

Factors Associated with Low Acceptability of Postpartum Intrauterine Contraceptive Device (PPIUCD), in A Tertiary Care Centre

Zubaida Masood¹, Fauzia Ali², Seema Ghani³, Zaira Batool², Shabnam Nadeem² and Jarry Masood⁴

Factors
Associated with
Low
Acceptability of
PPIUCD

ABSTRACT

Objective: To assess the Factors associated with low acceptability of PPIUCD.

Study Design: Cross sectional study

Place and Duration of Study: This study was conducted at the Antenatal Clinic of Abbasi Shaheed Hospital, Karachi from February 2022 to April 2022.

Materials and Methods: All the 288 women attending antenatal clinic were counseled for immediate PPIUCD and after written consent were included in the study and assessed for acceptability and attitude about the insertion of PPIUCD and also explored factors associated.

Results: A total of 288 women were counseled for PPIUCD during their antenatal visits. Out of which 43.8% accepted PPIUCD and poor Attitude towards PPIUCD was reported in 69.8%. Most of the women 26.4% had concerns and fears of post procedural complications like expulsion, infection, bleeding etc. Refusal from husband's side is also reported by 18.1% women.

Conclusion: The use of PPIUCD was noticeably low. In order to increase postpartum IUD utilization, which further improves mother and child health generally; women's educational status and antenatal counselling use must be up scaled.

Key Words: PPIUCD, Factors, Acceptability, Attitude

Citation of article: Masood Z, Ali F, Ghani S, Batool Z, Nadeem S, Masood J. Factors Associated with Low Acceptability of Postpartum Intrauterine Contraceptive Device (PPIUCD), in A Tertiary Care Centre. Med Forum 2022;33(7):60-65.

INTRODUCTION

Family-planning is a basic right of all women to ensure their health, their families and healthy community. By allowing women to space births, prevent unplanned pregnancies and abortions, and discontinue childbearing when they get their ideal size of family, long-acting reversible contraception approach can save as many as one out of three maternal fatalities.^{1,2} Rate of maternal mortality across the world is quite high, with an estimated 42% of deaths occurring during labour and delivery.

Everyday, almost 800 women worldwide die from pregnancy or birth-related complications.³ In Pakistan more than 25,000 women are reported to die every year as a result of complications associated with pregnancy that may be prevented.⁴

An IUCD is a "T-shaped" device inserted into a woman's uterus. It's also described as a "coil, loop, or IUD". Postpartum IUCD is placed during the postpartum period which is defined as up to forty-eight hours post birth, ideally within 10 minutes of placenta delivery.^{3,5} Copper IUD's are quite safe, reliable, efficient, and long-lasting contraceptive protections. In order to reduce expulsion risks and complications, early post-partum IUD (PPIUCD) implantation should be conducted by a qualified and certified clinician, however these services are not commonly accessible. The International Federation of Obstetricians and Gynecologists (FIGO) will initiate an intervention to institutionalize PPIUCD training as a regular aspect of the OB/GYN training plan and to incorporate it as part of standard practice at the time of delivery in intervention facilities.² Worldwide, 214 million women of reproductive age in low-income countries are considered to desire to prevent getting pregnant but are not utilizing a modern methods of contraception.⁶

¹. Department of Gynae, Sobhraj Hospital, KMDC, Karachi.

². Department of Gynae, KMDC, Karachi.

³. Department of Gynae, Hamdard University Hospital, Karachi.

⁴. Department of Gynae, Dow International Medical College, Karachi.

Correspondence: Dr. Zubaida Masood, HOD Gynae, Sobhraj Hospital, KMDC, Karachi.

Contact No: 03082153400

Email: zubaidamasood@hotmail.com

Received: May, 2022

Accepted: June, 2022

Printed: July, 2022

World Health Organization (WHO) recommended 2-years gap between childbirth and pregnancy.⁷ Existing literature has demonstrated that long-acting interventions, such as IUDs, can reduce unmet need and unintended pregnancy especially in low-resource settings.^{8, 9} During the postpartum phase, women are much more encouraged to accept family-planning measures.¹⁰ Because the majority of women typically do not return for postnatal-care, failure to offer timely postpartum contraception might contribute to the incidence of unplanned pregnancies.^{9, 11} The significant obstacles to PPIUCD adoption were a lack of procedural understanding, unskilled practitioners, predisposition for quick-acting contraceptives, spousal rejection, and concerns about complications.^{9, 12, 13}

Finding the best available evidence of the prevalence of PPIUCD acceptance, attitude, and factors associated to its rejection and poor attitude were the study's main objectives. The results of this study will provide scientific support to the health professionals and policy makers for PPIUCD service improvement. It may be helpful to discover program aspects that need improvement with the assistance of evidence on the acceptability of immediate PPIUCD utilization.

MATERIALS AND METHODS

This was a “Descriptive Cross Sectional” study which was conducted on 288 women attending department of Obstetrics and Gynaecology OPD of Abbasi Shaheed Hospital from February to April 2022 after taken IRB approval. Women who gave a written informed consent included in the study. Demographic and detailed history i.e. age, educational status of women/Husband, Occupation, residence, parity etc was also taken. Study subjects were enrolled using non-probability consecutive sampling technique. Sample size was calculated by using “OpenEpi sample size calculator”. By taking prevalence of PPIUCD acceptance 12.4%¹¹, at precision level 5% and 95% confidence interval.

All women between ages 15-45 years who wants spacing between births were given pre structured questionnaire. Therefore women were counseled for IUCD insertion in prenatal period or in labour and willing to participate in the study were included in the study. Women with PID, multiple fibroid, coagulation disorders, fever, or clinical symptoms of infection during labour, obstructed labour, congenital malformation of uterus, active STD and allergy to copper were excluded. For assessment of acceptance and attitude towards PPIUCD a pre-structured questionnaire given to all women and responses were obtained.

Data was analyzed by using SPSS version-21. Descriptive statistics of all the study variables were presented in term of frequency and percentages. Outcome variables attitude and acceptance for PPIUCD also reported. Association was assessed between acceptance and attitude for PPIUCD with factors like age, educational status, parity etc. by applying Chi-Square test. P-value≤0.05 was considered as significant.

RESULTS

Table No.1: Demographic Characteristics of subjects

Study Variables	Frequency	% age	
Age (in years.)	<20	28	9.7
	20 - 29	173	60.1
	30 - 39	73	25.3
	>40	14	4.9
Education (women)	No education	71	24.7
	Primary	74	25.7
	Secondary	95	33.0
	Intermediate or higher	48	16.7
Educational (Husband)	No education	87	30.2
	Primary	68	23.6
	Secondary	90	31.3
	Intermediate or higher	43	14.9
Occupation (women)	Housewife	258	89.6
	Working	30	10.4
Residence	Rural	33	11.5
	Urban	255	88.5
Parity	Multipara	204	70.8
	Primipara	84	29.2
Antenatal care visits	≥4	107	37.2
	< 4	181	62.8
Status of birth	Planned	181	62.8
	Unplanned	107	37.2
No. of live births	0	69	24.0
	1	63	21.9
	2	72	25.0
	3	53	18.4
	4	24	8.3
	5	3	1.0
Future pregnancy desire	No	91	31.6
	Yes	197	68.4
Contraceptive use before current birth	Condom	51	17.7
	Contraceptive	8	2.8
	Injectable	9	3.1
	IUCD	30	10.4
	No	185	64.2
Who will decide the use of modern contraceptive method?	Withdrawal method	5	1.7
	Both of us	213	74.0
Reason for rejection	Husband	57	19.8
	Wife	18	6.3
	Fear	43	14.9
Reason for rejection	Desire for more children	24	8.3
	Husband desire	29	10.1
	Interference with sexual intercourse	5	1.7
	Prefer other methods	24	8.3
	Religious beliefs	3	1.0

All the women of reproductive age were enrolled in this study. Majority of women 173(60.1%) were having age of 20-29 years followed by 73(25.3%) 30-39 years of age group. Educational status of both showed similar pattern. More than half of the women 181(62.8%) had history of less than 4 antenatal care visits. Future pregnancy desire for more children was reported in 197(68.4%) women.

Table No.2: Assessment of Attitude and Acceptability for PPIUCD

Questions		Frequency	%age
“Have you ever heard about IUCD as a contraceptive method? Immediately after delivery”?	“Yes”	184	63.9
	“No”	104	36.1
“Do you know IUCD prevent unwanted pregnancies at least 3 years”?	“Yes”	165	57.3
	“No”	123	42.7
“IUCD has interference with sexual intercourse”	“Yes”	99	34.4
	“No”	148	51.4
	Do not know	41	14.2
“Do you think IUCD insertion and removal is highly painful”?	Agreed	97	33.7
	Disagreed	36	12.5
	Do not know	155	53.8
“Do you think IUCD cause irregular bleeding”?	Agreed	117	40.6
	Disagreed	42	14.6
	Do not know	129	44.8
“Using IUCD restrict normal activity”.	Agreed	71	24.7
	Disagreed	74	25.7
	Do not know	143	49.7
“IUCD may impair future fertility”.	Agreed	88	30.6
	Disagreed	55	19.1
	Do not know	145	50.3

Previous history of contraceptive use status showed that, Condoms reported as the most common method to avoid pregnancy followed by IUCD which was used by 30(10.4%) and 185(64.2%) study subjects stated that they did not use any contraceptive method. According

to 213(74%) study participants, husband and wife both will decide the use of modern contraceptive method. (Table 1). Acceptance rate for PPIUCD among the study subjects was 126(43.8%) and attitude towards PPIUCD was reported poor in 201(69.8%) (Graph1). Most common reasons for rejection are concerns and fears of post procedural complications. Refusal from husband’s side and desire for more children are also main reason for rejection.

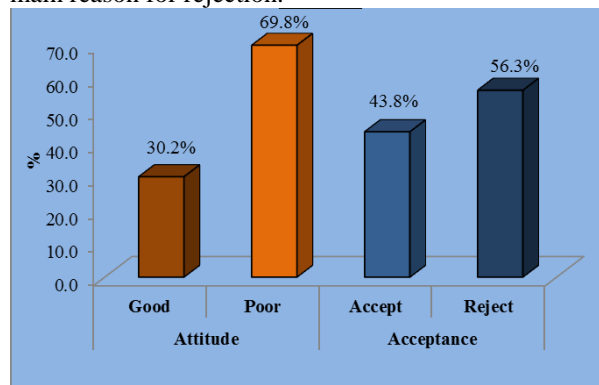


Figure No.1: Attitude & Acceptability towards PPIUCD

Out of total 184(63.9%) women already heard or knew about IUCD/PPIUCD as contraceptive method. 99(34.4%) women thought IUCD has interference with sexual intercourse. 155(53.8%) women had no information regarding pain experience, 97(33.7%) agreed on that the insertion and removal of IUCD is painful and only 36(12.5%) disagreed with this. 129(44.8%) women did not know about bleeding cause by IUCD, according to 117(40.6%) women IUCD cause irregular bleeding while 42(14.6%) disagreed. 145(50.3%) women were unaware about the statement” IUCD may impair future fertility “. (Table 2)

Association of attitude towards PPIUCD and acceptance with associated factors showed in table-3. It was found that educational status of husband, mother’s occupation, residential status, and previously used contraceptive methods had significant association with attitude (P-value<0.05). It was found that educational status of husband, mother’s occupation, had significant association with acceptance for PPIUCD (P-value<0.05).

Table No.3: Association of Attitude towards PPIUCD and Acceptance with associated factors

Associated Factors		Attitude		Sig.	Acceptance		Sig.
		Good	Poor		Accept	Reject	
Age (in yrs.)	<20	8(28.6%)	20(71.4%)	0.843**	13(46.4%)	15(53.6%)	0.992**
	20 – 29	55(31.8%)	118(68.2%)		75(43.4%)	98(56.6%)	
	30 – 39	21(28.8%)	52(71.2%)		32(43.8%)	41(56.2%)	
	≥40	3(21.4%)	11(78.6%)		6(42.9%)	8(57.1%)	
Educational Status	No education	20(28.2%)	51(71.8%)	0.226**	29(40.8%)	42(59.2%)	0.766**
	Primary	18(24.3%)	56(75.7%)		30(40.5%)	44(59.5%)	

(Women)	Secondary	29(30.5%)	66(69.5%)		44(46.3%)	51(53.7%)	
	Intermediate or higher	20(41.7%)	28(58.3%)		23(47.9%)	25(52.1%)	
Educational Status (Husband)	No education	16(18.4%)	71(81.6%)	0.019*	27(31.0%)	60(69.0%)	0.035*
	Primary	25(36.8%)	43(63.2%)		35(51.5%)	33(48.5%)	
	Secondary	28(31.1%)	62(68.9%)		42(46.7%)	48(53.3%)	
	Intermediate or higher	18(41.9%)	25(58.1%)		22(51.2%)	21(48.8%)	
Occupation (women)	Housewife	69(26.7%)	189(73.3%)	0.000*	104(40.3%)	154(59.7%)	0.001*
	Working	18(60.0%)	12(40.0%)		22(73.3%)	8(26.7%)	
Residence	Rural	5(15.2%)	28(84.8%)	0.045*	13(39.4%)	20(60.6%)	0.592**
	Urban	82(32.2%)	173(67.8%)		113(44.3%)	142(55.7%)	
Parity	Multipara	59(28.9%)	145(71.1%)	0.459**	91(44.6%)	113(55.4%)	0.647**
	Primipara	28(33.3%)	56(66.7%)		35(41.7%)	49(58.3%)	
Antenatal care visits	≥4	33(30.8%)	74(69.2%)	0.857**	50(46.7%)	57(53.3%)	0.433**
	< 4	54(29.8%)	127(70.2%)		76(42.0%)	105(58.0%)	
Status of birth	Planned	59(32.6%)	122(67.4%)	0.251**	75(41.4%)	106(58.6%)	0.303**
	Unplanned	28(26.2%)	79(73.8%)		51(47.7%)	56(52.3%)	
Future pregnancy desire	Yes	61(31.0%)	136(69.0%)	0.681**	86(43.7%)	111(56.3%)	0.962**
	No	26(28.6%)	65(71.4%)		40(44.0%)	51(56.0%)	
Contraceptive use before current birth	Condom	16(31.4%)	35(68.6%)	0.000*	25(49.0%)	26(51.0%)	0.294**
	Contraceptive	1(12.5%)	7(87.5%)		4(50.0%)	4(50.0%)	
	Injectable	4(44.4%)	5(55.6%)		4(44.4%)	5(55.6%)	
	IUCD	22(73.3%)	8(26.7%)		18(60.0%)	12(40.0%)	
	Withdrawal method	1(20.0%)	4(80.0%)		1(20.0%)	4(80.0%)	
	No	43(23.2%)	142(23.2%)		74(40.0%)	111(60.0%)	
Decision taker for contraceptive method	Both	70(32.9%)	143(67.1%)	0.220**	94(44.1%)	119(55.9%)	0.961**
	Husband	12(21.1%)	45(78.9%)		24(42.1%)	33(57.9%)	
	Wife	5(27.8%)	13(72.2%)		8(44.4%)	10(55.6%)	

Chi-Square test applied; Significance level <0.05

DISCUSSION

The Intrauterine devices offers long term, reliable, convenient, and safe contraceptive protection that does not restrict breastfeeding throughout the postpartum period.

In this research poor attitude towards PPIUCD was 69.8% and rate for acceptance was 43.8%. Similar to these findings, a study reported that 41.1% women accepted the PPIUCD insertion.¹⁴ A study conducted in rural India demonstrated 32% PPIUCD acceptance rate. Further studies showed that, the acceptance rate is quite variable this might be due to diverse settings, locality and multiplicity in characteristics of socio demographic.¹⁵ In a follow-up based study,¹⁶ acceptance was 14% in natural births and 11% in Cesarean-section deliveries. Lower acceptability of PPIUCD is a result of the lack of comprehensive and up-to-date details. the author generate high acceptability of PPIUCD 20% by providing

counseling, skills training during antenatal visits.¹⁷ In Egypt a study was conducted showed the acceptance rate 29%.¹⁸ In a recent study conducted in Bangladesh reported the acceptance rate 5.3% which is lower than other studies.¹⁹ In comparison; our acceptance rate is relatively higher. Possible cause may be the immediate postpartum insertion method is a less familiar for those populations.

There are variety of misconceptions, concerns, and fear about the approach. Most of the women in our study 26.4% had concerns and fears of post-procedural complications like expulsion, infection, bleeding etc. Refusal from husband's side was also reported by 18.1%.The factors including age group, occupational status of partners, educational status both husband and wife, adequate knowledge, spouse support, consultation, antenatal care visits, and existing awareness about IUCD were determinants that influence the utilization of PPIUCD. In this study mother's occupation and husband's educational status

showed significant impact on acceptance rate. It can be seen that rejection rate is higher in the group of subject those husband's had no formal education and mother who lives at home were not in favor of device insertion. In our study; PPIUCD acceptance rate is higher among educated women, educated husbands, working women, women with adequate antenatal care visits and those who had history of IUCD use. The immediate PPIUCD acceptance was 12.4%. Women who rejected provided their reasons; most common reason found was the concerns and fears of complications 25%, 20% declined because of their religious beliefs and 18% women refused due to the disagreement with husband. Educational status found to have significant factor (OR: 3; 95% CI = 11.8--53.9). Acceptance was relatively higher among women who attended more antenatal care visits (OR: 1.81; 95% CI = 0.34-0.85) and housewives were 4.4 (95%CI: 2.24-8.81) prone to consider taking PPIUCD. Under utilization is may be due to low educational, perceived fear, and concerns about complications. It is also influenced by the male partner's opposition and religious views. In order to eradicate myths and allay concerns adequate attention should be paid to raising the educational level of women as well as men.¹¹ Some findings contradict with our findings.

In another analysis,³ Women over the age of 35 had a 5-fold higher likelihood of utilizing PPIUCD than did younger women. Moreover, multi-countries research from Tanzania, Sri Lanka, and Nepal supports this evidence.²⁰ While in this study each age groups showed the same level of acceptance for PPIUCD. Women who gave birth naturally via vaginal delivery, women who obtained PPIUCD counseling during the antenatal period, mothers who received spousal approval, mothers with birth to pregnancy intervals of more than two years and women who had more than one child were more likely to utilize PPIUCD.⁶

To promote the utilization of PPIUDs, clinicians and nurses must receive high-quality antenatal counseling and training. Although in low-resource countries where antenatal care doesn't include counseling on postpartum contraception due to a lack of clinician time or competence, women may not be aware of PPIUD before going to the hospital for birth.

CONCLUSION

There is a need for good antenatal counselling of couple, by qualified female healthcare professionals, particularly for PPIUCD, at health facilities and scheduled workshops.

Author's Contribution:

Concept & Design of Study: Zubaida Masood
 Drafting: Fauzia Ali, Seema Ghani
 Data Analysis: Zaira Batool, Shabnam Nadeem, Jarry Masood

Revisiting Critically: Zubaida Masood,
 Fauzia Ali
 Final Approval of version: Zubaida Masood

Conflict of Interest: The study has no conflict of interest to declare by any author.

REFERENCES

1. Kanhere AV, Pateriya P, Jain M. Acceptability and feasibility of immediate postpartum IUCD insertion in a tertiary care centre in Central India. *Int J Reproduction, Contraception, Obstetrics and Gynecol* 2015;4(1):179-85.
2. Canning D, Shah IH, Pearson E, Pradhan E, Karra M, Senderowicz L, et al. Institutionalizing postpartum intrauterine device (IUD) services in Sri Lanka, Tanzania, and Nepal: study protocol for a cluster-randomized stepped-wedge trial. *BMC Pregnancy and Childbirth* 2016;16(1):362.
3. Kassa BG, Ayele AD, Belay HG, Tefera AG, Tiruneh GA, Ayenew NT, et al. Postpartum intrauterine contraceptive device use and its associated factors in Ethiopia: systematic review and meta-analysis. *Reproductive Health* 2021; 18(1):225.
4. Mustafa G, Azmat SK, Hameed W, Ali S, Ishaque M, Hussain W, et al. Family Planning Knowledge, Attitudes, and Practices among Married Men and Women in Rural Areas of Pakistan: Findings from a Qualitative Need Assessment Study. *Int J Reproductive Med* 2015;2015:190520.
5. Cwiak C, Cordes S. Postpartum intrauterine device placement: a patient-friendly option. *Contraception and reproductive Medicine* 2018;3:3.
6. Kanakuze CA, Kaye DK, Musabirema P, Nkubito P, Mbalinda SN. Factors associated with the uptake of immediate postpartum intrauterine contraceptive devices (PPIUCD) in Rwanda: a mixed methods study. *BMC Pregnancy and Childbirth* 2020; 20(1):1-11.
7. WHO. Report of a WHO technical consultation on birth spacing. *Rep a WHO Tech Consult Birth Spacing* 2005;13:1-44.
8. Abraha TH, Gebrezgiabher BB, Aregawi BG, Belay DS, Tikue LT, Welay GM. Predictors of postpartum contraceptive use in rural Tigray region, northern Ethiopia: a multilevel analysis. *BMC Public Health* 2018;18(1):1017.
9. Kanakuze CA, Kaye DK, Musabirema P, Nkubito P, Mbalinda SN. Factors associated with the uptake of immediate postpartum intrauterine contraceptive devices (PPIUCD) in Rwanda: a mixed methods study. *BMC Pregnancy and Childbirth* 2020; 20(1):650.
10. Kumar S, Sethi R, Balasubramaniam S, Charurat E, Lalchandani K, Semba R, et al. Women's experience with postpartum intrauterine

- contraceptive device use in India. *Reproductive Health* 2014;11:32.
11. Gonie A, Worku C, Assefa T, Bogale D, Girma A. Acceptability and factors associated with postpartum IUCD use among women who gave birth at bale zone health facilities, Southeast-Ethiopia. *Contraception and Reproductive Medicine* 2018; 3:16.
 12. Paul DP, Ray J, Sarkar S. Study of outcome of Intrauterine Contraceptive device (CuT-380A) insertion immediately after vaginal delivery. *AIMS Medical Science* 2020;7(4):328-36.
 13. Udgiri R, Sorganvi V. Knowledge attitude and practices of family planning methods among postnatal mothers-A hospital based study 2016.
 14. Agarwal N, Gupta M, Agrawal A, Sharma A. Efficacy and safety of Post-Partum Intrauterine Contraceptive device (PPIUCD) insertion-A prospective study. *Santosh University J Health sciences* 2017;3(1);20-23.
 15. Rana M, Atri SK, Chib V, Kumari N. Postpartum intrauterine contraception device, a method of contraception: A study from rural north India. *Int J Clin Obstet Gynaecol* 2019;3:169-73.
 16. Khan FS, Nazeer S, Afridi N, Amina N, Kanwal S, Khan S. Acceptance, Follow-up and Outcome of Postpartum Intrauterine Contraceptive Device in C section and Normal delivery. *Methodol* 2020.
 17. Jairaj S, Dayyala S. A cross sectional study on acceptability and safety of IUCD among postpartum mothers at tertiary care hospital, Telangana. *J Clinical Diagnostic Research: JCDR* 2016;10(1):LC01.
 18. Mohamed SA, Kamel MA, Shaaban OM, Salem HT. Acceptability for the use of postpartum intrauterine contraceptive devices: Assiut experience. *Med Principles Practice* 2003; 12(3):170-5.
 19. Nahar KN, Fatima P, Dewan F, Yesmin A, Laila TR, Begum N, et al. Acceptability and feasibility of postpartum intra uterine contraceptive device insertion in Bangabandhu sheikh Mujib medical university, Dhaka, Bangladesh. *Bangladesh Med J* 2018;47(3):25-31.
 20. Makins A, Taghinejadi N, Sethi M, Machiyama K, Thapa K, Perera G, et al. Factors influencing the likelihood of acceptance of postpartum intrauterine devices across four countries: India, Nepal, Sri Lanka, and Tanzania. *Int J Gynecol Obstet* 2018; 143:13-9.