IOSR Journal of Dental and Medical Sciences (IOSR-JDMS)
e-ISSN: 2279-0853, p-ISSN: 2279-0861.Volume 15, Issue 8 Ver. IV (August. 2016), PP 38-42
www.iosrjournals.org

Clinical Study of Acceptability And Safety of Postpartum Intrauterine Contraceptive Devices

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Abstract :
Objective: *India is first to introduce family planning services, Government of India revised its policy in 2013 to permit trained nurses and midwives to insert postpartum intrauterine contraceptive devices (PPIUCDs). To assess the acceptability and safety of Postpartum Intrauterine Contraceptive Device insertion among women on bases of two key outcomes of PPIUCD insertions — expulsion and infection,who delivered at Rajkiya Mahila Chikitsalya J.L.N. Medical College and Hospital.*
Method: *this is a prospective interventional analytical study. The postpartum family planning services offered are in the form of health education in group counseling session at the postnatal ward.*
Results: *Total women counseled 1000, accepted 312, declined 688, lost to follow up 56, followed up 256, complications 82 (Expulsion 8, Bleeding 21, String problem 32, Removal 8, continuation 231)*
Interpretation and conclusions: *Immediate post-partum IUCD insertion provides highly effective contraception immediately after delivery. Although the expulsion rate for immediate post-partum is higher than for interval insertion particularly in country where women have limited access to medical care. The government needs to develop strategies to increase public awareness of the PPIUCD through different media sources. It is also important to arrange training on PPIUCD in order to increase knowledge and skills among health care providers. This will also further promote PPIUCD use and aid in reduction of expulsion rates. Case incentives to the acceptor, motivator and provider will bring about substantial progress in the PPIUCD use in developing countries like India.*

Keywords: *Complications, Expulsion, Intra caesarean insertion, Post-partum contraception, postpartum intrauterine contraceptive devices (PPIUCDs),*

I. Introduction

Contraception methods by definition mean to prevent unwanted pregnancy by temporary or permanently [1]. India is second largest populated country in the world accounting for 17.5% of world's population by adding around 25 million births every year, 65% of women in the first year postpartum have an unmet need for family planning. [2,3]

Among the various method of family planning available for a women, insertion of post partum intrauterine contraceptive device appears appealing for several reasons: commencement of ovulation is unpredictable after delivery, women wish to avoid pregnancy, but still may not be using any form of contraception, delivery may be only time when a healthy woman comes in contact with health care providers[4], women is likely to be highly motivated for accepting contraception during post partum period, long term and reversible method, newer understanding about intrauterine contraceptive device in terms of acceptability ,low expulsion when inserted by proper technique ,cost effectiveness , safety and feasibility of inserting immediately after child birth[5], Keeping in mind all of the above, present study is undertaken.

The risk of expulsion can be reduced significantly by using proper technique of Postpartum Intrauterine Contraceptive Device insertion. There is no effect on breast milk quantity or quality.The above mentioned advantages argue a case for study in Postpartum Intrauterine Contraceptive Device with the aim of future inclusion of the method in the family planning programme.

II. Materials And Methods

This is a prospective study was carried out in the department of Rajkiya Mahila Chikitsalya, Jawahar Lal Nehru Medical College Ajmer, Rajasthan from January 2014 to June 2015.Women delivering in the hospital fulfilling inclusion criteria was included in the study after obtaining informed consent.

2.1 Objectives of the present study are: to assess safety in terms of perforation, pain, bleeding, foul smelling vaginal discharge and assess expulsion rate at 6 weeks follow up and reasons for removal/discontinuation

2.2 Inclusion criteria: Women delivering vaginally or by caesarean section, counselled for IUD insertion in pre-natal period or in labour and willing to participate in the study

2.3 Exclusion criteria: Anaemia (haemoglobin <10 g/dl), PPH, with premature rupture of membranes >18 hours, obstructed labour, fibroid, congenital malformation of uterus, active STD, lower genital tract infection and allergy to copper [6].

2.4 Counselling of the patients**:** Women were educated about family planning and using methods during ANC visits and at the time admission. Advantages of PPIUCD and complications were explained. Pretested questionnaire was filled to know acceptance and rejection, reasons to inclination to other methods were also recorded.

2.5 Procedure Of Insertion Of PPIUCD

2.5.1 *Post placental: IUCD was inserted after 3rd stage labour management that is after placental removal. IUCD was inserted cautiously and aseptically into the uterine fundus.*

2.5.2 *Intra caesarean: IUCD was inserted directly into uterine fundus after delivery of placenta, then incision was closed.*

2.6 Follow up: Follow up was done at 6 weaks in outpatient. Symptoms and signs of adverse effects due to IUCD insertion were noted like discharge, bleeding and pain abdomen. Inspected for threads, if threads were not found pelvic

Characteristics N	Total counseled	Accepted		Declined		
	N=1000	N=312	N=(%)	N=688	N=(%)	
Age						
<19	64	3	0.96	61	8.86	*p* value 0.01
20-29	559	209	66.98	350	50.87	
30-39	369	96	30.76	273	39.68	
>40	8	4	1.28	4	0.58	
Education						
No formal education	56	7	2.24	49	7.12	*p*- value 0 .01
Primary	311	146	46.79	165	23.98	
secondary	577	134	42.94	443	64.38	
Higher education	56	25	8.01	31	4.50	
Economic status						
Low	547	152	48.71	395	57.41	*p*-value 0 .035
Medium	358	128	41.02	230	33.43	
High	95	32	10.25	63	9.15	
Parity						
1	572	189	60.57	383	55.67	*p*-value 0 .12
2	358	108	34.61	250	36.33	
>3	70	15	4.80	55	7.99	
Last child birth						
0-2	508	177	56.73	331	48.11	*p*-value 0 .01
2-3	289	89	28.52	200	29.06	
3-4	172	32	10.25	140	20.34	
>5 Yrs	31	14	4.48	17	2.47	

ultrasound and x-ray pelvis was done. Women who came for follow up and want to remove IUCD, reasons were meticulously filled in the questionnaire

III. Result

Table I. Socio demographic and obstetric characteristics of the parturient included in the study

*$p \leq 0.05$ statistically significant

II. Reasons for acceptability among the parturient included in the study

Reason for acceptability	Number	Percentage
Long term	177	56.73
Safe	61	19.55
Fewer clinic visit	34	10.89

Reversible	29	9.29
Non hormonal	9	2.88
No interference with breast feeding	2	0.64

III. Reason for refusal among the parturient included in the study

Reason for refusal	Number (N=688)	Percentage
Prefer to use another method	211	30.66
Satisfied with previous contraceptives	118	17.15
Need to discuss with my partner	102	14.82
Fear of pain and heavy bleeding	98	14.24
Family/Partner refusal	67	9.73
Don't want contraception immediately	42	6.10
No reason	21	3.05
Not enough knowledge about PPIUCD	12	1.74
Fears cancer	7	1.01
Interferes with sexual intercourse	6	0.87
Religious beliefs	4	0.58

IV: Type of Postpartum Intrauterine Device insertion

Type	Number	Percentage
Post placental (within 10 minutes of delivery of placenta after vaginal delivery	199	63.78
Immediate post-partum (10 minutes to 48 hours after child birth)	17	5.44
Intra caesarean	96	30.76

V. Complications at 6 weeks after Postpartum Intrauterine Contraceptive Device insertion (N=82):-

Complications	Number (N=256)	Percentage
Bleeding	21	8.20
Menstrual disturbance	6	2.34
Expulsion	8	3.12
Strings not visible	24	9.37
Pelvic Pain	15	5.85
Pelvic infection	7	2.73
Uterine perforation	1	0.39

VI. Reason For Discontinuation Of Intrauterine Contraceptive Device In The Study

Reason	Number (N=25)	Percentage
Expulsion	8	3.12
Removal for		
Bleeding	3	1.17
Menstrual disturbances	1	0.39
Pelvic Pain	2	0.78
Pelvic infection	1	0.39
Uterine perforation	1	0.39
Others including string problem	2	0.78
Pressure from family	7	2.73

VII. Continuation rate (post placental 199+immediate post-partum 17+intracesarean 96) in the study:-

Continuation rate	Number	Percentage
Total insertion	312	
Total follow up	256	
Expulsion	8	3.12
Removal	17	6.64
Continuation	231	90.23

VIII. Continuation rate in both groups of clients having and not having complications in the study:-

Status	Number	Removal No.	%	Continuation	%
Having complications					
Expulsion	8				
Bleeding	21	3	14.28	18	78.26
Menstrual disturbances	6	1	16.66	5	83.33
Pelvic Pain	15	2	13.33	13	33.33
Pelvic infection	7	1	14.28	6	85.71

Uterine perforation	1	1	100	0	0
String Problem	24	2	8.33	22	91.66
No Complications	174	7	4.02	167	95.97

IV. Conclusion

Present study was conducted among 1000 parturient to assess their acceptability, feasibility and complications towards postpartum insertion of IUCD. After taking consent out of 1000, 312 women were accepted and 688 were declined. Socio-demographic features, obstetric characters and reasons for accepting the IUCD discussed here onwards.

Mean age of acceptance was 27.61±5.33. Acceptance was more in those who completed their primary and secondary school level education (89.73%). Majority of the women (94.4%) had at least a primary level of education. Acceptance of the use of PPIUCD was higher among women with primary and higher education (46.95 & 44.64%), than those with no formal education (12.50%).

Anjali et al., found 36% acceptance and and 64% were declined for postpartum IUCD insertion [7]. Mishra S et al., found 17.17% of acceptance [8]. Gunjan goswamy et al., found 66.6% acceptance [9]. Vidyaramana et al., found 8.55% acceptance [10]. So much of variation in acceptance was found across country may be due to different study settings, locality and diversity in socio-demographic characteristics.

Anjali et al., and Misha S et al., found high acceptancy among women who completed their primary and secondary school education [7,8]. Gunjan goswamy et al., also found more acceptors who had completed secondary school education (49%) followed by primary school (23%), compared to illiterates (13%) [9]. Vidyaramana et al., found more literacy will lead to acceptancy (15.7%) compared to illiteracy (5.3%) [10]. above all studies and current study reiterates that educational status has definitely high influence in acceptancy of PPIUCD.

Gunjan goswamy found lower income people were high acceptors (62%) [9]. Satyavathi et al., found acceptance was high among low socioeconomic women had high acceptance (67%) [11]. Current study also found similar results. It may be because study was conducted in government tertiary care hospital where majority service receivers are low socio economic people.

Anjali et al., Mishra S et al., Vidya ramana et al., and Satyavathi et al., found high acceptance among primi gravida women. [7, 8, 10, 11]. Gunjan goswamy et al., found women with second gravida were high acceptors (48%) [9]. Similar results to current study this is because IUCD is temporary method that is the reason for acceptancy among primi parous women.

Mishra S et al., and Satyavathi et al., found women who had at least one delivery were preferred temporary methods [8,11].

Manju shukla et al., found 60.87% acceptors underwent cesarean section.[12]. Vidya ramana et al., found 83.73% of acceptors had cesarean section and 16.26% acceptors underwent vaginal delivery [10].but in our study (69.22%) majority of acceptors underwent vaginal delivery than (30.76%) intra caesarean.

Anjali et al., found 32% want another method of contraception, 18% had fear of complication, 8% not specified any reason to refusal of IUCD [7]. Priya et al., found husband was the main reason for not accepting IUCD [13]. Satyavathi et al., found in their study, majority were preferred another family planning method (46.68%), followed by fear of complications (32.89%) and due to family refusal (20.42%) [11]. Reasons for refusal in Gunjan goswamy et al., study were fear of complications (41%), not accepted by partner (35%), 22% were inclined to other methods, 5% not had any reason and 1% declined on religion basis (9) In our study, we found majority (47.81%) were not accepting because they are interested in other methods followed by(14.83%) had fear of complications and 9.73% were told partner was not interested. On religious base less than 1% were declined IUCD. Partner or family members are playing important role in the decision making. Educating family members may increase the acceptancy.

Anjali et al., found 28% accepted because people it is long acting, 20% accepted because IUCD needs few follow up visits, 17% because it is reversible, 10% accepted by stating that safe & non hormonal and 11% accepted because attention needed to check [7]. study done by Satyavathi et al., found reasons for accepting IUCD were long acting (55.28%), 20.73% thought it is safe [11]. In our study, we found majority (56.73%) accepted due to its long term effect 19.55% due its safety and 10.89% due to fewer clinic visits. Different views found in different study but majority studies stated that people accepting IUCD because it is long acting and safe.

Out of 312 accepted women 56 were lost to follow up after 6 weeks. Sixteen were reported complications. Main reported complications were bleeding (8.20%), pain abdomen (5.85%). Expulsion rate was 3.12%.

In the present study, the expulsion rate was at 4-6 wks interval were 8 (3.12%). This was similar to a multicountry study done in Belgium, Chile and Phillippines which showed the rate of expulsion at 1 month ranging from 4.6 to 16 %.[14] which compares to the expulsion rate of 5.6% reported among 210 women in a clinic in Hubli, Karnataka state in India [15], 1.6% among 3000 women in a hospital in Paraguay [16], and 5.6%

among women among 305 periurban Lusaka, Zambia [17]. Another study of 1317 women in north India reported a cumulative expulsion rate of 10.7% by six months [12].

Anjali et al., observed 28% lost follow up. Majority (22%) were expelled, 8% had pain abdomen and 6% found menstrual irregularities [7]. Mishra S et al., found expulsion rate 6.4% at 6 weeks. A 23.05% participants were lost follow up [8]. Gunjan goswamy et al., found expulsion rate was 10% and 30% lost follow up. In their study bleeding/discharge (30%), abdominal pain (20%), family pressure (20%), just did not want to continue (5%) were the reasons they found for removal of IUCD in the follow up [9].Vidya ramana et al.,observed high follow up (93%). Very minimal percentage expelled and went for removal due to complications like pain and discharge [10]. Satyavathi et al., found reasons for removal were bleeding (27.27%), menstrual disturbances (18.18%), pressure from family (27.27%) other problems (18.18%) and pain (9%) [10]. Majority studies including current study observed pain and discharge were the main problems for removal of IUCD.

V. Limitations

1.1 This study was conducted in a tertiary centre therefore the findings may not adequately reflect the entire primary region.

1.2 Lost to follow up as observed in the study was a limitation of the study. This made it difficult to draw a clear conclusion as what happened to those who did not complete their follow up schedule.

1.3 The present study is limited in that long-term expulsion rates could not be determined since follow-up was only conducted at six weeks following birth. Further studies could be conducted that involved one or two year follow-up assessments.

VI. Conclusion

This study of PPIUCD use showed that most women were satisfied with their choice of immediate insertion of an IUCD and that the rates of problems and complications were relatively low. We can conclude that Inserting CuT 380 A by 10 min after placental delivery is safe and effective, has high retention rate. The expulsion rate was not high, and further can be reduced with practice. With the high level of acceptance, despite low levels of awareness, the government needs to develop strategies to increase public awareness of the Postpartum Intrauterine Contraceptive Device through different media sources.

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