ORIGINAL ARTICLE

POSTPARTUM INSERTION OF INTRAUTERINE CONTRACEPTIVE DEVICE: A SAFE AND EFFECTIVE CONTRACEPTION

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Background: The incidence of maternal mortality and morbidity related to the termination of unwanted pregnancy in Pakistan is rising at an alarming rate. Instant Postpartum insertion of intra-uterine contraceptive device (PPIUCD) is an effective contraceptive measure to reduce unexpected pregnancy and its associated complications in developing countries like Pakistan. **Methods:** The current study was conducted in a public sector hospital in Karachi with a total of 7314 pregnant women counselled for insertion of PPIUCD antenatally. Out of which 5682 women agreed to the insertion and 1632 refused the procedure, mostly due to unfamiliarity with PPIUCD insertion. PPIUCD was inserted within 48 hours of delivery in 1441 patients and they were followed for 6 months onwards. **Results:** Total postpartum insertions were 1441 which was found to be an effective measure with the continuation rate of 91% among 785 followed up cases. Postpartum IUCD insertion was found as an effective, satisfactory and convenient practice for the women of developing countries like Pakistan, to get an on-time appropriate contraceptive measure. **Conclusion:** PPIUCD was found to have high retention and low expulsion rate and its efficacy can be improved further by proper training and skills of healthcare professionals. In this regard, appropriate strategies should be formulated and implemented at the statutory level by increasing social awareness and practice of using PPIUCD by health care providers to reduce undesired pregnancies.

Keywords: PPIUCD; Long-acting contraception; Contraceptive device; Non-hormonal method

Citation: Fatima S, Rehman A, Ahmed Z, Sajid MM, Habiba U, Rehman A. Postpartum insertion of intrauterine contraceptive device: safe and effective contraception. J Ayub Med Coll Abbottabad 2021;33(3 Suppl 1):671–7.

DOI: 10.55519/JAMC-03-S1-10029

INTRODUCTION

Postpartum IUCD is a safe, long-acting, reversible contraceptive strategy, which can be taken while breastfeeding and can be implanted in the immediate postpartum period (within 48 hours post-delivery). This is favourable for developing countries where women are less frequently visiting health facilities and the post-delivery period is a prime chance for them to opt for contraception with good efficacy.[1] In other less privileged countries like Ethiopia, National programs were instigated to promote the culture of PPIUCD insertion by encouraging the training of health professionals, budgeting for IUCD availability and campaigning for public awareness and outcome showed a positive decline in maternal mortality and unintended fertility.[2] The American College of Obstetrician and Gynaecologists also recommends PPIUCD as the best contraception to prevent unintended pregnancy due to its efficacy and safety.[3] Awareness campaign on the national level in our country regarding PPIUCD, is the utmost need of present time as encouraging this practice can play a significant role in population control. This is an especially important footstep for rural areas of Pakistan where customarily women attend hospitals or clinics only at the time of delivery.[4]

A large number of women die during childbirth in Pakistan. United Nations MDG targets to reduce this number to provide better maternal and child health. A decline in maternal and child mortality can be observed with the usage of family planning tools. This can also be achieved by having a two-year interval between two pregnancies, whereas, short interval disturbs mothers' health.[5,6] Present population of Pakistan is 219,555,348 based on the latest United Nations estimates. Pakistan is the worlds' sixth most populated country, the urban population has increased to over seven-fold due to a lack of birth control knowledge.[7,8] The fertility rate in Pakistan has risen, as per demographic health survey Pakistan's fertility rate is 4.1 children per woman.[9] This outburst in the population is because of unawareness and non-acceptance of birth control methods. Some communities in Islam refuse it as per laws demonstrated by Islam.

Short birth to birth interval is one of the roots of an increase in low birth weight, preterm birth and even infant mortality rate.[10] Therefore, to overcome these problems, there is a need to develop effective methods for birth control. Various safe and effective

methods to interval fertility have now been established, women can utilize them at various stages of their reproductive life. Some of these can be used directly at postpartum, PPIUCD is one of them. PPIUCD is feasible for a woman who wishes to have a long-acting reversible method of contraception. According to WHO recommendations, PPIUCD can be inserted immediately after delivery (that is 10 minutes after placental delivery to 48 hours postpartum) or after an interval, till four weeks after birth.[11] It is one of the most effective methods to restrict childbirth in developing countries, where many women who wish to delay pregnancy fail to do so because of delay or inability to access health facilities.

Studies in other developing countries also conclude that despite the desire of increasing inter-birth interval by women, the acceptance rate of PPIUCD was only around 30%, remaining denial is either due to unawareness or myths or fear of unwanted side effects.[12,13] Antenatal period provides an opportunity to give health education and do counselling of those women who are vulnerable to unintended pregnancy due to multiple barriers to service provision. Other researchers also quote in their studies that almost 10–40% of women who intend to attend contraceptive clinic later were unable to do so, and 40–75% of women who came later failed to obtain LARC (long-acting reversible contraception), due to certain barriers such as inability to pay, clinicians or clinics not offering LARC, or need for a repeat visit for placement.[13]

Postpartum insertion of IUCD, (post placental, intra-caesarean) is beneficial as it doesn't need an additional visit by the patient, save time and resources as can be done in the same birthing place. Postpartum insertion of intra-uterine contraceptive device insertion break the potential access barrier as both clinician and patient are in the same setting and any myth or fear can be fixed. Secondly, any complain of cramping or bleeding related to IUCD insertion will be masked in the postpartum period, increasing the acceptance rate.[14] Cochrane review also highlight the usefulness and safety of PPIUCD practice.[15,16]

To indicate the importance of insertion of IUCD in the postpartum period, in women wishing LARC and the need of awareness campaign in the existing maternity services of the country.

MATERIAL AND METHODS

For this experimental study, purposive sampling was done for observing the effect of immediate postpartum IUCD insertion. The study was conducted in tertiary care hospital in Karachi. The study duration was from February 2017 to July 2019. T shape Copper bearing IUCD CuT-380A was used in this procedure. This non-hormonal IUCD works by releasing copper inside the uterus to prevent pregnancy. This method of contraception is valid for 10 years although its efficacy retains till 12 years.

The sample included women attending antenatal clinics in their third trimester of pregnancy. These pregnant women were assigned counsellors (doctors) who gave them full information about PPIUCD including its procedure, benefits and risks. Informed consent was taken from patients who agreed to enrol in the study and adopt postpartum insertion of IUCD. IUCD was inserted by doctors in these women who reaffirmed their consent for the procedure within 48 hours of delivery. The women were later asked for follow up visits for 6 months. Those women who refused insertion at the time of delivery were exempted although their concerns were addressed.

The PPICUD insertion is offered to primary and multiparous women who delivered either vaginally or abdominally in our setup and are willing to have long-acting reversible contraceptives. These women were either unable to take hormonal contraception methods due to some medical reason or financial and domestic problems.

The women with a history of chronic pelvic infection, irregular menstrual bleeding, fibroid or other uterine pathologies were excluded from the study.

RESULTS

The result shows that a total of 7314 women in the third trimester of pregnancy were counselled for PPIUCD immediately after or within 48hours of delivery. Out of these 5682 women accepted and 1632 refused the procedure. Out of total enrolled women, only 5010 turn up for delivery in our setup, out of which SVD were 2770, assisted deliveries were 401, and LSCS were 1839. Total insertions reported were 1441 out of which SVD were 545, Assisted were 0, and in LSCS were 896 insertions. No case of uterine perforation was reported at the time of insertion.

Out of total 7314 women counselled, only 8.12% have heard about PPIUCD before, out of these 2% have heard about this from other women who have adopted this procedure, rest had been offered PPIUCD by health care providers in previous pregnancies but they had refused because of misconceptions of more complications in immediate postpartum as compared to later insertion of IUCD, aware 8.12% and non-aware 91.88%. None of the women have adopted PPIUCD before.

Out of total counselled women, 5010 women came for delivery in our setup, out of these 3569 (71.2%) women refused for PPIUCD insertion. Among these 37%, women refused postpartum insertion due to misguidance from the community due to social unawareness regarding the benefits of insertion in the postpartum period. While 21% were restricted by spouse and in-laws due to social reasons, 10% refused

due to fear of increased chances of IUCD expulsion after delivery and 3.2% of women agreed for the insertion on the subsequent follow-up but failed to appear for the procedure (Table-1). On the contrary, 28.8% accepted PPIUCD insertion, among those women who adopt PPIUCD; majority 11.8% adopted this method because it's a long-acting reversible method of contraception. The second highest reason for acceptance, which was 7.4% was the convenience of time and place of insertion as PPIUCD was inserted in the same setup after delivery. Among the rest of the women, 4.3% agreed because they had previous experience of powerlessness to access contraceptive advice later; 2.4% acquired PPIUCD because they want non-hormonal method and it's financial than taking daily pills for a long duration. 1.5% embrace this procedure because it doesn't interfere with breastfeeding and 0.9% adopt it as an opportunity for fewer hospital visits. Only 0.5% approve due to previous satisfactory experience of IUCD usage (Table-2).

Out of the 1441 participants who adopted PPIUCD, a majority (56.97%) were 20–30 years old while 29.08% were between 30-40 years of age. Only 4.1% were >40 years of age, as most of the women in this age group were more willing to have permanent rather than a temporary method of insertion. Merely 9.85% of study participants were younger than 20 years of age.

Other demographics of the study group shows most of the woman who had PPIUCD inserted were multiparous woman, where para 2 were 47.6% and para 3 or more were 43.6%. While only 8.7% of primiparous agreed for PPIUCD. (Fig 6) 93% of study participants were Muslims, followed by Hindus (6.4%), whereas the Christian community were only 0.6%. (Table-3) 91% of participants were housewives while almost 9% were working women.

The proportion of the educated and non-educated population in our study was almost equal, which were 59% and 40.87% respectively. Although among the educated participants majority have only education till primary school (38.1%), followed by secondary school (12.9%), intermediate (7.08%) and graduation (0.9%).

Out of the 1441 participants who adopted PPIUCD, a majority (89%) were not aware of PPUICD before counselling, whereas 11% were aware before counselling. Among the study participants, a correlation is observed between education and awareness, as none of the uneducated women were aware, while 5, 39, 102 and 12 women who were having primary, secondary, intermediate and higher education respectively were aware of PPIUCD. (Table-4)

In our study, 67% of women expressed a future desire for having more children, while 33% were not willing. Out of 1441 insertions, only 785 women subsequently followed till 6 months' post-insertion. (Table 5) Out of these 785 followed women, 24(3%) reported expulsion of IUCD and 47(6%) requested removal due to various reasons. The continuation rate for the rest of the IUCD carrying women was 91%. (Table-6) Out of this 91%, almost 98% were willing to adopt this procedure as a long-acting contraceptive method later; while 2% were not certain about it.

One PPIUCD was removed due to non-fundal placement of IUCD. 5 were removed due to perceived infection (vaginal discharge or dyspareunia). 24 IUCDs were removed due to side effects (cramping, bleeding, and spotting) and 17 IUCD's were removed on request mainly due to social reasons.

Table-1: Reasons for refusal of PPIUCD insertion

Reasons of Refusals	Frequency	Percentage
Unawareness in the community about insertion in postpartum period	1856	37
Social pressure by in-laws	1052	21
Misconception about complications	501	10
Failure to turn up for later insertion	160	3.2
Total	N=3569	71.2

Table-2: Reason for acceptance of PPIUCD insertion

Reasons of Acceptance	Frequency	Percentage
Long acting reversible contraception	590	11.8
Convenience of insertion	369	7.4
Previous experience of failure to avail on time contraception	216	4.3
Non-hormonal method	120	2.4
Doesn't interfere with breastfeeding	77	1.5
Fewer hospital Visit	44	0.9
Previous Satisfactory experience with IUCD	25	0.5
Total	N=1441	28.8

Table-3: Religion of participants

Religion of participants	Number	Percentage
Muslim	1340	93
Hindu	92	6.4
Christian	9	0.6
Total	1441	100

Table-4: Participant Education Level * PPUICD Awareness Crosstabulation

Participant Education Level	PPUICD Awareness		Total
	Not Aware	Aware	
Illiterate	589	0	589
Primary School	544	5	549
Secondary School	148	39	187
College	0	102	102
Graduate	2	12	14
Total	1283	158	1441

Table-5: Participant's attended follow-up at 6 months

Yes	785
No	656

Table-6: Outcome observed at follow-up after 6 months

Presentation	Number	Percentage
Continuation rate for IUCD	714	91%
Elective removal of IUCD	47	6%
Spontaneous Expulsion of IUCD	24	3%
Total	785	100%

DISCUSSION

In developing countries like Pakistan, many women who want to space childbirth failed to do so because of lack of access to health facilities either due to social restraints or unawareness. Even in developed countries like the United States, 45% of pregnancies are reportedly unintended.[17] McDonald EA; *et al*[18] observed resumption of sexual activity within 6 weeks postpartum in 53% of women which emphasis adoption of early contraception to avoid unplanned pregnancy.[17] Pregnancy is merely the period when many of these women came in contact with a health professional to seek advice and consent for particular contraception. In this study, PPIUCD insertion was offered to those women who consented after counselling and women's acceptance and continuation of contraception was assessed.

In the present study, 7314 pregnant women who were willing to have contraception after current pregnancy were counselled for PPIUCD insertion immediately after birth. Out of these counselled women, 77.7% agreed and consented while 22.3% refused. Only 5010 out of total consented women came for delivery in our setup and were offered PPIUCD insertion. However, only 1441, out of these 5010 women finally agreed for insertion and IUCD was inserted after delivery in them. Tyagi S. *et al*;[12] reports a rate of PPIUCD acceptance of 30.34% in a study in India, while Gonie A. *et al;*[19] reports a 12.4% acceptance rate in Ethiopia. The acceptance rate noted in our study was close to that observed by Tyagi S. *et al*;[12] while more than the rate detected by Gonie A. *et al*;[19] where low attainment of education and imaginary doubt of complications were concluded as a reason of reluctance towards postpartum acceptance of IUCD.

The reason for refusal by previously consented women in our study was mostly (37%) due to mis guidance from the community due to overall less awareness about the immediate insertion of PPIUCD and its significance. The other reason includes family pressure (21%), misconception and fear about complication related to the immediate insertion of PPIUCD (10%) and failure to turn up for later insertion of PPIUCD (3.2%). In comparison the study done by Gonie A. *et al*;[19] detected refusal by 24.8% due to fear of complications and 17.7% due to family pressure. While the 19.8% refusal on a religious basis seen by Gonie A. *et al*;[19] was not observed in our study, which reflects less influence of religion as compared to other factors in decision making for contraception in the current study population. Gonie A. *et al*;[19] suggested that to correct the misconception, reduce undue fear of complications and increase the acceptability of immediate PPIUCD insertion, strategies like improving the educational status and enhancing awareness among the community and health care providers is a necessity of present-day. Also, the need for counselling during the antenatal period was reflected in the study of Gonie A. *et al*;[19] as acceptance was witnessed more in women having antenatal visits as compared to those who don't. As other studies also suggest women face many barriers for postnatal visits and advice for contraception as it's generally considered that women who are well after delivery don't necessarily need any more hospital visits and as a result, two-thirds of women report failure in receipt of any family planning advice.[20–22]

The main motive observed for accepting PPUICD in the current study was a reversible and long-acting mode of this contraceptive method which stands for 11.8% of acceptance reasons. Similarly, Tomar B. *et al*;[13] and Sharma A. *et al*;[23] found the same reason for the highest acceptance rate among their study participants that were 42.3% and 73.62% respectively. The convenience of the method appeared as the second leading cause of PPIUCD acceptance. In our study, 7.4% of women felt that insertion soon after delivery is a convenient method as they can have an insertion in the same setup and at the same time of delivery by a known healthcare provider which save them from extras visit and extra cost. Similarly, a study by Kumar S. *et al*;[24] reflect 22% of women in their study accept PPIUCD considering this procedure as free of cost and comparatively convenient, highlighting the convenience and need of PPIUCD for women of third world countries. Secondly, these women were willing to have IUCD insertion before leaving home as the majority of them think they will fail to turn up for follow up visits for taking contraception even if they wish to due to the social norm, dependence on male partner for next visit and their own domestic commitments afterwards. Similarly, in our study, 4.3% of women stated their reason for accepting PPIUCD was the previous experience of failure to return for medical advice for contraception. So, these women think that PPIUCD saved them from unwanted pregnancy and they can return to their routine sexual and family life without a fear of getting pregnant before availing contraception. 2.4% of women accept PPIUCD to avoid hormonal contraception because of their side effects and also the requirement to be punctual with a hormonal method. The study by Kumar S. *et al*;[24] in India also observed 20.5% of women accept PPIUCD because of its non-hormonal nature. Non-interference with breastfeeding

was the reason for PPIUCD acceptance in 1.5% of our study population, which correlates to that observed by Tomar B. *et al*;[13] where the percentage was 3.5%. This reflects the concern of women of developing countries like India and Pakistan where women are not highly aware of the effect of a different method of contraception on breastfeeding and based on many misconnects, they refused to yield any sort of contraception. It emphasizes the need for increasing awareness among the community about methods that do not interfere with breastfeeding and can be adopted in the immediate postpartum period to provide these facilities to those women who wish to opt for contraception but failed due to lack of information. In the current study, 0.9% of women accept PPIUCD considering fewer follow up visits, similarly Kumar S. *et al*;[24] and Tyagi S. *et al*;[12] noted 12.7% and 7% acceptance reason respectively due to the same reason. The acceptance rate on basis of previous satisfactory experience with IUCD was only 0.5% in our study, which is comparatively less than that observed by Kumar S. *et al*;[24] where it was 7%.

Only 8.1% of our women have previous awareness about PPIUCD, imitating the need for informing women about PPIUCD during their interaction with healthcare providers during antenatal, natal and postnatal visits so they can have the awareness to decide on their reproductive plan. As opposed to our study, Gonie A. *et al*;[19] and Kumar S. et al; (2014)[24] displayed a high awareness rate in their study population, where it was 63.2% and 54% respectively. This difference in awareness rate despite both being developing countries is due to different campaigns in Ethiopia where health care providers were given reproductive education so that they can spread a message to the community on every possible occasion. This reflects the dire need for policies in our healthcare programme to give awareness to our doctors and paramedics so that they can expedite awareness in the general population and also increase understanding in males of the society, as the male partner have a strong influence on women's decision of opting any contraception in our society. Gonie A. *et al*;[19] cited that refusal by a male partner was 17.7%, so to alleviate that combined counselling session of the couple is of utmost importance.

The majority (56.97%) of our participants who finally accept IUCD were young people around 20–30 years age with a mean age group of 23.07 years, which is quite similar to 57% of the same mean age group observed by Tomar B. *et al*;[12] However, slightly higher mean age group was observed in a study by Charurat E. *et al*;[25] (in Embu district of Kenya) and by Ram A. *et al*;[26] in Tanzania, where mean age group witnessed was 27±6.6 years and 27.6±5.68 years, respectively. Although there was no wide variation in age group observed in all these studies, it was watched in our study that young women accept PPIUCD more as compared to comparatively elder women who prefer to have a permanent method of contraception.

In the current study PPIUCD was accepted more in multiparous (47.6%) and grand multiparous (43.7%) as compared to primary parous (8.7%); this observation is similar to Tomar B. *et al*;[13] were acceptance rate among para 2 was 34.4%, in grand multi was 20.6%, yet only 24.2% in primary parous. The similarities in ours and Tomar B. *et al*;[12] studies is reflecting social norms in third world countries where the family wants to have more kids and avoid permanent contraception till the end of reproductive period and preference towards less birth spacing in primary parous is custom. On the contrary, a study conducted by Cwiak C. *et al*;[17] in the USA reflect an equal acceptance rate among primary gravida and multi gravida for PPIUCD, replicating trend set of the population in developed countries, who are interested more in adopting the long-acting method of contraception in reflex to the culture of community where fewer kids and long spacing is common practice.

The majority of the participant 93.34% in our study group were Muslim who accepted PPIUCD. This observation in the current study is reinforced by the study by Gonie A. *et al*;[19] where more than three fourth (76.2%) of their study participants were Muslims and still rejection on basis of religion was only 19.8%, this clears the misconception that Muslim women were unwilling to opt contraception on the ground of religion. It was detected that women's decision of accepting PPIUCD was instigated by details and assurance about PPIUCD, and irrespective of religious beliefs women accept PPIUCD after proper counselling.

In our study group, only 9% of the women were working and 91% were housewives. One of the reasons for this difference was the drift of study neighbourhood where females prefer to be housewives. We observed that there was no obvious influence of occupation on acceptance, similar observation was noted by Ram A. *et al*;[26] On the contrary, a study by Tomar B. *et al*;[13] showed a high acceptance rate among working women. However, it was noteworthy that even though our study population are home staying ladies they still show a high reception rate after proper counselling, imitating the ominous need of promoting awareness among common people about PPIUCD.

In the present study, 40.87% of the women who had insertion were uneducated. On the contrary Tyagi S. *et al*; [12], indicates a high acceptance rate for IUCD in educated women (42%) as compared to illiterate women (30%). In comparison to a study by Tyagi S. *et al*;[12] where education appears to play a vital role in the acceptance of PPUICD, our study indicates that even illiterate women were willing to accept

PPUICD if appropriate counselling about effectiveness and feasibility is given. This observation signifies insertion of IUCD in the immediate postpartum period could be a breakthrough in population control in third world countries, where an uneducated proportion of the population is more but community-based awareness and on-time availability of contraception can increase acceptability.

Future child desire also affects our participant's acceptance rate as 66.97% of women that receive PPIUCD were those who were planning for more kids, as compared to 33.03% who don't. Sharma A. *et al*;[23], also witnessed a high (75.64%) acceptance rate among those who have future child desire. The reason was the preference for opting for a permanent method of contraception in women who had completed their family.

In our study, only 8.1% of the women were aware of PPIUCD before current counselling, while 91.9% have never heard about PPIUCD, although after proper counselling they accepted PPIUCD. The awareness rate among our study population was significantly less than that observed by Kumar S. *et al*;[24] Our study reflects a positive relationship between education and awareness about PPIUCD, as most of the women having awareness are college cleared, while others were either graduate or having secondary education. This calls for an awareness campaign among healthcare providers and the community as lack of awareness was seems related to insufficient knowledge. Women in our country are most likely to come in contact with doctors and paramedics either during the antenatal period, during delivery or in the postpartum period and this time is a precious opportunity to get awareness about the significance of contraception. A high acceptance rate among previously unaware women indicates that they are desiring contraception but had a lack of knowledge so proper campaign via media and other information resources may provide an opportunity for these women to adopt contraception of their own will.

The current study found a 91% continuation rate for IUCD inserted in postpartum periods, which is as per the study done in the USA by Cwiak C. *et al*;[17] Tomar B. *et al*[13] observed almost the same continuation rate in their study in India, which was 86.89%. These similarities reflect that woman who adopts PPIUCD have a high continuation rate in developed as well as developing countries, however, the overall acceptance rate is low due to less information and this need to be addressed, especially in developing countries where maternal morbidity and mortality are secondary to termination of pregnancy is still high.

Cwaik C. *et al*;[17] also denote postpartum insertion of IUCD as a useful family planning technique particularly for patients with less probability of appearing for postpartum follow up, which overshadow its associated risk of expulsion. Cwaik C. *et al*;[21] also emphasize teamwork and tracking of outcomes for achieving objectives. On the contrary, Jatlaoui TC. *et al*;[27] observed a high threat of IUCD expulsion for postpartum insertions in a study conducted in India. Despite of the findings, Jatlaoui TC. *et al;*[27] supported and prefer immediate postpartum insertion (within 10 minutes) due to the accessibility of women to the procedure, which could be reduced in future follow-ups. Tyagi S. *et al*;[12] noted an expulsion rate of 5.7%, which is almost similar to our study data, which denotes that expertise in inserting technique plays a major role and hence health care providers training may increase women satisfaction and continuation of PPIUCD.

Mohamed SA. *et al*;[28] also concludes in their study that although the acceptance and insertion of postpartum IUCD is low, it's a vital chance to avail contraception by those women whose only contact with health care professionals is during childbirth.

CONCLUSION

Immediate postpartum insertion of IUCD is appeared as an effective family planning technique to avoid undesirable pregnancy and improve the health of women. Subsequent follow up of the women with immediate postpartum insertions found a 91% continuation rate of IUCD retention. The current study found the high significance of this technique due to accessibility of women to the procedure without delay and decrease the risk of women being missed the insertion in later visits due to social pressures and other issues.

The current study also contributes toward the formulation of policies for raising awareness in doctors attending pregnant women in antenatal clinics regarding the significance of immediate postpartum IUCD insertion to facilitate counselling sessions with pregnant women and their in-laws. Social awareness regarding the importance of procedures for the health and safety of women should be made through mandatory family planning counselling sessions with couples and media.

Additional research is needed to focus on the health outcomes of women using PPIUCD's. The flexibility of women and their satisfaction level for this method, study determining complications of PPIUCD's is not described yet. The IUD should not be inserted between 48 hours and 4 weeks postpartum because of an overall increase in the risk of complications, especially infection and expulsion. IUDs inserted at 4 weeks postpartum and beyond are considered interval IUDs, rather than PPIUDs because the same technique and services are required.

Despite the high acceptance and consent in the antenatal period, patients refused insertions at the time of delivery mostly due to social pressure and

nonawareness in the community. PPIUCD is an ideal method to target the women who visit the health facility for antenatal care because pregnancy is the only occasion for their visit to hospital and insertion immediately after delivery to avoid unwanted pregnancy and its related complexities.

AUTHORS' CONTRIBUTION

SF, AR, ZA: Data collection. MMS, UH, AR: Statistics and paper writing.

REFERENCES

1. Navodani K, Fonseka P, Goonewardena CS. Postpartum family planning: missed opportunities across the continuum of care. Ceylon Med J 2017;62(2):87–91.
2. Abebaw Y, Berhe S, Abebe SM, Adefris M, Gebeyehu A, Gure T, *et al*. Providers' knowledge on postpartum intrauterine contraceptive device (PPIUCD) service provision in Amhara region public health facility, Ethiopia. PLoS One 2019;14(4):e0214334.
3. Committee on Practice Bulletins-Gynecology, Long-Acting Reversible Contraception Work Group. Practice bulletin no. 186: long-acting reversible contraception: implants and intrauterine devices. Obstet Gynecol 2017;130(5):e251–69.
4. Iftikhar PM, Shaheen N, Arora E. Efficacy and satisfaction rate in postpartum intrauterine contraceptive device insertion: A prospective study. Cureus 2019;11(9):e5646.
5. Cleland J, Bernstein S, Ezeh A, Faundes A, Glasier A, Innis J. Family planning: the unfinished agenda. Lancet 2006;368(9549):1810–27.
6. Rutstein SO. Further evidence of the effects of preceding birth intervals on neonatal, infant, and under-five-years mortality and nutritional status in developing countries: evidence from the demographic and health surveys. Macro International Incorporated; 2008.
7. Khatoon, A, Hassan S, Imtiaz T, Imtiaz R, Umair H. Knowledge and need of emergency contraception among women at Abbasi Shaheed Hospital. Pak J Surg 2012;8(3):204–7.
8. Malik MF, Kayan MA. Issue of maternal health in Pakistan: trends towards millennium development goal 5. J Pak Med Assoc 2014;64(6):609–3.
9. Khan A, Hashmi HA, Naqvi Z. Awareness and practice of contraception among child bearing age women. J Surg Pak (International) 2011;16(4):179–82.
10. DeFranco EA, Stamilio DM, Boslaugh SE, Gross GA, Muglia LJ. A short interpregnancy interval is a risk factor for preterm birth and its recurrence. Am J Obstet Gynecol 2007;197(3):264.e1–6.
11. WHO. Medical Eligibility Criteria for Contraceptive Use. 5th ed. Geneva: World Health Organization; 2015.
12. Tyagi S, Aditya V, Srivastava R, Gupta G. Changing trends in intrauterine contraceptive device: from interval intra-uterine contraceptive device to postpartum intrauterine contraceptive device: a prospective observational study in a tertiary care hospital in eastern Uttar Pradesh. Int J Reprod Contracept Obstet Gynecol 2016;5(7):2104–8.
13. Tomar B, Saini V, Gupta M. Post-partum intrauterine contraceptive device: acceptability and safety. Int J Reprod Contracept Obstet Gynecol 2018;7(5):2011–7.
14. Gurtcheff SE, Turok DK, Stoddard G, Murphy PA, Gibson M, Jones KP. Lactogenesis after early postpartum use of the contraceptive implant: a randomized controlled trial. Obstet Gynecol 2011;117(5):1114–21.
15. Grimes DA, Lopez LM, Schulz KF, Van Vliet HA, Stanwood NL. Immediate post-partum insertion of intrauterine devices. Cochrane Database Syst Rev 2010;(5):CD003036.
16. Grimes DA, Schulz KF, Van Vliet H, Stanwood N. Immediate post-partum insertion of intrauterine devices. Cochrane Database Syst Rev 2003;(1):CD003036.
17. Cwiak C, Cordes S. Postpartum intrauterine device placement: a patient-friendly option. Contracept Reprod Med 2018;3:3.
18. McDonald EA, Brown SJ. Does method of birth make a difference to when women resume sex after childbirth? BJOG 2013;120(7):823–30.
19. Gonie A, Worku C, Assefa T, Bogale D, Girma A. Acceptability and factors associated with post-partum IUCD use among women who gave birth at bale zone health facilities, Southeast-Ethiopia. Contracept Reprod Med 2018;3:16.
20. Moore Z, Pfitzer A, Gubin R, Charurat E, Elliott L, Croft T. Missed opportunities for family planning: an analysis of pregnancy risk and contraceptive method use among postpartum women in 21 low- and middle-income countries. Contraception 2015;92(1):31–9.
21. Ogburn JA, Espey E, Stonehocker J. Barriers to intrauterine device insertion in postpartum women. Contraception 2005;72(6):426–9.
22. Chen BA, Reeves MF, Creinin MD, Schwarz EB. Postplacental or delayed levonorgestrel intrauterine device insertion and breast-feeding duration. Contraception 2011;84(5):499–504.
23. Sharma A, Gupta V. A study of awareness and factors affecting acceptance of PPIUCD in SouthEast Rajasthan. Int J Community Med Public Health 2017;4(8):2706–10.
24. 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. Reprod Health 2014;11:32.
25. Charurat E, Ayuyo CM, Muthoni J, Kamunya R, Archer L, Koskei N. An assessment of postpartum intrauterine contraceptive device services in Embu, Kenya. 2011.
26. Ram A. Acceptability and safety of postpartum intrauterine contraceptive device among parturients at Muhimbili National Hospital, Tanzania, Department of Obstetrics and Gynecology of the Muhimbili University of Health and Allied Sciences. 2012.
27. Jatlaoui TC, Whiteman MK, Jeng G, Tepper NK, Berry-Bibee E, Jamieson DJ, *et al*. Intrauterine Device Expulsion After Postpartum Placement: A Systematic Review and Meta-analysis. Obstet Gynecol 2018;132(4):895–905.
28. Mohamed SA, Kamel MA, Shaaban OM, Salem HT. Acceptability for the Use of Postpartum Intrauterine Contraceptive Devices: Assiut Experience. Med Princ Pract 2003;12(3):170–75.

Submitted: August 26, 2021	*Revised: January 21, 2022*	*Accepted: January 21, 2022*

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