

Evaluation of factors associated with acceptance of post-partum intrauterine contraceptive device in a tertiary care hospital

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¹ Conception, synthesis, planning of research and manuscript writing

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A B S T R A C T

Objective: The post-partum intrauterine contraceptive device (PPIUCD) is a highly effective, long acting, reversible, economical and easily accessible family planning method. The aim of the study was to estimate the proportion of pregnant women aware of immediate post-partum intrauterine contraceptive device and to analyze the factors associated with acceptance.

Methodology: This is a cross sectional study in which 300 pregnant were selected who were visiting the antenatal clinics and admitted in early labor in labor ward. Their awareness and acceptance for PPIUCD was assessed through a structured questionnaire. Factors associated with acceptance were analyzed and the reasons for acceptance or refusal were determined.

Results: In this study the awareness of PPIUCD was found to be 46% and the acceptance rate of PPIUCD was 18%. The major reason for refusal was that women don't think they need contraception immediately after delivery and secondly, they need to talk to their partners for the decision. Most common reasons for acceptance of PPIUCD was that it is long acting and reversible. Gravidity ($p= 0.006$), parity ($p< 0.001$), unplanned pregnancy ($p= 0.002$) and inter pregnancy interval ($p= 0.004$) were the factors significantly influencing the acceptance of PPIUCD.

Conclusion: This study revealed that awareness regarding PPIUCD is increasing in women but acceptance is still poor. It was due to misconception that no contraception is needed in postpartum period. Provision of adequate knowledge regarding convenience and effectiveness of post-partum contraception in preventing unintended pregnancies can play vital role to increase its acceptance.

Keywords: Long acting reversible contraception, intrauterine devices, postpartum period, patient acceptance.

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Introduction

Access to safe, voluntary family planning is a fundamental human right. A woman's ability to plan and space her pregnancies has a direct impact on her health and wellbeing. All individuals should have the information, education and means to do so. Despite of large-scale family planning programs in many countries, increase in population growth is alarming, especially in developing countries. Pakistan is one of the most densely populated countries with a growth rate of 2.1.1 In 2017 world population ranking, Pakistan was at 6th place with over

197 million people and the United Nations has projected that in 2050 its population is expected to exceed 300 million.¹ The country's high fertility rate is a major contributor to this situation. The recent data in the Pakistan Demographic and Health Survey (PDHS) 2017-2018 shows that decline in fertility rates is minimal in the recent period from 3.8 births per woman as reported in the 2012-13 PDHS to 3.6 births per woman in the 2017-18 PDHS.² These figures indicate a high unmet need for contraceptives, although family planning programs have

been in place in Pakistan for a long time. Ignorance, lack of adequate knowledge or wrong information and beliefs are common hurdles in acceptance of contraception.^{3,4}

Many women desire to control their pregnancy but fail to use effective contraception. This has resulted in high levels of unintended pregnancies leading to adverse health consequences such as maternal mortalities and morbidities.⁵ According to a study done in Karachi, 88% of induced abortions are result of unwanted pregnancies or contraceptive failure.⁶ In Pakistan, approximately 2.25 million induced abortions take place annually, with an abortion rate of 50 per 1000 women aged 15 – 49 years.⁷ Due to restrictive laws of abortion in our country, it is usually carried out by unskilled and untrained providers under secret settings which results in severe outcomes ranging from lifetime morbidity to mortality, thus increasing the prevalence of maternal mortality.⁸

Pregnancy provides a unique opportunity for health care providers to counsel the women and their partners for contraception and its health benefits. Most of the women in developing countries are unable or resistant to follow up for postnatal check-ups and contraception. This is may be due to lack of education and awareness, social pressure, and inaccessibility to facilities nearby.⁹ Delay in decision of contraception by couples during postpartum period may lead to many unwanted pregnancies resulting in increased number of unsafe abortions.¹⁰

The PPIUCD is a highly effective, long acting, reversible, economical and easily accessible family planning method.¹¹ It can be inserted within 48 hours after birth before they leave hospital and the woman or couple needs not to return specially for contraception. Thus, couple has been protected before they assume sexual activity.¹² Cochrane review also provides evidence of safety and feasibility of PPIUCD insertions.¹³

Awareness has been highlighted as a key indicator of success in any program. For implementation of any contraceptive method at the community level, first step is to make the public aware and well informed about that method. Therefore, it is necessary to know the level of awareness and acceptance of that method in the community. Additionally, information related to the demographic profile of women who accept PPIUCD is also required as the dynamics of their decision-making

process may vary from region to region. To address this need, we conducted this cross-sectional study to determine the recent trend in awareness and acceptability of PPIUCD and reasons for acceptance or refusal in our community.

Methodology

This study was approved by institutional review board and ethics committee of Shifa International hospital, Islamabad, Pakistan. This was a cross sectional study conducted from August 2018 to January 2019 in the department of obstetrics and gynecology in Shifa International hospital and its community health care center in Islamabad, Pakistan. A total of 300 antenatal women were selected by non-probability convenient sampling. Minimum sample size required was calculated by WHO sample size calculator by taking 95% confidence interval, 5% absolute precision and population size 600, i.e. estimated number of antenatal women presenting during six months.¹⁴

Pregnant women visiting the antenatal clinics and admitted in early labor in labor ward who agreed to participate were included in this study. Patients in severe pain and distress or presenting with acute emergencies and those who were not psychologically stable or not consenting were excluded from the study.

Data collection was done through a structured questionnaire. Confidentiality of the participants was maintained during data collection and analysis. After taking written informed consent from the participants, the interviewers collected data about socio-demographic characteristics (age, number of children, education, occupation and income), previous obstetrical history (previous mode of deliveries, last child birth), planned or unplanned pregnancy and previous methods of contraception. They were asked about their choice of contraception after delivery and awareness and acceptance of immediate postpartum intrauterine contraceptive device. The reasons for the acceptance or refusal to the PPIUCD insertion were also recorded.

We analyzed the data using SPSS version 22.0 (Statistical Package for Social Sciences) software. Descriptive and inferential statistics were applied. Chi-square test was used to determine association between

the acceptance of PPIUCD and other variables. P value < 0.05 was considered significant.

Results

A total of 300 women were included in this study, out of which less than half i.e. 139 women (46.3%) were aware of PPIUCD. Out of 139 women, 63 (45%) women heard of PPIUCD from antenatal clinic. Other sources of information regarding PPIUCD were relatives, media and family planning clinics respectively as presented in Figure 1.

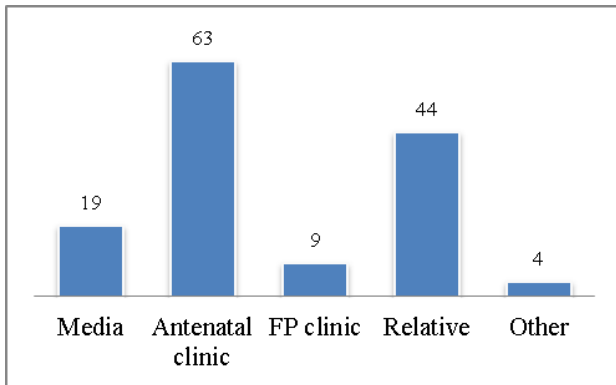


Figure 1: Source of information

Table 1 presents the association between the level of awareness and the acceptance rate in these women. Only 55 women accepted PPIUCD while 245 refused thus the overall acceptance rate of PPIUCD was 18.3%. The proportion of women accepting PPIUCD was significantly higher in those who were previously aware than those who were not aware regarding PPIUCD i.e. 40 women (28.8%) compared with 15 women (9.3%) with statistically significant p-value of <0.001.

Table 1: Level of Awareness and Acceptance for PPIUCD

Awareness	Acceptance		Refusal		Total	p-value
	N	%	N	%		
Yes	40	28.8	99	71.2	139	p<0.001
No	15	9.3	146	90.7	161	
Total	55	18.3	245	81.7	300	

The socio-demographic characteristics of the participants and association of these factors with the acceptance of PPIUCD are listed in Table 2. Majority of

women were more than 30 years of age (46.0%), had received education till college level (34.3%) and were housewives (88.0%). The rate of acceptance was higher in the advanced age groups, 54.5% in more than 30 years and 40.0% in 25-30 years as compared with only 3.6% in 20-25 years but was not statistically significant, p-value=0.097.

Both gravidity and parity were found to be associated with participant's acceptance of PPIUCD. In the women accepting PPIUCD, significantly higher proportion were multigravida (76.4%) and multipara (67.3%) with p values of 0.006 and <0.001 respectively. There were also a greater proportion of women with unplanned pregnancy opted for PPIUCD than those with planned pregnancy, 54.5% vs. 45.5% with p-value calculated as 0.002. Highest acceptance was seen in women with less than 2 years of duration since last birth (47.3%) with statistically significant p-value of 0.004.

Table 2: Socio-demographic Characteristics

Socio-demographic Characteristic	Total (N=300)		Acceptance (N=55)		Refusal (N=245)		p-value
	N	%	N	%	N	%	
Age in years							
< 20	13	4.3	1	1.8	12	4.9	0.097
20 – 25	37	12.3	2	3.6	35	14.3	
26 – 30	112	37.3	22	40.0	90	36.7	
>30	138	46.0	30	54.5	108	44.1	
Education							
No Formal education	28	9.3	4	7.3	24	9.8	0.282
School	93	31.0	19	34.5	74	30.2	
College	103	34.3	23	41.8	80	32.7	
University	76	25.3	9	16.4	67	27.3	
Occupation							
Housewife	264	88.0	52	94.5	212	86.5	0.098
Employee	36	12.0	3	5.5	33	13.5	
Gravidity							
Primigravida	64	21.3	3	5.5	61	24.9	0.006
Multigravida	187	62.3	42	76.4	145	59.2	
Grand multigravida	49	16.3	10	18.2	39	15.9	
Parity							
Nullipara	71	23.7	3	5.5	68	27.8	<0.001
Primipara	88	29.3	15	27.3	73	29.8	
Multipara	141	47.0	37	67.3	104	42.4	
Duration since last child							
< 1	72	24.0	3	5.5	69	28.2	0.004
1-2	114	38.0	26	47.3	88	35.9	
3-5	89	29.7	19	34.5	70	28.6	

>5	25	8.3	7	12.7	18	7.3	
Mode of delivery							
SVD	105	35.0	25	45.5	80	32.7	0.009
Instrumental	89	29.7	7	12.7	82	33.5	
C-Section	106	35.3	23	41.8	83	33.9	
Planned pregnancy							
Yes	192	64.0	25	45.5	167	68.2	0.002
No	108	36.0	30	54.5	78	31.8	

There were 145 (48.3%) women who reported use of some form of contraception in past, out of which 69 (47%) had used male condom, 30 (21%) withdrawal method and 22(15%) had used contraceptive pills. Out of 145 women, 40 (27.6%) expressed dissatisfaction with their past method of contraception. Figure2 shows that among women refusing PPIUCD, majority said they did not want contraception immediately (20%) or needed to talk to their partners (18.4%) while some reported fear of complications (14.3%) or preferred other methods of contraception (13.9%).

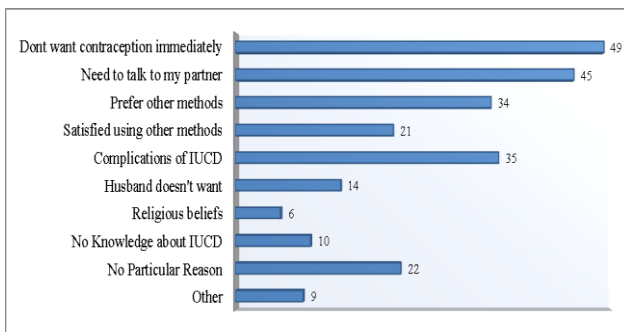


Figure 2: Reasons for PPIUCD refusal

The main reasons for acceptance was awareness regarding long acting method (70.9%) and reversibility (25.45%) shown in Figure 3.

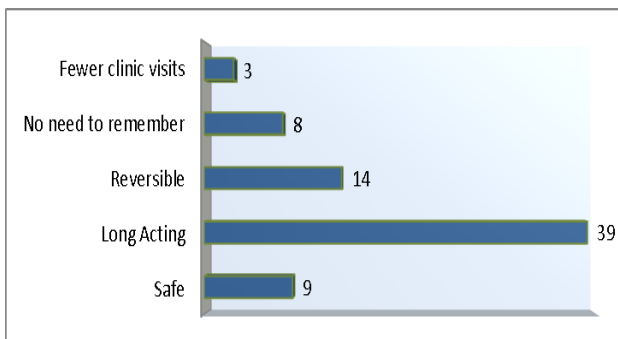


Figure 3: Reasons for PPIUCD acceptance

Discussion

We found that 46% of pregnant women were aware of PPIUCD in our study. This suggests that although less than half of the women were aware of PPIUCD but this percentage is continuously improving as compared to 25% and 36.4% awareness reported in the previous studies conducted by Asghar et al and Sultana et al in 2016 and 2017 respectively.^{15, 16} This shows that in recent years a trend of increased level of awareness regarding PPIUCD in Pakistan.

The overall acceptance of PPIUCD in our study was only 18%. Similarly, acceptance was also found to be poor in the studies conducted by Sharma et al, Alukal et al and Katheit et al and the results were consistent with our study.^{17, 19} This shows that acceptance rate was not significantly improved over the period of time, which has to be readdressed. It also indicates that there is a gap between awareness and acceptance probably because it is still emerging as a new concept in our society and its effectiveness is questionable to most women. This is supported by the study conducted by Kanmani and colleagues, which showed more than double fold increase in acceptance of PPIUCD by removing these misconceptions and myths and explaining that effectiveness is not altered by insertion in immediate postpartum period.²⁰ The rate of acceptance was significantly higher in the women having awareness of PPIUCD (28%) as compared to women who had no previous knowledge of PPIUCD (9.3%). These findings are similar to the study conducted by Deshpande et al which revealed 64% acceptance rate in women with awareness and 23.3% acceptance rate in women who were unaware of PPIUCD.²¹

The present study demonstrated that major source of information regarding PPIUCD was antenatal clinic (45.3%). These findings are similar to the studies conducted by Sharma et al. and Deshpande et al.^{17, 21} In this study the rate of acceptance was highest in the advanced age groups i.e. 54.5% in women more than 30 years of age. The study conducted by Malchuru and colleagues also demonstrated the highest rate of acceptance among the women in age group of 30-39 years.²² This study revealed significant association between acceptability of various factors with PPIUCD

such as parity, duration since last child birth, previous mode of delivery and planned or unplanned pregnancy. Acceptance was more in multipara and in women who had less than 2 years of duration since last delivery. These findings are similar to results observed by Sharma et al, Deshpande et al and Gujju et al.^{17, 21, 23} This finding suggests that the mothers with a higher number of births and less inter-pregnancy interval are more receptive to this contraceptive method.

Higher acceptance was also seen in women who had previous vaginal deliveries which is similar to the observations in the study done by Ranjana and colleagues demonstrating higher acceptability rate after post-placental IUCD insertion than intra-caesarean insertions (52.9 versus 42.6%).²⁴ This suggests that fear of complications is less in women having normal vaginal deliveries than caesarean section. Acceptability was also significantly increased in women with unplanned pregnancy. Alukal et al also stated similar finding with 74.1% acceptance in women having unplanned pregnancy.¹⁸ This indicates that women who had unplanned pregnancies either due to non-use of contraception or due to previously failed contraception are more motivated for PPIUCD insertion.

The main reasons for acceptance in this study were because it is long acting (70.9%) and reversible method (25.5%). The studies conducted by Sharma et al and Deshpande et al also showed the main reasons for acceptance to be long acting method and its reversible nature.^{17, 21}

Our study revealed that major reason for refusal was that they did not want contraception immediately (20%) or needed to talk to their partners (18.4%). Valliappan and colleagues also stated that most of the women required more time to think and discuss with partners.²⁵ So, they recommend that there should be continued health counselling to the pregnant women and their partners, especially in the last trimester and in every visit to reinforce about contraception and PPIUCD. A study conducted by Vidyarama et al in a tertiary care hospital also suggested there is a need to strengthen counselling services and motivate the trained personnel to improve the acceptance rate.²⁶

Conclusion

The present study concluded that acceptance of PPIUCD among the pregnant women was very poor despite of improved awareness. Although antenatal clinics are providing family planning awareness, but currently they are unable to create a significant impact on acceptance of PPIUCD. The medical and paramedical staff providing family planning services needs to be updated on recent developments in contraceptive services, so they can promote health education highlighting the advantages of PPIUCD and eliminating apprehension about the use of this method. Integration of adequate and comprehensive counseling services at antenatal and delivery units can increase the level of awareness and acceptance of this highly effective contraceptive method.

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