PPIUCD. Low utilization and acceptance of PPIUCD is associated with several factors including lack of trained contraceptive providers, spousal opposing, lack of knowledge, fear of complication and preference of short acting contraceptive methods.¹² A similar study reported that women and husband education, postnatal and antenatal visits attendance, lack of husband involvement in family planning counseling, desire of future

pregnancy, fear of complications are main reasons of not accepting PPIUCD.^{13,14}

Pakistan is a developing country, with a rapidly increasing population according with available resources. Present study aims to determine frequency of acceptance, follow up and outcome (safety and efficacy) of PPIUCD in C section and vaginal delivery.

MATERIALS AND METHODS

This randomized clinical trial was conducted at Department of Gynecology & Obstetrics at CMH, Peshawar KPK from 1st June 2019 to 29th February 2020. A total of 152 women were included. Women with reproductive age 20-42 years, delivering vaginally/caesarean section, counselled during early labour or antenatal visits were included. Women with haemoglobin \leq 8 gm%, coagulation disorder, rupture membrane $>$ 18 h, clinical symptoms of infection, postpartum haemorrhage and fever were excluded. Selected women were randomly divided into two groups; Group A women underwent vaginal delivery while group B women underwent C-section delivery. In present study, CuT-380 A IUCD was used. During vaginal delivery IUCD was placed in uterine fundus through Kelly's placental forceps (after 10 minutes of placental removal). However, during C-section ring forceps were used for IUCD insertion in fundus uterus. Moreover, strings of IUCD were not trimmed in both vaginal and c-section procedure insertions. All PPIUCD insertion was done by trained doctors. Women were counseled about IUCD and advised to follow up examination after 12 weeks. At 12 weeks women were observed for safety, efficacy and acceptance of PPIUCD. SPSS version 24 was utilized for data analysis. Chi-square test was done. P value \leq 0.05 was considered significant.

RESULTS

Acceptance of postpartum intrauterine contraceptive device in both groups is shown in Fig. 1. The women who underwent vaginal delivery, 3 (2%) had perforation while 73 (48%) did not have perforation and the women who underwent C-section, 1 (0.7%) had perforation while 75 (49.3%) did not had perforation ($p=0.62$).

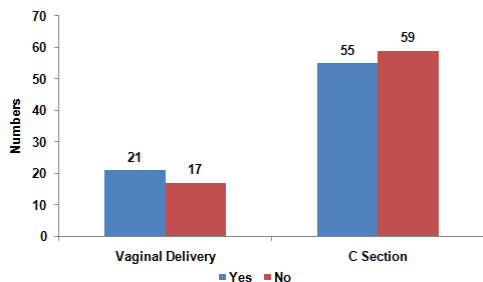


Fig. 1: Comparison of postpartum intrauterine contraceptive device

The women who underwent unusual vaginal delivery, 2 (1.3%) had unusual vaginal discharge and 74 (48.7%) did not had discharge. Similarly, the women underwent C-section, 2 (1.3%) had vaginal discharge while 74 (48.7%) did not had vaginal discharge ($p=0.69$). There was no significant difference in infection and irregular bleeding level of both groups (0.7% vs 0.7%, $p=0.75$) [Table 1]. Vaginal delivery group had more pregnancy after PPIUCD

insertion as compare to C-section (1.3% vs 0.7%, $p=0.05$). C-section group had more expulsions as compared to women undergone vaginal delivery (1.3% vs 0.7%, $p=0.05$). Women undergone vaginal delivery had high rate of discontinuance as compared to women undergone C-section (2% vs 0.7%, $p=0.04$). Majority of women in both groups had follow up at clinic as compared to on phone ($p=0.58$) [Table 2].

Table 1: Comparison of efficacy in vaginal and C-section delivery

Efficacy	Vaginal delivery	C section	P value
Perforation			
No	73 (48%)	75 (49.3%)	0.62
Yes	3 (2%)	1 (0.7%)	
Unusual vaginal discharge			
No	74 (48.7%)	74 (48.7%)	0.69
Yes	2 (1.3%)	2 (1.3%)	
Infection			
No	75 (49.3%)	75 (49.3%)	0.75
Yes	1 (0.7%)	1 (0.7%)	
Irregular bleeding			
No	75 (49.3%)	75 (49.3%)	0.75
Yes	1 (0.7%)	1 (0.7%)	

Table 2: Comparison of safety in vaginal and C-section delivery

Safety	Vaginal delivery	C section	P value
Pregnancy			
No	74 (48.7%)	75 (49.3%)	0.05
Yes	2 (1.3%)	1 (0.7%)	
Expulsion			
No	75 (49.3%)	74 (48.7%)	0.05
Yes	1 (0.7%)	2 (1.3%)	
Discontinuance			
No	73 (48%)	75 (49.3%)	0.04
Yes	3 (2%)	1 (0.7%)	
Follow up			
At clinic	58 (38.2%)	54 (35.5%)	0.58
At phone	18 (11.8%)	22 (14.5%)	

DISCUSSION

Postpartum intrauterine contraceptive devices are very effective in prevention of unplanned pregnancy and its complications. In present study, Acceptance of PPIUCD was 13.8% in women underwent vaginal delivery and 11.2% in women underwent C-section delivery. Mishera et al¹⁵ conducted a study in Bolangir District Head Quarter Hospital and reported that an overall acceptance rate of PPIUCD among women 17.5%. However, another similar study conducted in India (Uttar Pradesh) reported 14.4% acceptance rate of PPIUCD.¹⁶ Singh et al¹⁷ also reported that lack of exact and unavailability of latest information on PPIUCD leads to low acceptance of PPIUCD. Bhalerao et al¹⁸ reported that training of counselling skills during antenatal visits care provision lead us to generate high acceptance of PPIUCD. Shukla et al¹⁹ reported that women underwent C-section had high acceptability of PPIUCD due to fear of post caesarean conception. They also reported that women underwent intra caesarean insertions were more likely to visit clinic on follow ups as compared to post placental vaginal insertions.

In the present study, economic status is significantly associated with acceptance of PPIUCD. Hauk et al reported that rich families are two times less likely to accept PPIUCD as compared to poor families. The reason of less

acceptability among rich families is better knowledge and wide access to other alternative options of contraceptions.²⁰ This study showed that majority of Muslims had acceptability of PPIUCD as compared to Hindu and Christians. This is high acceptability in Muslims may be due to absolute majority of Muslims in Pakistan as compared to other religions. A similar study conducted contradictory finding in India, they reported that PPIUCD acceptance rate was 38% in Hindu and 70% in Muslims (because Muslims were in minority results lead us misleading conclusion).²¹

In the current study, majority of women in both groups had follow up at clinic as compared to on phone ($p=0.58$). Sindhu et al²² reported that women coming on antenatal care visits showed more acceptability of PPIUCD as compared to women who did not come for ANC visits. Clarifications of doubts during ANC visit leads to increase PPIUCD acceptability.

In the present study, vaginal delivery had low expulsions as compared to women underwent C-section ($p=0.05$). Celen et al²³ reported that PPIUCD expulsion was 12.6%. Gupta et al²⁴ reported that expulsion of PPIUCD 10 minutes after placental delivery was 5.23%. They reported that timing of IUCD is very important factors for expulsion determination. In another study reported contradictory findings that post placental IUCD expulsions were significantly higher after vaginal delivery as compared to C-section.²⁵ Kapp et al²⁶ reported that intra-caesarean insertions had significantly lower expulsion as compared vaginal insertions. However, Lettu Muller et al²⁷ reported similar finding to our study as high expulsion in vaginal delivery as compare to c-section.

This study showed that women undergone vaginal delivery had higher rate of discontinuance as compared to women undergone C-section (2% vs 0.7%, $p=0.04$). Sangeeta et al²⁸ reported that discontinuation rate 3-8% in vaginal delivery. However, discontinuation of PPIUCD after C-section insertion was 2%.

CONCLUSION

Postpartum intrauterine contraceptive devices are safe, effective and convenient contraceptive intervention in both vaginal and C-section deliveries. Postpartum intrauterine contraceptive device should be inserted by trained and skilled clinicians for reducing complications associated with insertion. Identification of spontaneous expulsion and IUCD reinsertion can be done by maintenance of early follow ups.

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