

Expulsion Rate of Postpartum Intrauterine Contraceptive Device (PPIUCD) After Spontaneous Vaginal Delivery in Females at Term

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ABSTRACT

Objective: To assess the frequency of expulsion of postpartum intrauterine contraceptive device (PPIUCD) inserted in females presenting after delivery at term.

Study Design: Descriptive case series.

Place & Duration of Study: Department of Obstetrics & Gynaecology, Services Hospital, Lahore for a period of six months.

Methodology: A total 210 cases were included through Non-Probability, Purposive Sampling. Informed consent and demographic information were obtained. Females who underwent normal vaginal delivery were inserted IUD. They were followed for 6 weeks and x-ray was performed to confirm expulsion. All the data was collected using the proforma. SPSS Windows software (version 16.0) was used for data analysis. Quantitative data like age was presented as mean and standard deviation. Qualitative data like parity, IUD expulsion were presented as frequency and percentage.

Results: The mean age of females in this study was 29.95 ± 5.64 years. There were 114 (54%) females who had age range 20-30 years and 96 (46%) female fell in age range 31-40 years. The expulsion was observed in 17 (8.1%) cases while in remaining 193 (91.9%) cases, IUD was in proper place. Among the females of age 20-30 years, the expulsion was observed in 9 (7.9%) cases while 105 (92.1%) cases had IUD in proper place. Among the females of age 31-40 years, the expulsion was observed in 8 (8.3%) cases while 88 (91.7%) cases had IUD in proper place. There was insignificant difference observed between both age groups for expulsion of IUD ($P > 0.05$).

Conclusion: Thus it was concluded through results of this study that expulsion of PPIUCD is low, and controversy in results of previous literature has been solved.

Key words: Postpartum Intrauterine Device, Expulsion, Delivery, Birth Control, Unwanted Pregnancy

INTRODUCTION

Insertion of IUCD in immediate postpartum period is very useful. The woman is not pregnant and can think about contraception. However, spontaneous expulsion of IUCD is more if put immediately after birth.⁽¹⁾

WHO has recommended PPIUCD, as this is an effective and safe method of short term contraception. Immediately after delivery women are highly convinced and they need a good method of contraception, so she can comfortably take care of newborn without fear of having a pregnancy. On the other hand if they are supposed to plan contraception six week after child birth, they may conceive or may not come for follow up.⁽²⁾

Although many women would prefer immediate PPIUCD but its insertion is limited by increased risk of uterine perforation, PID and spontaneous expulsion.⁽³⁾ Studies have reported that the rate of expulsion with immediate IUCD insertion was only 5.1-5.3% after 6 weeks of insertion ($n=245$).^(4, 5)

One study reported with immediate IUCD insertion the rate of expulsion was slightly high than reported earlier i.e. 9.0% after 8 weeks ($n=93$ cases).⁽⁶⁾ While another study reported that the rate of expulsion with immediate IUD insertion was 11.28% after 6 weeks of insertion ($n=1037$).⁽⁷⁾

Literature has reported that PPIUCD insertion has lower expulsion rate but some studies have reported slightly ambiguous results. So to confirm the rate of expulsion of PPIUCD this study was conducted. Moreover there is no local evidence

available. This will help to improve our practice and local guidelines.

METHODOLOGY

This study was conducted at Gynaecology, Unit-II, Services Hospital, Lahore for a period of six months. Patient's informed consent was taken. Patients of age 20-40 years with parity <6, presenting in labour for normal vaginal delivery were included.

Female who will not give inform consent, females with PIH (BP>140/90mmHg), preeclampsia (PIH with proteinuria +1 on dipstick) or eclampsia (PIH with or without protein urea), gestational diabetes (GTT>7mg/dl), obese females (BMI>30kg/m²), females having one or more leiomyomas>3cm in diameter encroaching on the uterine cavity or have a uterine anomaly or, females with an allergy or other contraindications to use of the copper releasing IUD, females treated for STDs and pregnancy were excluded.

210 females fulfilling the selection criteria were included in the study from labour room of Department of Obstetrics &Gynaecology, Services Hospital Lahore. Informed consent was taken. Demographic information (name, age, parity and contact number) was obtained. Females who underwent normal vaginal delivery were inserted IUD. They were followed for 6 weeks and x-ray was performed to confirm expulsion. All the data was collected using the proforma.

SPSS Windows software (version 16.0) was used for data analysis. Quantitative data like age was presented as mean and standard deviation. Qualitative data like parity, IUD expulsion were presented as frequency and percentage.

RESULTS

Total 210 females were enrolled in with the average age of 29.95±5.64 years with minimum and maximum age of 20 years and 40 years respectively.

There were 114 (54%) females who had age range 20-30 years and 96 (46%) female fell in age range 31-40 years.

There were 61 (12.4%) females who were primiparous, 55 (26.2%) females were para2, 42 (20%) were para3, 39 (18.6%) were para4 while13 (6.2%) females had parity 5. Table # 1.

In our study, the expulsion was observed in 17 (8.1%) cases while in remaining 193 (91.9%) cases, IUD was in proper place. Table # 2.

Table 1: Distribution of Females in Relation to Parity

		Frequency	Percent
Parity	1	61	29.0%
	2	55	26.2%
	3	42	20.0%
	4	39	18.6%
	5	13	6.2%
	Total	210	100.0%

Table 2: Distribution of expulsion of IUD

		Frequency	Percent
Expulsion	Yes	17	8.1%
	No	193	91.9%
	Total	210	100.0%

Table 3: Distribution by expulsion of IUD with respect to parity

		Expulsion		Total
		Yes	No	
	1	3 (4.9%)	58 (95.1%)	61 (100%)
	2	6 (10.9%)	49 (89.1%)	55 (100%)
	3	3 (7.1%)	39 (92.9%)	42 (100%)
	4	4 (10.3%)	35 (89.7%)	39 (100%)
	5	1 (7.7%)	12 (92.3%)	13 (100%)
Total		17 (8.1%)	193 (100%)	210 (100%)

Chi-square = 1.712, p-value = 0.789 (Insignificant)

Among the females of age 20-30 years, the expulsion was observed in 9 (7.9%) cases while among the females of age 31-40 years, the

expulsion was observed in 8 (8.3%) cases. There was insignificant difference observed between both age groups for expulsion of IUD (P>0.05).

In primiparous females, expulsion was observed only in 3 (4.9%) cases. The maximum expulsion was observed in 6(10.9%) females with parity 2 and 4(10.3%) with parity 3, 3(7.1%) showed expulsion with parity 4 and 1 (7.7%) expulsion was observed in para 5. However, the difference between females of different parity was insignificant ($P>0.05$). Table # 3.

DISCUSSION

More than One Billion women in under developed countries would prefer to have an effective contraception but they may not be using any method of contraception. Use of Contraceptive methods is low because of non-availability of facilities at the time of need. ⁽⁸⁾Fifty percent of the women do not want to use any method of contraception but still they wish to have birth control. Health professionals have got multiple opportunities to counsel the women for contraception during her reproductive cycle like antenatal, natal and postnatal period. PPIUCD insertion at 10 minutes after delivery is attractive for many reasons (9)

- (a) Restoration of ovulation is not predictable in postpartum period and insertion of PPIUCD is very useful method of contraception.
- (b) The woman is also likely to have a high motivation for using method of contraception.

Government should address the use of PPIUCD as an opportunity by counseling women in antenatal and immediately after delivery by family planning setup.

Pakistan with its population of 185 million is the sixth most populous country of the world. Contraceptive Prevalence Rate is stagnant at 30%, due to inadequate facilities for contraception.

In the first year postpartum, 64% of the women have an inadequate facility for family planning, 35% of women in Pakistan deliver without health facilities and leave without receiving counseling or family planning services. Majority of these women do not return for postpartum checkup and often come back with an unintended pregnancy. These facts underscore the need for provision of Postpartum Family Planning services immediately after child birth. To meet this demand, Post-Placental and Immediate PPIUCD insertion can be advocated as an ideal choice. PPIUCD insertion has been found to be safe and expulsion rates are comparable to insertion of IUCD in the extended postpartum period.(10)

Immediate postpartum insertion of PPIUCD (in 10 minutes to 48 hours after-delivery) is a relevant and effective method to enhance contraceptive use in developing countries.(11)

Total 210 females were enrolled in this study with the average age of 29.95 ± 5.64 years. Age of women range between 20 to 40 years, when pregnancy rate is very high. There were more females [114 (54%)] of very young age i.e. 20-30 years while 96 (46%) female fell in age range 31-40 years.

There were 61 (29%) females who were primiparous, 55 (26.2%) females were para2, 42 (20%) were para3, 39 (18.6%) were para4, 13 (6.2%) had parity 5 females had parity 5. Females with increasing parity showed more interest for placement of PPIUCD.

Recent studies indicate that the expulsion rate is low if insertion of IUCD is done by using a proper technique, an experienced healthcare provider and is placed at uterine fundus.(9, 12)

In our study, the expulsion was observed in 17 (8.1%) cases while in remaining 193 (91.9%) cases, IUD was in proper place. The expulsion rate of PPIUCD was low in our study. NCMNH stated that the expulsion has been noted in 2% of cases.(10)

Clinical experience in these diverse settings admits the usefulness of this technique. If PPIUCD is inserted after delivery by an experienced healthcare provider, the expulsion rate could be 7 to 15% at six months.(13)

Kittur found the expulsion rate in 5.23% of patients. Inserting PPIUCD at 10 minutes after placental delivery is safe leading to the expanding of the usage of IUCD meeting the unmet needs. The expulsion rates would be minimal if it was inserted by a trained provider and placed at the fundus.(14)

Celen et al., in different studies have reported that the rate of expulsion with immediate IUD insertion was only 5.1-5.3% after 6 weeks of insertion.(4, 5)

One study, conducted by Ryujin reported with high rate of PPIUCD expulsion rate i.e. 9.0% after 8 weeks as compared to the rate reported earlier.(6) But results of Ryujin study were little matches with our study but the rate was slightly high as reported in our study. Results of Shukla studies agrees with results of Ryujin study and it was stated that the rate of expulsion with immediate IUD insertion was only 11.28% after 6 weeks of insertion.(7)

In our study, among the females of age 20-30 years, the expulsion was observed in 9 (7.9%) cases while among the females of age 31-40 years, the expulsion was observed in 8 (8.3%) cases. There was insignificant difference observed between both age groups for expulsion of IUD ($P>0.05$).

CONCLUSION

Thus it was concluded by results of this study that expulsion of PPIUCD is low and controversy in results of previous literature has also been solved. Moreover, we have also got local evidence. Now effective counselling of females for PPIUCD after normal delivery will have a good impact on health of mother and child.

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