ORIGINAL ARTICLE

Acceptability, continuation and complication rate of postpartum insertion of intrauterine contraceptive device among Pakistani women

Azra Ahsan, Aleya Ali

Abstract

Objective: To determine level of acceptability, continuation and complication rate associated with postpartum intrauterine contraceptive device uptake.

Methods: The multicentre study was conducted from April 2012 to December 2020 in selected health facilities across Pakistan. After approval from the ethics review committee of the Pakistan Medical Association data was analysed retrospectively. This comprised women attending antenatal clinics and those who came in labour without prior registration. The subjects were counselled, and those who consented were given family planning services of their choice, particularly postpartum intrauterine contraceptive device. The subjects were followed up at 6 weeks and then again at 6 months. Data was analysed using SPSS 20.0.

Results: Of the 3,523,404 women available, 525,819(15%) were counselled. Of them, 208,663(39.7%) were aged 25-29 years, 185,495(35.3%) had secondary education, 476,992(90.7%) were unemployed, and 261,590(49.74%) had 1-2 children. Of the total, 387,500(73.7%) consented to receive postpartum intrauterine contraceptive device, 149,833(38.7%) actually came for insertion. Those who did receive postpartum intrauterine contraceptive device were 146,318(97.65%), and, of them, 58,660(40%) were lost to follow-up. Acceptance and uptake of postpartum intrauterine contraceptive device was positively and significantly dependent on the professional level of counsellor and the place of counselling ($p<0.01$). Age, education, number of living children and gravida were significantly associated with device insertion status ($p<0.01$). Of the 87,658(60%) subjects followed up, those who came at 6 weeks were 30,727(35.05%) and device discontinuation rate was 3,409(11.09%). At 6 months, there were 56,931(64.94%) follow-ups and the discontinuation rate was 6,395(11.23%).

Conclusion: Counselling done by doctors in early labour positively influenced the postpartum intrauterine contraceptive device insertion rate.

Key Words: Counselling, Acceptability, and Insertion, Non-insertion reasons, Postpartum intrauterine contraceptive device, PPIUCD. (JPMA 73: 966; 2023) **DOI: 10.47391/JPMA.6804**

Submission completion date: 21-04-2022 **— Acceptance date:** 07-01-2023

Introduction

Pakistan is the 5th most populous country in the world[1]. The annual growth rate of 2.4% is the highest in South Asia. The population is expected to double by the year 2050[2]. Family planning (FP) remains a contentious issue, and, despite efforts, the contraceptive prevalence rate (CPR) has hovered around 30-35% for 2 decades[3,4]. The total fertility rate is declining in spite of a plateaued CPR, but remains as high as 3.6[3]. Pakistani women seek abortion instead of using contraception as a means to restrict family size. It is estimated that 2.2 million abortions took place in Pakistan in 2012[5]. The maternal mortality ratio (MMR) of 186/100,000 live births[6] is the worst in the region, except for Afghanistan. There is evidence that FP has the potential of reducing MMR by 30% and childhood deaths by 10%[7].

National Committee for Maternal and Neonatal Health, Karachi, Pakistan.
Correspondence: Azra Ahsan. Email: azra.ahsan2008@gmail.com
ORCID ID. 0000-0003-4164-2061

Insertion of intrauterine contraceptive device (IUCD) immediately after delivery is the safest and most effective long-acting reversible Contraceptive (LARC) method[8]. It also reduces the need for repeated visits to a healthcare provider for contraceptive refills. Furthermore, it prevents complications associated with short interval between pregnancies, thus promoting women and child health[9].

The uptake of postpartum FP (PPFP) increases when pregnancy is planned, with regular antenatal care, counselling and when the woman is educated[10]. Despite the benefits of postpartum intrauterine contraceptive device (PPIUCD), the acceptability and utilisation remains low in Pakistan, as one in three births occurs within 24 months of a previous birth[3]. During the first year postpartum, 64% women have an unmet need for FP, but only 22% use any contraceptive method[4]. Women generally do not return for check-up after childbirth, but even when they do, only 11% are reportedly given information on FP methods[3]. Lack of education, lack of spousal involvement/interest, unskilled healthcare

workers, fear of future infertility, associated complications, adverse events and preference for short-term contraceptive methods are among the major factors contributing to decreased PPIUCD acceptability and utilisation[11].

Rapidly exploding population, and increasing number of women delivering at health facilities, makes PPFP a very attractive intervention to not only decrease population growth rate, but also to improve maternal and child health.

The current study was planned to determine level of acceptability, continuation, and complication rate associated with PPIUCD uptake among Pakistani women.

Subjects and Methods

The multicentre study was conducted from April 2012 to December 2020 in selected health facilities (HFs) across Pakistan. After approval from the ethics review committee of the Pakistan Medical Association (PMA), the data was analysed retrospectively. The Intervention was initially designed as a pilot project at two public teaching hospitals in Karachi, but was later scaled up to 52 HFs in major cities, including Karachi, Hyderabad, Lahore, Rawalpindi and Islamabad. HFs with minimum annual number of 1,200 deliveries and willing to participate were selected, and a memorandum of understanding (MoU) was signed with each participating HF.

The sample was raised using purposive sampling technique from among women who were either seen in the antenatal clinics or came in labour without having a prior registration for delivery at the respective HF. The women were counselled, and those who accepted PPIUCD as an FP method were provided PPIUCD services after taking consent. Women counselled in outpatient department (OPD), labour room and postnatal ward of the selected HFs were included, while non-consenting women and those who could not be counselled were excluded.

Pre-, intra- and post-natal counselling was done by trained skilled birth attendants (SBAs) and dedicated interpersonal communication officers (IPCOs). Women and their families were counselled in the antenatal clinics, during early stage of labour in delivery rooms, and postnatal wards within 48 hours of childbirth. Reading and counselling material for SBAs and women on Healthy Timing and Spacing of Pregnancy, listing the PPFP options, was developed, distributed and displayed prominently at the HFs. A video film highlighting the benefits of PPFP was also shown in waiting areas of antenatal clinics.

PPIUCD was inserted by trained SBAs in women who accepted IUCD as a FP method. The training and certification of SBAs comprised classroom and skill-based trainings using checklists. The procedure was performed within 10 minutes after delivery of the placenta (post-placental) either after a vaginal birth or during caesarean section (CS) or within 48 hours of delivery (immediate postpartum). All women were given a PPIUCD follow-up card with insertion details and information on warning signs, and were followed up at 6 weeks and 6 months in the clinics or via telephone calls.

Acceptability responses were recorded for women who agreed to IUCD insertion. The side effects, continuation rate and complications were monitored, and the data obtained was recorded using structured data collection tools and entered live using specifically-designed management information system (MIS).

Data was analysed using SPSS 20 presented as frequencies and percentages. Chi-square test was used to assess the impact of the professional level of counsellor and the place of counselling on acceptance and insertions. Multivariate logistic regression analysis was performed to determine the effect of various predictors on the insertion status among the studied women. $P \leq 0.05$ was considered statistically significant.

Results

Of the 3,523,404 women available, 525,819(15%) were counselled. Of them, 208,663(39.7%) were aged 25-29 years, 185,495(35.3%) had secondary education, 476,992(90.7%) were unemployed, and 261,590(49.74%) had 1-2 children (Table 1).

Of the total, 387,500(73.69%) consented to receive PPIUCD, but 149,833(38.7%) actually came for insertion. Those who did receive PPIUCD were 146,318(97.65%), and, of them, 58,660(40%) were lost to follow-up (Figure 1). Of the 554,483 deliveries conducted at the intervention sites, PPIUCD was inserted in 146,318(26.3%) women delivered. Of the total insertions, 61308(42%) were done during CS, and 85,010(58%) after normal delivery. Among those with normal vaginal delivery, uterine perforation was reported in 2(0.002%) women during PPIUCD insertion. Laparoscopy was subsequently done to retrieve the IUCD. Both women survived and remained well.

In spite of earlier consent, 3,515(2.35%) subjects refused insertion at the time of delivery. Major reasons for non-insertion included provider-related issues, like misconceptions regarding mechanism of IUCD action and contraindications, poor motivation, lack of skilled

Table-1: Demographic characteristics and history of counselled women (n=525,819)

Variables		n (%)
Age (Years)	Not Reported	692(0.1)
	15-19	24,513(4.7)
	20-24	178,474(33.9)
	25-29	208,663(39.7)
	30-34	92,319(17.6)
	35-39	18,532(3.5)
	40+	2,626(0.5)
Education Level	Not Reported	133,150(25.3)
	Primary	172,278(32.8)
	Secondary	185,495(35.3)
	Graduate	34,896(6.6)
Employment status	Not Reported	42,794(8.1)
	Unemployed	476,992(90.7)
	Employed	6,033(1.1)
Monthly Income	Not Reported	44,096(8.4)
	Less than 10K	58,424(11.1)
	Between 10 - 20K	336,402(64.0)
	More than 20K	86,897(16.5)
No of Living Children	Not Reported	4,167(0.8)
	0	141,068(26.8)
	1-2	261,590(49.74)
	3-5	110,187(20.95)
	≥ 6	8,807(1.67)
Gravida	Not Reported	72(0.0)
	Primi	129,259(24.6)
	2 – 3	244,498(46.5)
	4 – 5	115,654(22.0)
	6 – 7	29,058(5.5)
	8 – 9	5,646(1.1)
	10+	1,632(0.3)
Previous use of Contraceptive	Not Reported	102,211(19.4)
	Condoms	47,977(9.1)
	Injectables	12,087(2.3)
	Interval IUCD	6,689(1.3)
	Lactational Amenorrhea Method (LAM)	3,640(0.7)
	No Method	317,206(60.32)
	Oral Contraceptive Pills (PoPs+CoCs)	7,822(1.5)
	Subcutaneous Implants	1,583(0.3)
	Tubal Ligation	179(0.0)
	Vasectomy	57(0.0)
	Withdrawal Method	26,368(5.01)
Family Planning Methods chosen other than PPIUCD after counselling		
	Not Reported	440,259(83.7)
	No Method Chosen	43,050(8.2)
	Other Methods Chosen	(n=42510; 8.08%)
	Condoms	16,373(3.1)
	Injectables	2,362(0.4)
	Interval IUCD	558(0.1)
	Lactational Amenorrhea Method (LAM)	1,048(0.2)
	Oral Contraceptive Pills (PoPs+CoCs)	1,001(0.2)
	Subcutaneous Implants	546(0.1)
	Tubal Ligation	10,405(2.0)
	Vasectomy	62(0.0)
	Withdrawal Method	10,155(1.9)

IUCD: Intrauterine contraceptive device, PoP: Progesterone-only pill, CoC: Combined oral contraceptive.

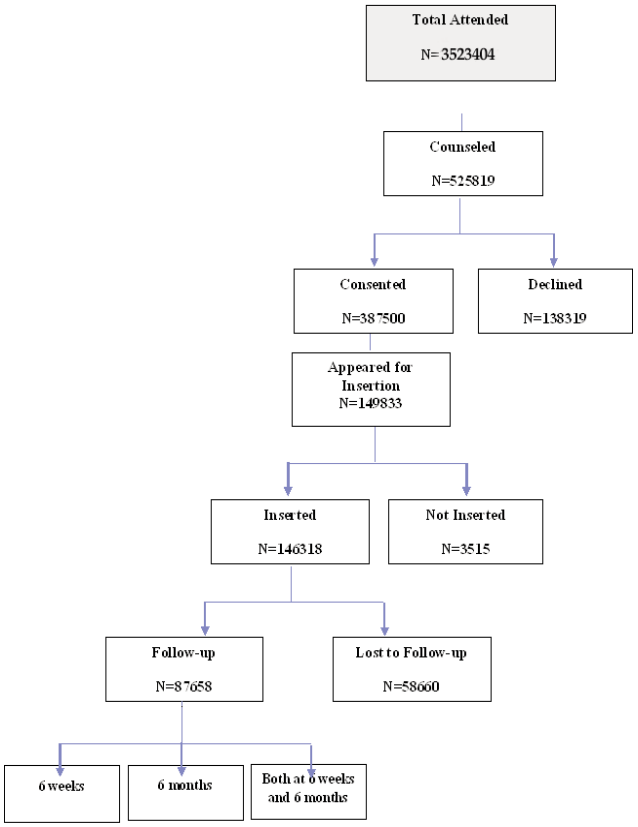

Figure-1: Study flow-chart.

providers and various myths 3,045(86.6%). Other reasons for non-insertion were socio-cultural, beliefs, unsure about PPIUCD safety and efficacy, domestic and marital issues and past bad experience with IUCD, 414(11.77%). Early discharge after childbirth was the reason for 55(1.56%) refusals.

IPCOs counselled 384,583(73.1%) women, midwives

Table-2: Impact of the professional level of counsellor and the place of counselling on insertions.

Variables	Accepted (n=387,500) (73.69%)	Inserted (n=146,318) (37.7%)
Counsellor level		
Doctor	12,245(95.41)*	11,608(94.79)*
IPCO	283,462(73.70)*	111,413(39.30)*
Midwives	91,793(71.48)*	23,297(25.37)*
Place of Counselling		
OPD	204,684(85.86)*	18,406(8.99)*
Labour Room	177,284(64.52) *	125,339(70.69)*
Post Natal Ward	5,532(43.65)*	2,573(46.51)*

IPCO: Interpersonal communication officers, OPD: Outpatient department. *p-value < 0.05 is considered statistically significant

Table-3: Reasons for PPIUCD removal at follow-up

Outcomes	6 weeks)		6 months	
	Complaints	Removals	Complaints	Removals
Non-fundal IUCD placement	384	345	530	469
Perceived infection	573	132	660	210
Missing strings	81	11	81	20
Pregnancy with IUCD in situ	0	0	11	5
Side Effects				
Cramping	1292	164	1754	285
Spotting	2235	284	4359	987
Discomfort during sex	222	18	196	27
Vaginal discharge	539	39	1671	132
IUCD removal on request	762	718	3057	2933
Total complaints & removals	6088	1711	12319	5068

PPIUCD: Postpartum intrauterine contraceptive device, IUCD: Intrauterine contraceptive device.

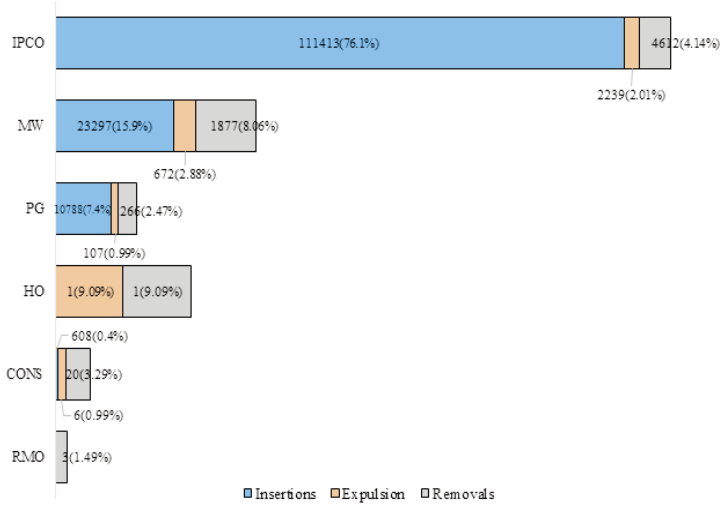

Figure-2: Intrauterine contraceptive device (IUCD) expulsions and removals among cases counselled by different professionals.
IPCO: Interpersonal communication officers, MW: Midwives, PG: Post-graduate trainees, HO: House officers, CONS: Consultants, RMO: Resident Medical Officers.
HO's: Rate of insertion was negligible among those counselled.
RMO's: Rate of insertion and expulsion was negligible among those counselled.

(MWs) 128,402(24.4%), and doctors 12834(2.4%). Most of the counselling sessions took place in labour rooms 274,772(52.26%), followed by OPD 238,374(45.33%) and post-natal wards 12,673(2.41%). There was a significant effect of professional level of the counsellor, as well as the place of counselling on the acceptance and uptake of PPIUCD (p<0.01) (Table 2). Women were followed up at 6 weeks and 6 months of PPIUCD insertion. Of the 87,658(60%) women followed up, 30,727(35.05%) were contacted at 6 weeks, and 56,931(64.94%) at 6 months.

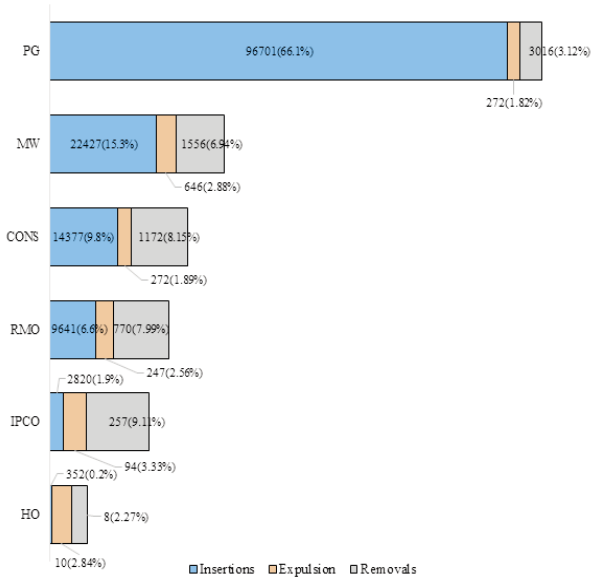

Figure-3: Intrauterine contraceptive device (IUCD) expulsion and removals in relation to the level of skilled birth attendant (SBA) who did the insertion.
IPCO: Interpersonal communication officers, MW: Midwives, PG: Post-graduate trainees, HO: House officers, CONS: Consultants, RMO: Resident Medical Officers.

Those who were followed up at both 6 weeks and 6 months numbered 35,502(40.5%). Of the total follow-up cases, 23,381(26.7%) women visited the clinic, and 64,277(73.3%) were followed up via telephone calls. At 6 weeks, PPIUCD discontinuation rate was 3,409(11.09%), and at 6 months, the discontinuation rate was 6,395(11.23%). At 6 weeks there were 6,088 complaints, leading to 1,711(28%) PPIUCD removals, while at 6 months there were 12,319 complaints, leading to 5,068(41%) PPIUCD removals (Table 3).

Majority of women who had insertions had been counselled by IPCOs 111,413(76.14%), whereas the consultants counselled the least number of such women 608(0.42%). The device removal was categorised among those counselled by IPCOs, consultants, postgraduate trainees (PGs), resident medical officers (RMOs), midwives (MWs) and house officers (HOs) (Figure 2).

Most insertions were performed by PGs 96,701(66.1%) and MWs 2,820(1.9%). The device expulsion rate was categorised among those inserted by IPCOs, consultants, PGs, RMOs, MWs and HOs (Figure 3).

Age, education, number of living children, and gravida were significantly associated with PPIUCD insertion status (p<0.01) (Table 4).

Table-4: Factors associated with the uptake of postpartum intrauterine contraceptive device (PPIUCD).

Variables	Insertion (n=146318)	Non-Insertion) (n=3515)	COR (95% CI)	p value
Age Group				
15-19	4454(3.0)	179(5.1)	1.52(0.92-2.51)	<0.01*
20-24	44769(30.6)	1114(31.7)	1.11(0.68-1.79)	
25-29	61663(42.1)	1366(38.9)	1.40(0.88-2.23)	
30-34	28914(19.8)	679(19.3)	1.19(0.75-1.90)	
35-39	5588(3.8)	151(4.3)	1.57(0.98-2.51)	
40+	770(0.5)	26(0.7)	1	
Educational Status				
Primary	55107(37.7)	1793(51.0)	0.58(0.483-0.70)	
Secondary	57512(39.3)	1189(33.8)	0.93(0.77-1.11)	
Graduate	8223(5.6)	154(4.4)	1	
Employment Status				
Unemployed	134618(92.0)	3474(98.8)	761(0.53-1.08)	0.102
Employed	1887(1.3)	33(0.9)	1	
Monthly Income				
Less than 10K	21307(14.6)	683(19.4)	1.01(0.91-1.11)	0.199
Between 10 - 20K	92997(63.6)	2335(66.4)	1.05(0.91-1.21)	
More than 20K	21405(14.6)	488(13.9)	1	
No of Living Children				
0	19517(13.33)	847(24.09)	1.838(0.93-3.62)	<0.01*
1-2	83197(56.86)	1754(49.90)	1.60(0.91-4.17)	
3-5	39943(27.29)	830(23.61)	2.02(0.78-3.12)	
≥ 6	3016(2.06)	83(2.36)	1	
Gravida				
Primi	19506(13.3)	766(21.8)	1.838(0.93-3.62)	<0.01*
2 -- 3	73772(50.4)	1581(45.0)	1.611(0.81-3.17)	
4 -- 5	40735(27.8)	834(23.7)	1.271(0.64-2.50)	
6 -- 7	9897(6.8)	255(7.3)	1.061(0.52-2.14)	
8 -- 9	1851(1.3)	62(1.8)	2.02(0.99-4.12)	
10+	517(0.4)	17(0.5)	1	

*p-value < 0.05 is considered statistically significant, COR: Crude odds ratio, CI: Confidence interval.

Discussion

PPFP is an important intervention to prevent unintended pregnancies as women generally visit HFs only during pregnancy or childbirth. PPFP was first introduced in Pakistan in 2012[12]. As 66% of births in Pakistan are conducted in a HF setting[3], PPFP has the potential to reduce population growth rate, and, hence, institutional implementation of PPFP services is not only convenient for women and their families, but also for the SBAs. It can be a game-changer in terms of applying breaks to an accelerating population growth.

IUCD is one of the least used FP methods in Pakistan[3,13]. PPIUCD has been recognised as safe, effective and reliable method of contraception with fewer complications than any other FP method[14,15]. Its effectiveness has been studied extensively; and is reported to be >90% till a year of use[16].

The current study is the first to present data of PPIUCD intervention in multiple HFs across Pakistan. PPIUCD insertion rate was similar to that reported by an Ethiopian study[17]. A number of reasons for non-insertion in women who had previously consented to receiving PPIUCD were provider-related or bias or socio-cultural beliefs of the women or their families. Consistent with these findings, other studies have also reported reasons, like lack of knowledge, myths, religious beliefs, untrained providers, inclination towards other short-acting contraceptive methods, spousal pressures, and fear of complications[11]. Evidently, counselling during the maternity cycle plays a vital role in increasing the PPIUCD uptake[18].

The current study found that FP uptake was higher when women were counselled in early labour, when they were not distressed with labour pains and could make informed choices. While the woman is in labour, her husband and other decision makers are usually around, and can become part of the decision-making process. On the other hand, when women were counselled in antenatal clinics the FP uptake was much less. Therefore, with limited number of FP counsellors, it is best to place them in shifts in labour rooms to ensure round-the-clock counselling services. PPFP uptake improves when counselling is done by doctors compared to other cadres of healthcare providers (HCPs). It is imperative for the doctors to understand that FP counselling is their responsibility. Most PPIUCD insertions were done by PGs. As they keep rotating, with fresh entrants joining the programme, it is important that refresher trainings and supportive supervision should be an ongoing process. PPFP should be embedded within the training programmes. MWs, when trained and empowered, were equally skilled in providing safe PPIUCD services. As such, task-sharing or shifting with MWs is another effective strategy to improve uptake of PPFP services. In line with previous studies, the current study found that women's education, employment status, spousal support, and multiparty were important determinants of PPIUCD acceptance and insertion[19].

The follow up data of the current study is in contrast to an earlier study which reported an expulsion rate of 5.1% at 6 weeks and 7% at 6 months[20]. Not a single case of IUCD-related infection was diagnosed in the current study, but

IUCDs were removed without any real evidence of infection. This was done due to mistaken perception of infection by the women and, more importantly, by the HCP concerned. Similar studies found no increase in the incidence of infection and removal of IUCD[21].

In the current study, perforation of uterus was reported in 2 women. Uterine perforation occurs in 1/1000 IUCD insertions[22], and there are case reports of perforation after post-placental IUCD insertion. Other studies, though with much smaller cohorts, did not report perforation or misplaced IUCD[23]. Eroglu et al. also reported no uterine perforation during immediate post-placental and early PPIUCD insertions[24].

In the present study, the overall continuation rate was >88% at 6 weeks and 6 months' follow-up. Literature presents supporting outcomes[25]. Discontinuation rate reported by similar studies ranged 10-18%, which is comparable with the current findings[20,23]. These differences might be due to variations in the education levels, awareness, religious beliefs, myths and patient compliance.

On the basis of the current findings, it is clear that providing PPFP services is a professional responsibility and should be readily available to all women experiencing childbirth or miscarriage/abortion. Unfortunately, most doctors working in public-sector HFs believe that providing FP services is the responsibility of the population welfare department (PWD) staff. While the babies are born round the clock in HFs, PWD clinics work only for a few hours in the morning and do not conduct deliveries. HCPs at HFs should be motivated and made to realise that providing PPFP services is their responsibility, as they deliver babies and, hence, are physically present to give PPFP services, while the PWD staff is not present at the time of childbirth.

The system for continuous supply of contraceptives with a working supply chain should be in place, and contraceptives should be available in labour rooms and operation theatres round the clock. Currently, HCPs are not aware as to how to get a sustainable supply of contraceptive commodities for their HFs. This should be addressed as a priority.

In addition, personal beliefs of some HCPs, based on their cultural or religious values or poor training, impact the care given to women and are often in conflict with their professional responsibilities. Such HCPs not only influence the services given to the women, but also influence the practice of their trainees. Most of the heads of the units are set in their ways, busy doing their clinical work, and do not train the trainees in FP. They have to be made aware of the need to integrate/optimise FP with other aspects of their work, with a special focus on PPFP, and not refer women for immediate PPFP to PWD clinics.

The only limitation of the current study was that it was a retrospective study, which might have limited the scope of potential data determination in the present.

Conclusion

PPIUCD insertion was found to be a safe, effective and convenient contraceptive option. There was low incidence of expulsion and complications. Counselling greatly affected the overall IUCD uptake. When done by doctors in early labour, counselling positively influenced PPIUCD and insertion rate. Trained HCPs, task sharing, continuous supply chain of contraceptives and its availability in delivery rooms is essential for sustainable PPFP services. Hence integration of FP services with other health interventions is the key to balance population and resources in Pakistan.

Acknowledgment: The authors would like to acknowledge Medical Affairs department of Getz Pharma for their technical support and assistance in the publication process, Advance Educational Institute & Research Center (AERIC) for the statistical expertise, writing assistance and reference search. We also like to thank Mr. Mirza Umair Baig, Mr. Mehboob Ali, Mr. Arif Sher Mohammad from NCMNH for helping in data structuring. Individuals who provided general support include Prof. Sadiqua Jafarey (President NCMNH supported the intervention), Prof. Tasneem Ahsan (Director, JPMC and she provided support in implementing the pilot phase of this study which led to its upscaling), Prof. Shireen Bhutta (Head of Ob/gyn Department-JPMC facilitated the implementation during the pilot phase), Ms Imtaiz Taj Kamal (Ex Secretary General NCMNH provided guidance during the implementation), Ms Nighat Saeed Khan (Secretary General, NCMNH provided administrative & management support), Prof . Sadiah Ahsan Pal (helped in designing the study, training of Skilled Birth Attendants and reviewing the manuscript), Dr Laila Shah (National Manager PPIUCD intervention who implemented the Pilot phase of the intervention), Head of Ob/Gyn units who implemented the Intervention at the Health Facilities (Karachi: Prof. Shireen Bhutta, Prof. Nageena Fatima, Prof. Hasan Fatima Jaffery, Prof. Rubina Hussain, Prof. Zahida Baqai, Prof. Azra Sultana, Prof. Haleema Hashmi, Prof. Halima Yasmeen, Prof. Zehra Naqvi, Prof. Saadiya Aziz Karim, Dr. Safia Javed, Dr. Hamida Narejo, Dr. Khursheed Balouch, Dr. Saima Shabeer, Dr. Saira Bano, Prof. Subhana Tayyab, Prof. Shehla Baqi, Dr. Khalida Khanum, Dr. Talat

Alkhairy, Dr. Samar Amir, Dr. Mubushra Samina, Dr. Bushra Iftekhar, Dr. Aysha Raja, Dr. Nazima Assad, Dr. Samina Esbhani, Dr. Sher Shah Syed, Dr. Shaheen Zafar, Dr. Samina Naz, Prof. Tazeen Abbas, Prof. Rubina Tahir, Prof. Shabnum Asim, Prof. Yasmeen Noman, Dr. Anees Zahra, Dr. Salma Rehman, Dr. Shamim Mohsin, Dr. Kauser Salam/Perveen, Dr. Shagufta wallayat, Dr. Zahida Basheer, Prof. Safia Javied Askari, Dr. Yasmeen Zia, Prof. Aasha Mehash, Dr. Uzma Khalid, Dr. Syeda Kosar, Dr. Samreen Mehboob; Hyderabad: Prof. Sajida Yousfani, Prof. Raheel Sikandar, Prof. Fauzia Sheikh, Prof. Mehrunisa Khaskheil; Lahore: Prof. Arif Tajjamul, Prof. Mohammad Tayyab, Dr. Asma Gul, Dr. Fouzia Monoo, Dr. Sajida Raza, Prof. Arshad Chohan, Prof. Rakhshan Najmi, Prof. Miriam Richards, Prof. Al-Farid Zafar, Prof. Shamsa Humayun, Prof. Rubina Sohail, Prof. Tayyaba Wasim, Prof. Aisha Malik, Prof. Farah Yousaf, Prof. Mahlikqa Maqsud, Prof. Nuzhat Khawaja, Prof. Noreen Akmal, Prof. Mohd Tayyab, Prof. Alia Bashir, Prof. Farhat Naz, Prof. Maimoona Ashraf, Prof. Faiqa Saleem, Dr. Shumaila Yasir, Dr. Mohd. Ikram, Dr. Ambreen Ijaz, Dr. Shamim Akhtar, Dr. Mehrunnisa; Rawalpindi/Islamabad: Prof. Naila Israr, Dr. Raffia Shahid, Dr. Khadija Khatoon, Dr. Fareesa Waqar, Dr. Azra Saeed Awan, Dr. Nighat Shaheen, Dr. Sughra Shahzad, Dr. Naila Tahir..

Disclaimer: None.

Conflict of Interest: None.

Source of Funding: None.

References

1. U.S. Census Bureau Current Population. [Online] [Cited 2022 February 10]. Available from: URL: https://www.census.gov/popclock/print.php?component=counter
2. Pakistan Bureau of Statistics. Pakistan population Census-2017. [Online] [Cited 2022 January 14]. Available from: URL: https://www.pbs.gov.pk/content/final-results-census-2017
3. Pakistan Demographic and Health Survey (PDHS). [Online] [Cited 2022 April 30]. Available from: URL: https://dhsprogram.com/publications/publication-fr354-dhs-final-reports.cfm
4. Family Planning Needs during the Extended Postpartum Period in Pakistan. [Online] [Cited 2022 March 23]. Available from: URL: https://pdf.usaid.gov/pdf_docs/pnaea352.pdf
5. Sathar Z, Singh S, Rashida G, Shah Z, Niazi R. Induced abortions and unintended pregnancies in Pakistan. Stud Fam Plann. 2014; 45:471-91. doi: 10.1111/j.1728-4465.2014.00004.x.
6. National Institute of Population Studies (NIPS) [Pakistan] and ICF. Pakistan Maternal Mortality Survey 2019: Key Indicators Report. 2020. Islamabad, Pakistan, and Rockville, Maryland, USA: NIPS and ICF. [Online] [Cited 2022 January 14]. Available from: URL: https://dhsprogram.com/pubs/pdf/PR128/PR128.pdf
7. Cleland J, Bernstein S, Ezeh A, Faundes A, Glasier A, Innis J. Family planning: the unfinished agenda. Lancet. 2006; 368:1810-27. doi: 10.1016/S0140-6736(06)69480-4.
8. Iftikhar PM, Shaheen N, Arora E. Efficacy and satisfaction rate in postpartum intrauterine contraceptive device insertion: a prospective study. Cureus. 2019; 11: e5646.
9. WHO. Programming Strategies for Postpartum Family Planning; World Health Organization. Geneva: WHO Libr Cat Data, 2013.
10. Wassihun B, Wosen K, Getie A, Belay K, Tesfaye R, Tadesse T, et al. Prevalence of postpartum family planning utilization and associated factors among postpartum mothers in Arba Minch town, South Ethiopia. Contraception Repro Med. 2021; 6:6.
11. Hauck B, Costescu D. Barriers and Misperceptions limiting widespread use of intrauterine contraception. J Obstet Gynaecol Canada. 2015; 37:606-16. doi: 10.1016/S1701-2163(15)30198-5.
12. Jhpiego in Pakistan. [Online] [Cited 2022 March 24]. Available from: URL: https://www.jhpiego.org/wp-content/uploads/2015/08/Pakistan-Country-Profile.pdf
13. Meherali S, Ali A, Khaliq A, Lassi ZS. Prevalence and determinants of contraception use in Pakistan: trend analysis from the Pakistan Demographic and Health Surveys (PDHS) dataset from 1990 to 2018. F1000research. 2021; 10:790.
14. Wasim T, Shaukat S, Javed L, Mukhtar S. Outcome of immediate postpartum insertion of intrauterine contraceptive device: experience at tertiary care hospital. J Pak Med Assoc. 2018; 68:519-25.
15. Makins A, Arulkumaran S. Institutionalization of postpartum intrauterine devices. Int J Gynecol Obstet. 2018; 143:1–3.
16. Ouyang M, Peng K, Botfield JR, McGeechan K. Intrauterine contraceptive device training and outcomes for healthcare providers in developed countries: a systematic review. PLoS One. 2019; 14: e0219746. doi: 10.1371/journal.pone.0219746.
17. Geda YF, Nejaga SM, Belete MA, Lemlem SB, Adamu AF. Immediate postpartum intrauterine contraceptive device utilization and influencing factors in Addis Ababa public hospitals: a cross-sectional study. Contraception Repro Med. 2021; 6:4.
18. Animen S, Lake S, Mekuriaw E. Utilization of intra uterine contraceptive device and associated factors among reproductive age group of family planning users in Han health centre, Bahir Dar, north West Amhara, Ethiopia, 2018. BMC Res Notes. 2018; 11:1–6. doi: 10.1186/s13104-018-4032-z.
19. Fekadu H, Kumera A, Yesuf EA, Hussien G, Tafa M. Prevalence and Determinant Factors of Long Acting Contraceptive Utilization among Married Women of Reproductive Age in Adaba Town, West Arsi Zone, Oromia, Ethiopia. J Women's Heal Care. 2017; 6:1.
20. Celen S, Möröy P, Sucak A, Aktulay A, Danişman N. Clinical outcomes of earlypostplacental insertion of intrauterine contraceptive devices. Contraception 2004; 69: 279-82. doi: 10.1016/j.contraception.2003.12.004.
21. Welkovic S, Costa LO, Faúndes A, de Alencar Ximenes R, Costa CF. Post-partum bleeding and infection after post-placental IUD insertion. Contraception. 2001; 63:155-8. doi: 10.1016/s0010-7824(01)00180-9.
22. Rowlands S, Oloto E, Horwell DH. Intrauterine devices and risk of uterine perforation: current perspectives. Open Access J. Contracept. 2016; 7:19-32. doi: 10.2147/OAJC.S85546.
23. Çelen Ş, Sucak A, Yıldız Y, Danışman N. Immediate postplacental insertion of an intrauterine contraceptive device during cesarean section. Contraception. 2011; 84:240-3. doi: 10.1016/j.contraception.2011.01.006.
24. Eroğlu K, Akkuzu G, Vural G, Dilbaz B, Akın A, Taşkın L, et al. Comparison of efficacy and complications of IUD insertion in immediate postplacental/early postpartum period with interval period: 1 year follow-up. Contraception. 2006; 74:376-81. doi: 10.1016/j.contraception.2006.07.003.
25. Hooda R, Mann S, Nanda S, Gupta A, More H, Bhutani J. Immediate postpartum intrauterine contraceptive device insertions in caesarean and vaginal deliveries: a comparative study of follow-up outcomes. Int J Reprod Med. 2016; 2016:7695847. doi: 10.1155/2016/7695847.