Effect of International Federation of Gynecology and Obstetrics- the Federation of Obstetric and Gynecological Societies of India Postpartum Intra Uterine Contraceptive Device initiative, India on postpartum contraceptive choices- last year and post-project one-year review in a rural medical college

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INTRODUCTION

Postpartum contraception or family-planning is an important and integral component of postpartum care. Pregnancies at short intervals increase risks of adverse maternal complications like unsafe abortions, anemia, antepartum- hemorrhage, postpartum-hemorrhage and infant outcomes like preterm births, low-birth weight and small for gestational age births and infant mortality and morbidity. Birth intervals less than 18 months have the highest mortality risk for infants and children under-five, with decreasing risk as birth intervals increasing up to 36 months. The World health organization (WHO) recommends birth intervals of 2-3 years. Postpartum family-planning is usually defined as the initiation of contraceptive methods within the first 12 months following delivery which help mothers to space their birth and thereby providing maternal and child health benefits. Birth intervals of at least 2 years can reduce maternal mortality by 30% and child mortality by 10%. The majority (91%) of postpartum women in developing countries express a desire to prevent pregnancy for at
least a year following childbirth; yet, use of contraceptives reported is low and risk of unintended pregnancy is high.\(^6\)\(^-\)\(^12\) Even among women who use modern birth-spacing methods, use of highly effective, long-acting reversible contraception is low (<15%).\(^13\) Postpartum intra uterine contraceptive device (PPIUCD) initiative was jointly carried out in partnership of the International Federation of Gynecology and Obstetrics (FIGO)- The Federation of Obstetrics and Gynecological Societies of India (FOGSI) to build capacities of health care providers on family planning and counselling, improve access and availability of family planning services.

**METHODS**

This was an observational study conducted in the Department of Obstetrics and Gynecology, College of Medicine and J.N.M. Hospital, Kalyani, West Bengal, India from 1 January 2018 to 31 December 2019. The FIGO launched an initiative in April-May, 2015 to expand the use of postpartum IUCD in association with FOGSI in six selected centers in phase 1, including our institution. All antenatal care providers were trained using a standardized training learning resource package, and they, including the junior residents and nurses were encouraged to perform PPIUCD insertions. The existing family planning counsellors were strengthened by additionally providing separate counsellors in the antepartum OPD.

This study aimed at evaluating the effect of this program on the preferences of postpartum contraceptive choices of the acceptors by comparing the distribution of postpartum contraceptive use during the last year of the project and one year after it ended. All women attending the antenatal clinic or emergency in early labor were counselled about the various methods available for postpartum contraception which included postpartum IUCD, injectable DMPA, male condom and lastly female sterilization.

PPIUCD (CuT 380A) was inserted in acceptors within 10 minutes of placental expulsion (post-placental insertion), intra-cesarean or 48 hours following delivery. Mothers with chorioamnionitis, puerperal sepsis, rupture of membranes>18 hours, distorted uterine cavity, unresolved postpartum hemorrhage were not eligible for insertion.

Injectable contraceptive medroxyprogesterone (DMPA-Antara) 150 mg was prescribed after 6 weeks postpartum. DMPA was contraindicated in postpartum women with severe renal impairment, active liver disease, active or past history of thromboembolic disorders.

Tubal sterilization was suggested for women who wanted a permanent method of contraception, completed family, free from active pelvic inflammatory disease or in whom further pregnancy could represent significant obstetric and medical risks.

Barrier contraceptives or condoms were supplied in the postpartum unit in open boxes to be availed by users as required.

Data was collected on a monthly basis for two consecutive years for the total number of acceptors of the different available postpartum contraceptives and was entered in MS Excel 2013 with quantitative variables expressed as percentages. All statistical analyses were done using SPSS version 21 (IBM, Armonk, NY, USA) with T test.

**RESULTS**

The total number of deliveries in this institution from 1\(^{st}\) January to 31\(^{st}\) December 2018 was 7413 and that for the same period in 2019 was 7591.

**Table 1: Acceptance of PPIUCD insertion in 2018.**

| Months 2018 | No. of PPIUCD accepters | Total deliveries | Percentage |
|-------------|-------------------------|-----------------|------------|
| January     | 334                     | 613             | 54.5       |
| February    | 282                     | 559             | 50.4       |
| March       | 319                     | 579             | 55.1       |
| April       | 243                     | 550             | 44.2       |
| May         | 298                     | 555             | 53.7       |
| June        | 233                     | 517             | 45.1       |
| July        | 234                     | 505             | 46.3       |
| August      | 297                     | 611             | 48.6       |
| September   | 373                     | 687             | 54.3       |
| October     | 340                     | 729             | 46.6       |
| November    | 370                     | 729             | 50.8       |
| December    | 300                     | 779             | 38.5       |
| Total       | 3623                    | 7413            | 48.9       |

**Table 2: Acceptance of PPIUCD insertion in 2019.**

| Months 2019 | No. of PPIUCD accepters | Total deliveries | Percentage |
|-------------|-------------------------|-----------------|------------|
| January     | 14                      | 611             | 2.3        |
| February    | 8                       | 511             | 1.6        |
| March       | 3                       | 564             | 0.5        |
| April       | 0                       | 511             | 0          |
| May         | 2                       | 476             | 0.4        |
| June        | 0                       | 373             | 0          |
| July        | 54                      | 642             | 8.4        |
| August      | 189                     | 756             | 25         |
| September   | 149                     | 759             | 19.6       |
| October     | 220                     | 795             | 27.7       |
| November    | 236                     | 775             | 30.5       |
| December    | 281                     | 818             | 34.4       |
| Total       | 1156                    | 7591            | 15.2       |
There was a marked reduction in the acceptance rate of PPIUCD after the withdrawal of the program, as evident from Tables 1 and 2, from 48.9% to 15.3% (p<0.01: significant).

### Table 3: Acceptance of postpartum Antara in 2018.

| Months 2018 | No. of Antara accepters | Total deliveries | Percentage |
|-------------|--------------------------|-----------------|------------|
| January     | 0                        | 613             | 0          |
| February    | 0                        | 559             | 0          |
| March       | 0                        | 579             | 0          |
| April       | 5                        | 550             | 0.9        |
| May         | 3                        | 555             | 0.5        |
| June        | 2                        | 517             | 0.4        |
| July        | 6                        | 505             | 1.2        |
| August      | 2                        | 611             | 0.3        |
| September   | 0                        | 687             | 0          |
| October     | 0                        | 729             | 0          |
| November    | 0                        | 729             | 0          |
| December    | 0                        | 779             | 0          |
| Total       | 18                       | 7413            | 0.2        |

### Table 4: Acceptance of postpartum Antara in 2019.

| Months 2019 | No. of Antara accepters | Total deliveries | Percentage |
|-------------|--------------------------|-----------------|------------|
| January     | 0                        | 611             | 0          |
| February    | 2                        | 511             | 0.4        |
| March       | 1                        | 564             | 0.2        |
| April       | 1                        | 511             | 0.2        |
| May         | 1                        | 476             | 0.2        |
| June        | 1                        | 373             | 0.3        |
| July        | 2                        | 642             | 0.3        |
| August      | 1                        | 756             | 0.2        |
| September   | 3                        | 759             | 0.4        |
| October     | 2                        | 795             | 0.3        |
| November    | 0                        | 775             | 0          |
| December    | 1                        | 818             | 0.1        |
| Total       | 15                       | 7591            | 0.2        |

### Table 5: Acceptance of postpartum male condom use in 2018.

| Months 2018 | No. of condom accepters | Total deliveries | Percentage |
|-------------|--------------------------|-----------------|------------|
| January     | 43                       | 613             | 7          |
| February    | 41                       | 559             | 7.3        |
| March       | 45                       | 579             | 7.8        |
| April       | 18                       | 550             | 3.3        |
| May         | 40                       | 555             | 7.2        |
| June        | 12                       | 517             | 2.3        |
| July        | 20                       | 505             | 3.9        |
| August      | 15                       | 611             | 2.5        |
| September   | 12                       | 687             | 1.7        |
| October     | 12                       | 729             | 1.6        |
| November    | 13                       | 729             | 1.8        |
| December    | 14                       | 779             | 1.8        |
| Total       | 285                      | 7413            | 3.8        |

### Table 6: Acceptance of postpartum male condom use in 2019.

| Months 2019 | No. of condom accepters | Total deliveries | Percentage |
|-------------|--------------------------|-----------------|------------|
| January     | 24                       | 611             | 3.9        |
| February    | 54                       | 511             | 10.6       |
| March       | 24                       | 564             | 4.3        |
| April       | 15                       | 511             | 2.9        |
| May         | 25                       | 476             | 5.3        |
| June        | 45                       | 373             | 12.1       |
| July        | 23                       | 642             | 3.6        |
| August      | 30                       | 756             | 3.9        |
| September   | 30                       | 759             | 3.9        |
| October     | 30                       | 795             | 3.8        |
| November    | 30                       | 775             | 3.9        |
| December    | 45                       | 818             | 5.5        |
| Total       | 375                      | 7591            | 4.9        |

There was an increase of postpartum male condom use from 3.8% in 2018 to 4.9% in 2019 (Table 5 and 6) (p=0.16: loosely significant).

### Table 7: Acceptance of postpartum female sterilization in 2018.

| Months 2018 | No. of sterilization accepters | Total deliveries | Percentage |
|-------------|--------------------------------|-----------------|------------|
| January     | 0                              | 613             | 0          |
| February    | 30                             | 559             | 5.4        |
| March       | 33                             | 579             | 5.7        |
| April       | 36                             | 550             | 6.5        |
| May         | 38                             | 555             | 6.8        |
| June        | 48                             | 517             | 9.3        |
| July        | 32                             | 505             | 6.3        |
| August      | 56                             | 611             | 9.2        |
| September   | 49                             | 687             | 7.1        |
| October     | 36                             | 729             | 7.13       |
| November    | 45                             | 729             | 6.17       |
| December    | 32                             | 779             | 4.1        |
| Total       | 435                            | 7413            | 5.9        |

The acceptance of postpartum tubal ligation increased from 5.9% in 2018 (Table 7) to 8.2% in 2019 (Table 8) (p=0.0334; significant).

While the number of deliveries in the institution were almost similar in 2018 and 2019, we found a mild rise in the postpartum tubal ligation, and uptake of condoms. However we saw an exponential and significant drop in the uptake of PPIUCD. This decline could be attributed to many factors; easing of the program mode intensity, reduced number of regular external monitoring, reduced level of motivation of the team members, decreased counselling limited to the pregnant women and most
importantly the withdrawal of additional counsellor provided by the program whose specific role was repeated counselling of the pregnant women, her mother-in-law and her husband.

Table 8: Acceptance of postpartum female sterilization in 2019.

| Months 2019 | No. of sterilization accepters | Total deliveries | Percentage |
|-------------|--------------------------------|------------------|------------|
| January     | 43                             | 611              | 7          |
| February    | 31                             | 511              | 6.1        |
| March       | 33                             | 564              | 5.9        |
| April       | 34                             | 511              | 6.7        |
| May         | 42                             | 476              | 8.8        |
| June        | 27                             | 373              | 7.2        |
| July        | 57                             | 642              | 8.9        |
| August      | 66                             | 756              | 8.7        |
| September   | 67                             | 759              | 8.8        |
| October     | 63                             | 795              | 7.9        |
| November    | 83                             | 775              | 10.7       |
| December    | 75                             | 818              | 9.2        |
| Total       | 435                            | 7591             | 8.2        |

Figure 1: Postpartum contraception in 2018 and 2019.

DISCUSSION

In the developing countries, pregnancy and puerperium are probably the only opportunity for the health care providers to come in contact with healthy women of reproductive age. Puerperium, in particular, is when the women feel motivated and receptive for using family planning methods.

In our analysis, the acceptance rate of PPIUCD was considerably high in 2018 (48.9%) during the ongoing program mostly due to extensive counselling of the pregnant women, her mother-in-law and husband by all strata of antenatal caregivers. Videos on family-planning, general well-being, diet, breast-feeding, postnatal care, care of the newborn, displayed in antenatal OPD and inpatient department added as a reinforcement while the women waited for their turn in the OPD.

The number significantly diminished in 2019 (15.2%) owing to lower intensity of program push, lack of monitoring, withdrawal of additional counselling support, sheer workload leading to overall reduction in quantity and quality of counselling. However after a drop in the first six months of 2019, the numbers started to pick up as the senior hospital team revived the program implementation. Kanhere et al found 36% of PPIUCD insertion rate while according to Kharkwal study it was 60%. In a study conducted in North India, the overall acceptance rate among eligible mothers was 38% whereas the acceptance level was presumed to be 17% in Uganda.

For Antara, the percentage of postpartum users was low and almost similar in the consecutive years. Jonathan and Abubakar found acceptance as high as 29.8%. According to Eliason et al, the use of injectable contraceptives in postnatal mothers was 30.3%. Therefore the PPIUCD initiative did not have significant impact on the increased use of injectable contraceptives post-delivery.

Male condom use varied from 3.8% in 2018 to 4.9% in 2019. Eliason study established much higher user percentage of 33.8%. An important benefit of barrier method is it does not affect lactation. However, appropriate counselling regarding correct use and their relative higher failure rate, even with proper use, is to be provided to willing mothers prior to usage.

Female sterilization is the second most common method of contraception used by women in the United States, approximately half of which are performed in the immediate postpartum period, following nearly 10% of total births. The procedure is much convenient for the mother as she is already present in the hospital for delivery. Gunasingh et al found 38.5% postpartum sterilization among 231 mothers with 2 or more living children. In our study, there was a rise in the number of postpartum ligations from 5.9% in 2018 to 8.2% in 2019.

In one research conducted in China, the acceptance rate of postpartum contraception was 97.6% which included depot medroxyprogesterone acetate (38.4%); tubectomy (19.9%); male condom (7.7%); intrauterine device (0.5%). Another analysis in North India derived the user rate of 37.2% for IUCD, 27.6% for injectable DMPA and 17.4% for male barrier contraceptive in mothers in puerperium.

Limitations

The limitations of our study were: The sample size was small; the entire project duration was not included in the study; all possible methods of post-partum family planning were not available in our institution; and the low
socio-economic and educational status, lack of family support and poor compliance of the antenatal women hindered the acceptance of postnatal family-planning methods.

**CONCLUSION**

Postpartum family planning, therefore, is not only essential for ensuring the health of the mothers and their new-borns but also plays an indispensable role in stabilizing population growth. The objective of the FIGO-FOGSI PPIUCD project was to institutionalize the PPIUCD services provision into routine maternal care and provide the mothers with the attractive option of a long-acting reversible contraception. The impact of this project was quite evident with the increased acceptance of PPIUCD, thereby increased use of postpartum contraception, during the program period. Thus, it can be concluded further initiation and continuation of this FIGO-FOGSI project may definitely improve the scenario of acceptance of postpartum family-planning methods in this institution in future. Proper communication and counselling will enhance the uptake of PPIUCD as a method of contraception. However, the capacity of available human resources in the existing situation should be built towards achieving this, to sustain the same impact as while on the FOGSI-FIGO project.

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