International Journal of Reproduction, Contraception, Obstetrics and Gynecology
*Smriti M et al. Int J Reprod Contracept Obstet Gynecol. 2024 Mar;13(3):553-557*
www.ijrcog.org
pISSN 2320-1770 | eISSN 2320-1789

DOI: https://dx.doi.org/10.18203/2320-1770.ijrcog20240454

**Original Research Article**

# Acceptability and short-term complications of PPIUCD

**Marfoonnahar Smriti[1]*, Mossa Nupur Aktar[2], Umme Salma Shilpi[3], Mahbuba Akhter Jahan[4], Shahrin Minar[1], Fatema Tuj Zuhora[1], Sadia Dora[5], Nadia Islam[2]**

[1]Department of Obstetrics and Gynecology, Mugda Medical College and Hospital, Dhaka, Bangladesh
[2]Department of Obstetrics and Gynecology, Shaheed M. Monsur Ali Medical College Hospital, Sirajganj, Bangladesh
[3]Department of Obstetrics and Gynecology, Kurmitola General Hospital, Dhaka, Bangladesh
[4]Department of Obstetrics and Gynecology, Shaheed Taj Uddin Ahmad Medical College Hospital, Gazipur, Bangladesh
[5]Resident Surgeon, Shahid Syed Nazrul Islam Medical College Hospital, Kishoreganj, Bangladesh

**Received:** 16 January 2024
**Accepted:** 06 February 2024

***Correspondence:**
Dr. Marfoonnahar Smriti,
E-mail: marfoonnaharsmriti@gmail.com



## ABSTRACT

**Background:** Intrauterine contraceptive device (IUCD) is an effective form of long-acting reversible contraceptive (LARC). Postpartum IUCD insertion is labelled when IUCD is inserted within 10 minutes to 48 hours of expulsion of placenta. assess the acceptability and short-term complications of postpartum intrauterine contraception device insertion in tertiary care hospital of Bangladesh. The aim of the study was to assess the evaluation of factors associated with acceptability of post-partum intrauterine contraceptive device (PPIUCD).
**Methods:** This was a prospective observational study was conducted at department of obstetrics and gynecology, Dhaka Medical College Hospital (DMCH).
**Results:** Out of 360 eligible counselled postpartum patients, 48 (13.3%) women underwent PPIUCD insertion. Acceptance of PPIUCD was higher in the age group of 25-30 years (43.75%), having former health counselling about PPIUCD (70.8%), multipara (68.75%). The commonest complications were missing thread (8.3%) followed by lower abdominal pain (6.25%), irregular per vaginal bleeding (4.2%).
**Conclusions:** PPIUCD is not very acceptable in our set up but it is a safe, highly effective method of contraception with very few side effects and no major complications and contraindications. The acceptability of PPIUCD can be increased with antenatal counselling and institutional delivery.

**Keywords:** Acceptability, Contraception, IUCD, LARC, Postpartum

## INTRODUCTION

Bangladesh has a high population density with about 1000 people per square kilometer.[1] According to Bangladesh government data, 40 percent of couples in the country do not use contraceptives. The Ministry of Health and Family Welfare subsidizes contraceptives in Bangladesh. Family planning service is supported by UNFPA in Bangladesh. Contraception means deliberate prevention of conception by any means be it drugs, technique or devices. In Bangladesh if we analyze use of different methods of contraception, oral contraceptive pill is highest in use.[2] But the drawback is that it needs to be taken daily and missing dose can result to pregnancy.

Most women do not desire a pregnancy immediately after a delivery but are unclear about contraceptive usage in postpartum period. This results in unplanned and undesired pregnancies, which in turn increase induced abortion rates and consequently maternal morbidity and mortality. Bangladesh has a high rate of illegal abortions and increased availability of contraceptives is expected to reduce that. Continuation of these pregnancies is also associated with greater maternal complications and adverse perinatal outcomes. Till 2 years after delivery, a

woman will not be ready physically to conceive and delivery. Studies were found that conceiving within two years leads to adverse events like abortion, premature labour, postpartum hemorrhage, low birth weight babies, fetal loss and sometimes maternal deaths. Hence advising and practicing contraception within postpartum period good for women health.[3]

In Bangladesh, as in many other countries, postpartum family planning is usually initiated after 6 weeks postpartum. Early resumption of sexual activity coupled with early and unpredictable ovulation leads to many unwanted pregnancies in the first year postpartum. Moreover, in developing countries like Bangladesh particularly, women who once go back home after delivery do not return for even a routine postpartum check-up, leave aside contraception. This is may be due to lack of education and awareness, social pressure, and no access to facilities nearby.

Thus, immediate postpartum family planning services need to be emphasized where in the woman leaves the hospital with an effective contraception in place. Increase in hospital deliveries an excellent opportunity to sensitize women and provide effective contraception along with delivery services. Nowadays, postpartum IUCD (PPIUCD) has been established as an effective and reliable methods of contraception as it offers numerous advantages: ease of insertion, no adverse impacts on breast feeding, cost effectiveness, no hormonal side effects like other hormone containing contraceptives, and protection against unwanted pregnancy and consequent abortion. Women are highly motivated to accept family planning methods during the postpartum period. The immediate postpartum period is a great opportunity for PPIUCD service providers to introduce the method especially in setting where women have cultural and or geographical limitation to access contraceptive service.[4]

After female sterilization, IUCD is the most widely used method of contraception in the world. Today around 30% of couples are using an IUCD, more in the developing countries than developed.[5] From 2013, International Federation of Gynecology and Obstetrics (FIGO) has worked through the national societies globally to institutionalize the provision of postpartum IUD (PPIUD) services into routine maternity care. The project is being implemented in countries with relatively high fertility rates, unmet need for contraception and maternal mortality ratios. These include Tanzania, Kenya, India, Sri Lanka, and Bangladesh.

This project is implemented by obstetrical and gynecological society in Bangladesh. PPIUCD insertion program is now going on in several health facilities of Bangladesh among which Dhaka Medical College Hospital is one of the centers. The aim of the study is to determine the acceptance rate oh this method including analysis of acceptability and short-term complications of it.

## METHODS

This prospective observational study was carried out in the department of obstetrics and gynecology, Dhaka Medical College Hospital (DMCH) during July, 2020 to June, 2021. A total of 360 patients were participated in the study. Among them number of 360 women were counselled, among those 48 women agreed for insertion of PPIUCD. Acceptance of PPIUCD among the agreed patients is 13.3%. After taking consent and matching eligibility criteria, data were collected from patients on variables of interest using the predesigned structured questionnaire by interview, observation. Statistical analyses of the results were be obtained by using window-based Microsoft Excel and Statistical Packages for Social Sciences (SPSS-24).

## RESULTS

This study was conducted in the department of obstetrics and gynecology, DMCH to determine the level of acceptance of PPIUCD and the factors affecting the adoption of it. In this study total number of 360 women were counselled, among those 48 women agreed for insertion of PPIUCD. Acceptance of PPIUCD among the agreed patients was 13.3%.

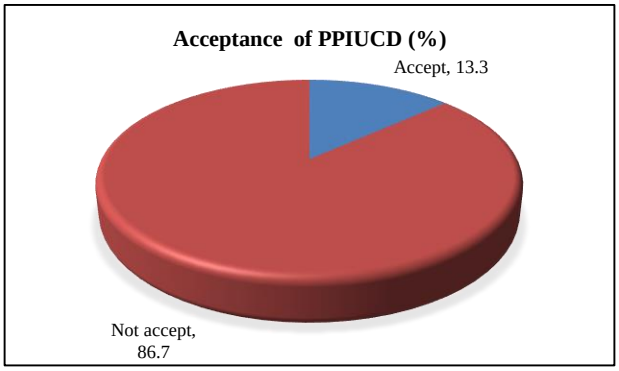


**Figure 1: Acceptance of PPIUCD.**

**Table 1: Reasons for the acceptance of PPIUCD.**

| Reasons | n=48 | Percentage |
|---|---|---|
| **Counselling in ANC visit** | 34 | 70.8 |
| **Reversible** | 17 | 35.4 |
| **Long acting** | 15 | 31.25 |
| **Safe** | 09 | 18.75 |
| **Non hormonal** | 04 | 8.3 |
| **No interference with sex** | 03 | 6.25 |

The main reason for acceptance of PPIUCD was counselling about PPIUCD in ANC visit followed by awareness about its reversibility (35.4%), long duration of action (31.25%), safety (18.75%), non-hormonal (8.3%) and no interference with sex (6.25%).

The negative views about the method were fear of complication, interference with sexual intercourse and

refusal by husband. The main reason for non-acceptance was fear of complications (32.4%) and preferred other methods (22.7%), husband refusal (19.2%), desire more child (15.4%), interference with sex (7.1%) and no reason (3.2%).

**Table 2: Reasons for refusal of PPIUCD.**

| Reasons | n=312 | Percentage |
|---|---|---|
| **Fear of complications** | 101 | 32.4 |
| **Preferred other methods** | 71 | 22.7 |
| **Husband refusal** | 60 | 19.2 |
| **Desire more child** | 48 | 15.4 |
| **Interference with sexual intercourse** | 22 | 7.1 |
| **No reason** | 10 | 3.2 |

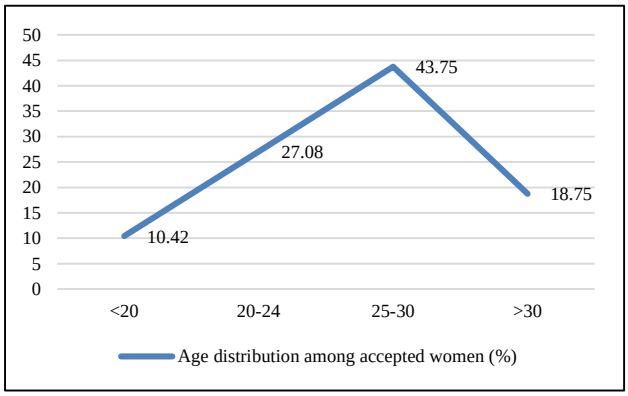


**Figure 2: Age distribution among accepted women.**

The mean age of participants was 25.52 years with a standard deviation (SD) of 4.34 years. The majority age group of women who accepted for PPIUCD belonged to the age group of 25-30 years which was 43.75% followed by 27.08% in 20-24 years, 18.75 % in ≥30 years.

**Table 3: Association of obstetric characteristics with adoption of PPIUCD.**

| Factors | Adopt PPIUCD (%) | | P value |
|---|---|---|---|
| | Yes (n=48) | No (n=312) | |
| **Parity** | | | |
| Primi | 15 (31.25) | 187 (60) | <0.001* |
| Multi | 33 (68.75) | 125 (40) | |
| **Number of children** | | | |
| 1 | 12 (25) | 181 (58.1) | <0.001* |
| 2 | 15 (31.25) | 89 (28.5) | |
| ≥3 | 21 (43.75) | 42 (13.4) | |
| **Mode of delivery** | | | |
| Vaginal delivery | 25 (53.08) | 168 (53.8) | 0.820$^{ns}$ |
| Caesarean section | 23(47.91) | 144 (46.2) | |

Chi square ($\chi^2$) was done to analyze the data, *significant, ns= not significant.

There was significant association with parity, desire for future pregnancy and number of alive children with adoption of PPIUCD ($p<0.05$).

A higher acceptance rate was observed among multipara (68.75%). Those who accepted the method, most of the women (43.75%) had ≥3 number of live children.

In this study there was no significant association with mode of delivery for adopting PPIUCD ($p>0.05$). Among the accepted group of women, face to face follow up was done in 37 (77%) and phone follow-up was done in 11 (23%).

**Table 4: Complications among recipients of PPIUCD (n=48).**

| Complications | Number | Percentage |
|---|---|---|
| **Irregular per vaginal bleeding** | 02 | 4.2 |
| **Lower abdominal pain** | 03 | 6.25 |
| **Unusual vaginal discharge** | 01 | 2.1 |
| **Expulsion** | 01 | 2.1 |
| **Missing thread** | 04 | 8.3 |
| **Uterine perforation** | 0 | 0 |

Out of 48 patients who were followed up after PPIUCD insertion, 11 (22%) patients were developed complications. The commonest complications were missing thread (8.3%) followed by lower abdominal pain (6.25%), irregular per vaginal bleeding (4.2%), unusual vaginal discharge (2.1%) and expulsion (2.1%). No perforation was found among the patients who returned for follow-up.

## DISCUSSION

In this study, the proportion of parturient accepting PPPIUCD and their socio-demographic and obstetric characteristics was determined. Women were highly motivated in postpartum period to initiate contraception. At the time they come in contact with health professionals and can be easily counselled. This study included 360 postpartum subjects. All participants after informed consent were included in the study and divided into two groups based on the acceptance or refusal of PPIUCD insertion. In the present study, 48 (13.3%) women were willing for PPIUCD insertion. 312 (86.7%) women refused PPIUCD insertion. This was slightly comparable with the findings in the similar study conducted in Bale zone health facilities, southeast Ethiopia and there the acceptance rate was 12.4%.[6] But lower than other studies conducted in Assiut University, Egypt and there the acceptance rate was 23.7% and the other studies conducted in a tertiary care Centre in Madhya Pradesh, India found 36% acceptance rate.[3,7] Compare to this study acceptance rate in our study is low, possible reasons could be lack of awareness, low education, family pressure and various misconceptions for IUCD insertion.

In the present study, the highest acceptance was seen in women in the age group ranging from 25-30 years (43.75%), women coming from middle socioeconomic status (58.3%). These findings are similar as results observed by Kanhere et al and Sharma et al.[3] This observation suggests that education has positive influence on women's interest to accept PPIUCD use including their FP utilization.

In this study, acceptance rate is more in women those have family support (75%) and having former health counselling about PPIUCD (70.8%). A similar finding was reported by Gonie et al where antenatal visits played a significant role in the acceptance of PPIUCD use.[6] This study reported that having attended ANC visits were more likely to accept PPIUCD use. The possible reasons why women who attended ANC visits accepted PPIUCD was probably they might be counselled by healthcare workers during their ANC visits. It could be also explained that during ANC visits, health care providers clarified misconceptions about PPIUCD use. Therefore, providing effective contraceptive counselling during ANC visits could address any misconceptions and motivate the women for accepting PPIUCD use immediately after delivery.

A higher acceptance rate was observed among multipara (68.75%) and those who are not desire for future pregnancy (62.5%). Those who accepted the method, most of the women (43.75%) had ≥3 number of live children. This is similar to finding reported by Sharma et al but in contrary to study conducted by Mishra and by Gautam et al it was seen that there was a higher acceptance in primigravida.[8-10] This observation suggests that in present study multi gravida were more receptive to this spacing method of contraception.

The main reasons for acceptance of PPIUCD counselling in ANC visit about PPIUCD (70.8%) followed by its reversibility (35.4%), its long duration of action (31.25%), safety (18.75%). Sharma et al and Mishra have similar findings.[8,9]

The negative views about the method were fear of complication, interference with sexual intercourse and refusal by husband. The main reason for non-acceptance was fear of complications (32.4%) and preferred other methods (22.7%), refusal by husband (19.2%) as was found by Sharma et al, Mishra and Gautam et al.[8-10] This suggests that health care provider should understand the importance of couple counselling for contraception decision making. A gender-sensitive approach should be adopted for couples counselling to achieve better compliance.

Out of 48 patients who were followed up after PPIUCD insertion, 11 (22%) patients were developed complications. The commonest complications were missing thread (8.3%) followed by lower abdominal pain (6.25%), irregular per vaginal bleeding (4.2%), unusual vaginal discharge (2.1%) and expulsion (2.1%). No perforation was found among the patients who returned for follow-up. These findings are similar as results observed by Kanhere et al.[3]

There were a number of limitations of this study, which includes: i) sample size was not representative to generalized the findings ii) the study sample were recruited from one tertiary care hospital; therefore, it may not be representative to the all over country.

## CONCLUSION

Insertion of IUCD in immediate postpartum period is an effective, safe and convenient contraceptive intervention in both caesarean and vaginal deliveries. But the acceptance of immediate PPIUCD usage was still low. This might be mainly attributed to the low achievement of education, perceived concern and fears of complications towards IUCD insertion. The male partner's refusal also has a significant role in the usage of postpartum IUCD.

### *Recommendations*

Further study involving large sample size in multicenter is required to reach a definitive conclusion. Female empowerment should be encouraged which will increase their decision-making power about limitation of family. It is also important to train up the doctors, midwifes and other health care providers about the knowledge and skills of insertion of PPIUCD and follow up. Follow up of the patients should also be increased, so that more information about the complications and safety can be collected.

## ACKNOWLEDGEMENTS

The wide range of disciplines involved in the evaluation of factors associated with acceptability of post-partum intrauterine contraceptive device (PPIUCD) research means that editors need much assistance from referees in the evaluation of papers submitted for publication. I would also like to be grateful to my colleagues and family who supported me and offered deep insight into the study.

*Funding: No funding sources*
*Conflict of interest: None declared*
*Ethical approval: The study was approved by the Institutional Ethics Committee of Dhaka Medical College Hospital, Dhaka, Bangladesh*

## REFERENCES

1. Nabi R, Salimullah AH. Promoting Catamaran tourism in Bangladesh: the challenges of blue economy. In: Technology Application in Tourism Fairs, Festivals and Events in Asia. Singapore: Springer Singapore; 2022:181-208.
2. Luby SP. Yang and Yamazaki Environment and Energy Building 473 Via Ortega, Stanford, CA 94305 USA.

3. Kanhere AV, Pateriya P, Jain M. Acceptability and feasibility of immediate postpartum IUCD insertion in a tertiary care centre in Central India. Int J Reprod Contracept Obstet Gynecol. 2015;4(1):179-85.
4. Pleah T, Hyjazi Y, Austin S, Diallo A, Dao B, Waxman R, et al. Increasing use of postpartum family planning and the postpartum IUD: early experiences in West and Central Africa. Glob Health Sci Pract. 2016;4(Supplement 2): S140-52.
5. Rizvi A, Bhatti Z, Das JK, Bhutta ZA. Pakistan and the millennium development goals for maternal and child health: progress and the way forward. Paediatr Int Child Health. 2015;35(4):287-97.
6. 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(1):1-8.
7. Mohamed SA, Kamel MA, Shaaban OM, Salem HT. Acceptability for the use of postpartum intrauterine contraceptive devices: Assiut experience. Med Principles Pract. 2003;12(3):170-5.
8. Sharma A, Gupta V. A study of awareness and factors affecting acceptance of PPIUCD in south-East Rajasthan. Int J Community Med Public Health. 2017;4(8):2706-10.
9. Mishra S. Evaluation of safety, efficacy, and expulsion of post-placental and intra-cesarean insertion of intrauterine contraceptive devices (PPIUCD). J Obstet Gynecol India. 2014;64:337-43.
10. Goswami G, Yadav K, Patel A. A prospective study to evaluate safety, efficacy and expulsion rate of post placental insertion of intra uterine device. J Evol Med Dent Sci. 2015;4(56):9770-5.

**Cite this article as:** Smriti M, Aktar MN, Shilpi US, Jahan MA, Minar S, Zuhora FT, et al. Acceptability and short-term complications of PPIUCD. Int J Reprod Contracept Obstet Gynecol 2024;13:553-7.