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Original Research Article

Awareness and acceptance of postpartum intrauterine contraceptive devices amongst women in reproductive age group in an urbanized village of South Delhi

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ABSTRACT

Background: In India, grappling with a population surge, about 48.1 million pregnancies are unintended, highlighting the critical need for effective postpartum family planning (PPFP) to prevent adverse outcomes. Despite the postpartum intrauterine contraceptive devices (PPIUCD) benefits as a non-hormonal, reversible contraceptive, its uptake is hindered by various barriers. This study examines the awareness and acceptance of PPIUCD among women in the reproductive age group of South Delhi.
Methods: This observational cross-sectional study was conducted at the field practice area under the Department of Community Medicine, Vardhman Mahavir Medical College and Safdarjung Hospital, New Delhi. Under this study, 190 women of reproductive age groups were included. The data was collected regarding awareness and acceptance of PPIUCD. The reason for acceptance and non-acceptance was collected. Data entered and analysed in Microsoft excel.
Results: Out of 190 women of reproductive age,73% were aware of PPIUCD, and only 28% had accepted the PPIUCD. A statistically significant association between awareness and acceptance of PPIUCD was found. The most common reason for not accepting the PPIUCD was lack of awareness, followed by fear of complication. The reason for acceptance of PPIUCD was exposure to counselling and awareness that it was long-acting and reversible. The most common reason for the removal of PPIUCD is abdominal pain followed by bleeding. The statistically significant association between place of delivery and awareness and acceptance of PPIUCD was found.
Conclusion: During the present study, it was found that Awareness and acceptance of PPIUCD was 73% and 28% of the women of reproductive age, respectively.

Keywords: Postpartum intrauterine contraceptive device, Awareness, Acceptance

INTRODUCTION

As the most populous country globally, India faces a critical challenge with its burgeoning population. Around 48.1 million pregnancies in India are unintended, underscoring the gravity of the situation.[1,2] The period following childbirth becomes particularly crucial for addressing family planning and preventing unintended pregnancies, which are notably prevalent during this postpartum phase. These unplanned pregnancies often lead to adverse outcomes, including increased risks of abortion, low birth weight neonates, preterm labour, postpartum haemorrhage, and fetal mortality.[3] Particularly worrying are pregnancies occurring within the first year post-delivery, which are prone to complications such as preterm birth, low birth weight, and small-for-gestational-age infants. It underscores the urgent need for effective postpartum family planning (PPFP) interventions to mitigate these risks.[4] Despite the evident benefits of PPFP in extending interpregnancy intervals and improving prenatal outcomes and child survival rates, uptake remains suboptimal. According to data from the National Family

Health Survey (NFHS-5), approximately 9.4% of women in India experience an unmet need for contraception, highlighting the persistent challenges in accessing and utilizing postpartum contraceptive methods. It can be attributed in part to deficiencies in counselling and education about contraceptive options during the antenatal period, coupled with hesitancy among couples to adopt contraceptive measures post-delivery promptly. Such hesitancy can lead to high-risk pregnancies and shortened birth intervals, exacerbating challenges in maternal and child health.[5,6]

The postpartum intrauterine contraceptive device (PPIUCD) emerges as a highly effective, cost-efficient, non-hormonal, and immediately reversible long-acting contraceptive method that does not interfere with lactation.[7] Despite these advantages, certain conditions, such as a history of menorrhagia or existing anaemia prevalent in the population, may preclude its recommendation. The immediate postpartum period presents an opportunity for PPIUCD insertion, facilitated by the reduced need for frequent medical follow-ups and the capability for the procedure to be performed by mid-level trained birth attendants, enhancing its feasibility and safety.[8] Nevertheless, the adoption of PPIUCDs encounters barriers, including poor male partner participation, religious beliefs, and concerns about the procedure itself, such as the risk of device expulsion. These challenges underscore the necessity for comprehensive family planning counselling during the antenatal period, which can dispel misconceptions and encourage acceptance among postpartum women and their families.[9]

Despite the potential of PPIUCDs to address the unmet need for effective postpartum contraception, there is a gap in the literature regarding the impact of focused antenatal counselling on PPIUCD acceptance, particularly in India.[10] Previous research from central India has explored factors influencing PPIUCD acceptance. However, they have not examined the role of antenatal counselling in addressing common concerns and fears that deter women from opting for this contraceptive method. This study aims to fill this gap by evaluating the awareness and acceptance of postpartum intrauterine contraceptive devices (PPIUCD) among women of reproductive age in an urbanized village in South Delhi.

METHODS

Study design

The observational cross-sectional study was conducted in Aliganj, an urbanized village in South Delhi, at a tertiary care hospital's field practice area.

Study duration

The study duration was of 4 weeks, from October 2023 to November 2023.

Inclusion criteria

The study included women of reproductive age (15 to 49 years), with the inclusion criteria being women with at least one child. The sample size was calculated based on a previous prospective multicentric study on the acceptance, insertion, and follow-up of postpartum insertion of IUCD conducted by Gudi et al.[11] The acceptance rate of PPIUCD was 36%, with a 20% relative error. The calculated sample size was 171, and with an added 10% non-response rate, the final sample size was 190.

A systematic random sampling method was used to select the participants. There were a total of 2848 households in the area, resulting in a sampling interval of 15. One participant was chosen randomly if two eligible participants were in the same household. The face and content validity of the questionnaire were assessed by 10 experts. Pilot testing was conducted on 10% of the sample size (20 participants). The Cronbach's alpha was 0.84, indicating that the questionnaire was reliable. A self-designed, semi-structured, content-validated, interviewer-administered questionnaire was used for data collection. The questionnaire consisted of sociodemographic details, obstetric and menstrual history, knowledge and awareness about PPIUCD, and reasons for accepting or not accepting PPIUCD.

Statistical analysis

The data was entered into MS excel and analysed using SPSS version 21. Ethical clearance was obtained from the Institutional Ethical Committee of Vardhman Mahavir Medical College and Safdarjung Hospital.

RESULTS

Out of 190 participants, 107(56.3%) were 20-30 years,31-45 years, 83 (43.7%), and no one was aged below 20 years. The mean age was 31+6. The majority of the study participants were Hindu (94.3%). More than one-fourth of the study population has completed High school education 54 (28.4),44 (23.3%) is studied up to 12th class,35 (18.4%) was educated up to middle school, and 13.2% were illiterate.

Most 170 (89.4%) of the women were homemakers, and 11 (5.7%) were gainfully employed. According to BG Prasad’s socioeconomic scale 2022, the majority 117 (61.5%) of the study population belongs to the Upper middle class, followed by 52 (27.3%) of the middle class and 12 (6.3%) of the upper class.

Nearly 178 (93.1%) all the study participants were from a nuclear family (Table 1). More than four-fifth of the 158 (83.2%) had a normal vaginal delivery, and some 25 (13.2%) had a caesarean delivery. Most 157 (82.6%) of the study participants had institutional delivery, and 33 (17.45%) had home delivery (Table 2).

Table 1: Distribution of study participants according to socio-demographic details (n=190).

Socio-demographic factors	N	%
Age (completed years)		
20-30 years	107	56.3
>30 years	83	43.7
Education		
illiterate	25	13.2
Primary school	16	8.4
Middle school	35	18.4
High school	54	28.4
Senior secondary school	44	23.2
Graduate	16	8.4
Occupation		
Homemaker	170	89.4
Gainfully employed	11	5.7
Others	9	4.7
Socio economic status (BG Prasad scale)		
Upper class	12	6.3
Upper middle class	117	61.5
Middle class	52	27.3
Lower middle class	8	4.2
Lower class	1	0.5

About three-fourths 138 (72.6%) of the study participants were aware of PPIUCD. However, only 53 (27.9%) were inserted with PPIUCD out of this 62.6% had received counselling regarding PPIUCD during their Antenatal period. Among those who accepted PPIUCD (53), only 35 (66%) were retained, and 18 (34%) were removed. The most common reason for the removal of PPIUCD was abdominal pain (44.4%) followed by bleeding (38.8%) (Figure 1,2).

Table 2: Distribution of study participants according to obstetric history (n=190).

Obstetric history	N	%
Mode of delivery		
Normal vaginal delivery	158	83.2
Caesarean delivery	25	13.1
Assisted vaginal delivery	7	3.7
Place of delivery		
Institutional delivery	157	82.6
Home delivery	33	17.4

The most common reason for acceptance was exposure to counselling (86.7%) followed by the knowledge that it was reversible (81.1%), and (73.5%) were long-acting, 41.5% mentioned that the reason for acceptance was the fact that it was spacing method. Other reasons mentioned were that it was non-hormonal, and less repeatability it is there. Side effects (37.1%) are felt abdominal pain and menstrual changes (22.8%). The majority (56.9%) of the women stated the reasons for non-acceptance of PPIUCD being fear of complications, followed by lack of knowledge (45.3%), and partner and a family member had not accepted (40.8%).

Women who were in the younger age group (20-30 years) were more aware of PPIUCD 78.5% as compared to those in older age groups (>30 years) 65%. A higher proportion of homemakers were aware of PPIUCD (73.5%) compared to gainfully employed women (65%).

A higher proportion of women who belonged to the nuclear family were aware of PPIUCD (72.9%) than the joint family (69.2%). Awareness of PPIUCD was higher among the women who undertook institutional delivery (77.7%) compared to those who undertook home delivery (48.5%) and that was statistically significant.

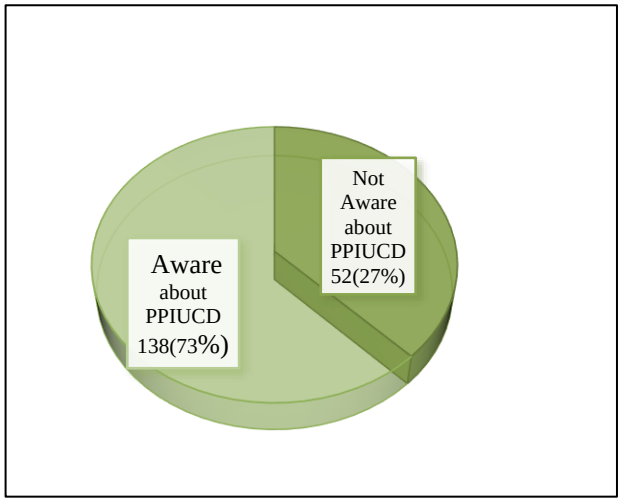

Figure 1: Awareness regarding the postpartum intra-uterine contraceptive device(N=190).

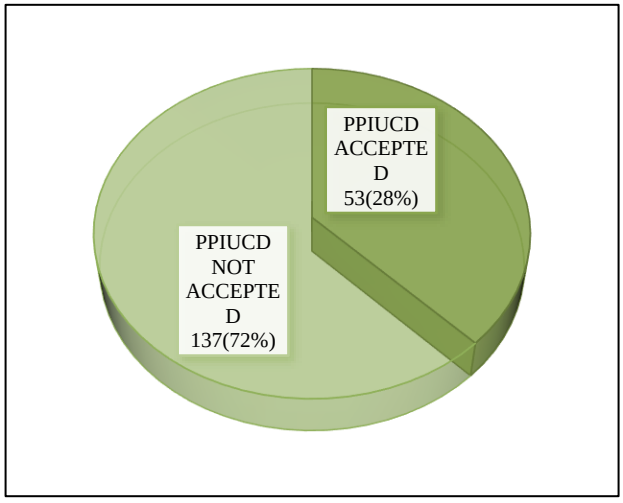

Figure 2: Acceptance of postpartum intrauterine contraceptive device (N=190).

Table 3: Association of socio-demographic characteristics and obstetric history with awareness about PPIUCD (n=190).

Socio-demographic factors	Aware about PPIUCD	Not aware about PPIUCD	P value
Age (completed years)			
20-30	84 (78.5%)	23 (21.5%)	0.009
>30	54 (65%)	29 (35%)	
Education			
Up to high school	55 (72.4%)	21 (27.6%)	0.947
Beyond high school	83 (72.8%)	31 (27.2%)	
Occupation			
Homemaker	125 (73.5%)	45 (26.4%0	0.417*
Gainfully employed	13 (65%)	7 (35%)	
Type of delivery			
Vaginal	118 (71.5%)	47 (28.5%)	0.375*
C-section	20 (80%)	5 (20%)	
Place of delivery			
Institutional	122 (77.7%)	35 (22.3%)	0.0006
Home delivery	16 (48.5%)	17 (51.5%)	

(Chi-square and Fischer -exact* test applied wherever applicable)

Table 4: Association of sociodemographic characteristics and obstetric history with acceptance of PPIUCD (n=190).

Sociodemographic factors	Accepted PPIUCD	Not accepted PPIUCD	P value
Age (completed years)			
20-30	35 (32.7%)	72 (67.3%)	0.092
>30	18 (21.7%)	65 (78.3%)	
Education			
Up to high school	21 (27.6%)	55 (72.4%)	0.947
Beyond high school	32 (28.1%)	82 (71.9%)	
Occupation			
Homemaker	52 (30.6%)	118 (69.4%)	0.015*
Gainfully employed	1 (5%)	19 (95%)	
Type of family			
Joint	50 (27.3%)	127 (71.8)	0.688*
Nuclear	3 (23%)	10 (77%)	
Type of delivery			
Normal vaginal	45 (27.3%)	120 (72.7%)	0.6220
C-section	8 (32%)	17 (68%)	
Place of delivery			
Institutional	50 (31.8%)	107 (68.2%)	0.0122*
Home delivery	3 (9%)	30 (90.9%)	

(Chi-square and Fischer -exact* test applied wherever applicable)

Those women who underwent caesarean section were more aware of PPIUCD (80%) compared to those who had normal vaginal delivery (71.5%) (Table 3). Among the women, those who were in the younger age group (20-30 years) had a higher acceptance rate (32.7%) as compared to more than 30 years (21.7%). A bigger proportion of homemakers (30.6%) accepted PPIUCD compared to gainfully employed women (1%) which was statistically significant. Women who belonged to joint families (28.2%) had higher acceptance of PPIUCD compared to nuclear families (23%). Women who had caesarean section (32%) higher acceptance of PPIUCD compared to vaginal delivery (27.3%). Women who had institutional delivery had higher acceptance (31.8%) of PPIUCD compared to those who had home delivery (9%), which is a statistically significant finding (Table 4).

DISCUSSION

The current study on awareness, acceptance, retention rates, and reasons for acceptance and non-acceptance of postpartum intrauterine contraceptive devices (PPIUCD) offers valuable insights into the current landscape of PPIUCD acceptance among women of reproductive age. In our study, the awareness of PPIUCD among women of reproductive age was 73%. A similar study conducted by

Alukal et al found that awareness regarding PPIUCD was 11.1%, Sharma A et al, reported 2.58% and Deshpande et al, reported awareness of PPIUCD as 4%.[12-14] Our study population was exposed to regular outreach public health activities focusing on promoting reproductive health as well as family planning counselling services at the nearby urban health training centre.

Similarly, our study's acceptance rate of 28% which aligns with the findings of Deshpande et al, who reported an acceptance rate of 25%, and Gudi et al, who reported an acceptance rate of 36%.[11] However, these rates differ from the acceptance rates reported by Alukal et al (10.5%) and Goswamy et al (66%).[12,15] Hospital-based studies like Goswamy et al have reported higher acceptance 66% as they have offered intensive counselling to the patients post-delivery. These variations highlight the complex interplay of sociocultural factors influencing contraceptive decision-making among women.

Our study found a significant association between awareness and acceptance of PPIUCD, and a study conducted by Deshpande et al. also found a significant association between awareness and acceptance of PPIUCD.[14] This finding highlights the importance of counselling services and other modes of intervention to create awareness, which is crucial for the acceptance of PPIUCD.

Furthermore, our findings suggest that age, education level, place of delivery, and mode of delivery play significant roles in shaping PPIUCD awareness and acceptance. These findings are consistent with studies conducted by Deshpande et al and Alukal et al, which found that individuals in the younger age group and those who delivered in hospitals demonstrated higher awareness and acceptance rates.[12,14] This emphasizes the importance of accessible healthcare services and reproductive health education programs. Moreover, our study's observation of higher acceptance rates among individuals who underwent caesarean sections underscores the potential for integrating PPIUCD counselling and insertion services into routine obstetric care.

In our study we found that two-thirds of those who accepted the PPIUCD cited abdominal pain as the primary reason for removal, followed by bleeding. These findings align with the study conducted by Deshpande et al, highlighting the importance of addressing common concerns such as abdominal pain and bleeding to improve device retention in our counselling services.[14]

The reasons for the acceptance of PPIUCD, including counselling, reversibility, and its long-acting nature, mirror previous research findings by Deshpande et al and Alukal et al.[12,14] These findings emphasize the significance of addressing women's contraceptive preferences and needs through comprehensive counselling and education initiatives. Conversely, reasons for non-acceptance, such as fear of complications, lack of knowledge, and partner and family refusal, echo findings from previous studies by Deshpande et al and Alukal et al also found similar reasons.

The contributes to the growing body of literature on PPIUCD acceptance by providing insights into awareness, acceptance, retention rates, and factors influencing contraceptive decision-making among women in an urbanized village in South Delhi. By elucidating these dynamics, our findings underscore the importance of multifaceted approaches to enhance PPIUCD uptake and address barriers to contraceptive access and acceptance, ultimately contributing to improved reproductive health outcomes for women and their families.

CONCLUSION

Women who were younger (30 years or younger) were more aware about PPIUCD. Also, those who were homemakers and had institutional delivery had better acceptance rates. The most commonly cited reasons for acceptance of PPIUCD were counselling, reversibility and long-acting. Reasons for non-acceptance included fear of complications, lack of knowledge and other sociocultural factors.

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