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Choice of Contraception in Puerperium and Compliance at a Tertiary Care Hospital, Chennai, Tamil Nadu

Dr. Prema Elizabeth Jeyanthi David[1] Dr. J. Sarala*[2], Mr. R. Mothilal[3]

[1 & 2] Professor of O&G, Institute of Obstetrics and Gynecology, Egmore, Chennai-600008

[3]Lecturer in Statistics and Demography, Govt. Kilpauk Medical College Hospital, Chennai-10

Correspondence Author: Dr. J. Sarala, Professor of O&G, Institute of Obstetrics and Gynecology, Egmore, Chennai-600008

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Abstract

Background: The puerperium is the period following childbirth during which the body tissues, especially the pelvic organs revert back approximately to the pre-pregnant state both anatomically and physiologically. It begins as soon as the placenta is expelled and lasts for 6 weeks[1]. Ovulation may resume 3 weeks after delivery even in lactating women. Unfortunately, pregnancy can happen during the amenorrhoeic phase because ovulation. Ovulation occurs in 6% cases before the post partum menstruation[2] . Accordingly, the puerperium presents an ideal important opportunity to initiate effective contraception. In this period many women are in search about the family planning methods. But contraceptive options differ depending on women's desires such as cultural and religious believes, partner attitudes, previous contraceptive experiences. The objective of the study is to study the choice of temporary methods of contraception by women in puerperium and to analyze the various factors influencing the acceptance and continuance of the specific mode of contraception.

Methods: It is a cross sectional retrospective study on women who were accepted temporary methods of contraception in the puerperal period irrespective of parity, mode of delivery, lactional status and socioeconomic status. The study was conducted at a tertiary care hospital on 1150 woman between July 2008 and June 2010.

Results: A total of 1150 women in puerperium were counseled about the need, advantages and side effects on contraception. Of the women counseled total of 602 women in puerperal period wanting contraception were enrolled and studied. The patients were followed up for a total of 6 months duration. The follow up vary for each mode chosen. The mean age group of women observed in this study was 237.2. Total number of women choosing IUD, DMPA, POP, Barrier methods was 58%, 20.9% 3.2% and 17.9% respectively. The effectiveness of contraception was measured by incidence of pregnancy which was high for Barriers and nil for IUD and DMPA.

Conclusions: Total number of women who accepted contraceptive use after counseling was 52.3%. The acceptance rate was higher for IUD 58% and least for POPs 3.2%. There were no pregnancies in IUD and DMPA users whereas pregnancy was reported in women using POPs and Barrier. The most common reason cited for discontinuation by most women was menstrual irregularity.

Keywords:Puerperium, Contraception, Preferences, Factors.

Introduction

The puerperium is the period following childbirth during which the body tissues, especially the pelvic organs revert back approximately to the pre- pregnant state both anatomically and physiologically. It begins as soon as the placenta is expelled and lasts for 6 weeks[1]. Ovulation may resume 3 weeks after delivery even in lactating women. Unfortunately, pregnancy can happen during the amenorrhoeic phase because ovulation. Ovulation occurs in 6% cases before the post partum menstruation[2]. Accordingly, the puerperium presents an ideal important opportunity to initiate effective contraception. During the postpartum period effective contraception can prevent unintended pregnancy and ensure adequate birth spacing[3]. Pregnancy and the birth of a child change a woman's priorities, attitudes, life style and sex behavior and use of preferred contraceptive method. After a live birth, the world health organization (WHO, 2005) currently recommends an interval of 24 months before attempting to become pregnant again[4].

The development of modern technology has now made it possible for women to use different modes of contraception without jeopardizing their lives and health. The aim of this study is to determine the choice of temporary methods of contraception between primi and multipara women in puerperium and to analyze the various factors influencing the acceptance and continuance of the specific mode of contraception.

Methods

This is an analytical cross sectional retrospective study. This study was conducted on 1150 women in the puerperal period attending Family Welfare Clinic were counseled for contraception, the methods available and their proper use, expected side effects, and short term and long term implications, in a tertiary care hospital, Chennai between July 2008 and July 2010. Out of 1150 women, 602 women wanting contraception were enrolled in this study and those not willing 548 for any contraception were excluded from the study. All patients after appropriate counseling were given their choice of contraception and followed up for 6 months.

Inclusion Criteria: All women opting for temporary method of contraception in the puerperal period irrespective of parity, mode of delivery, lactational status and socioeconomic status.

Exclusion Criteria: Sexually active diseases, post abortal status and post puerperal period.

Follow up: They were followed up for a total of 6 months duration. The follow up vary for each mode chosen as follows. **IUD:** Cu T 380A was inserted at 0 months under aspetic precautions, follow up was done at 1, 3, and 6 months after insertion and the following events were recorded: menorrhagia, pain, expulsion/displacement, leucorrhoea, subjective and patients who lost follow up. **DMPA:** DMPA 150mcg was given as deep intramuscular injection in the gluteal region at 0 month. Women were followed up at 3rd and 6th month and the reasons for discontinuation such as irregular cycles, amenorrhea/oligomenorrhoea, husband away, tubectomy, subjective and lost to follow up were noted.

POPs: Minipills (cerazette) – 0.075mg of desogestrel was advised. Patients were counseled to take the pill every day and at the same time continuously without a break. Patients were followed up at 1,3 and 6 months and the following were noted – Menstrual disturbance, lost to follow up and pregnancy. Patients were questioned about their compliance regarding regular use of pills.

Barrier: Couples were educated abouth the method of use, side effects and they were given government approved free samples. Couples were followed up at 1, 3 and 6 months. The side effects, compliance and reasons for discontinuation were noted. Statistical analysis had

been calculated based on mean and standard deviation for variables such as age using Fischer's Extract method and chi-square calculated using contingency table in MS Excel.

Results

H_0 = The attributes that choice of contraception between parity and temporary methods are independent

H_1 = The attributes that choice of contraception between parity and temporary methods are not independent

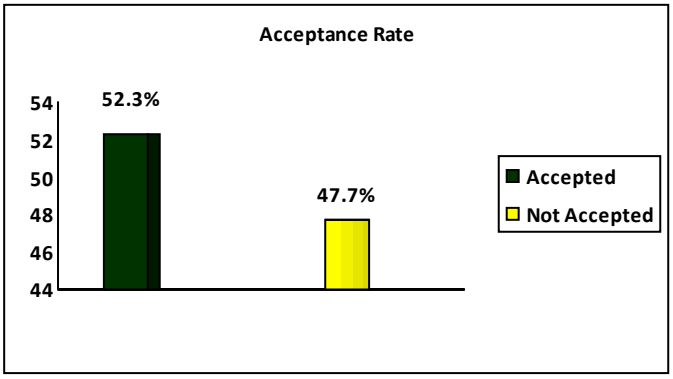
Table 1: Parity versus Contraception

PARITY	CONTRACEPTION				TOTAL
	IUD	DMPA	POP	BARRIER	
Primi	285	101	18	71	475
Multi	64	25	1	37	127
TOTAL	349	126	19	108	602

There exist an association between living children and the method of contraception that IUD, DMPA, POP and Barrier since the chi- square value is 15.817 at degrees of freedom is 3; the level of significance is 0.05. The p-value is 0.001236.

Result: Since the calculated chi-square value 15.94 is greater than the table value 7.82. So, the attributes that choice of contraception between Parity and Temporary methods that IUD, DMPA, POP and Barrier method are not independent and hence the choice of contraception that temporary methods with primi was excellent than with multipara women and it is statistically significant at p- value < 0.05. This proved that there is a significant difference in acceptance of temporary contraception between primi and multi para women.

Figure 1: % of Acceptance and Non Acceptance



The figure 1 shows that the total number of women counseled for contraception in puerperium is 1150, and 52.3% of the women chose temporary method of contraception and 47.7% of the patients did not accept any mode of contraception.

Age Distribution

N=602	Age Mean
Minimum Age	18
Maximum Age	38
Mean	23.72

This study had a mean age of 23.72 years ± 3.288 (SD) (range 18 – 38 years).

Table 2: Mode of Contraception chosen

METHOD	NO	PERCENTAGE
Barrier	108	17.9%
DMPA	126	20.9%
POP	19	3.2%
IUD	349	58.0%

Figure 2: Mode of Contraception chosen

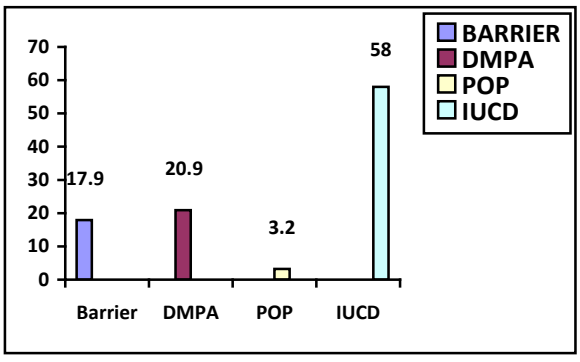


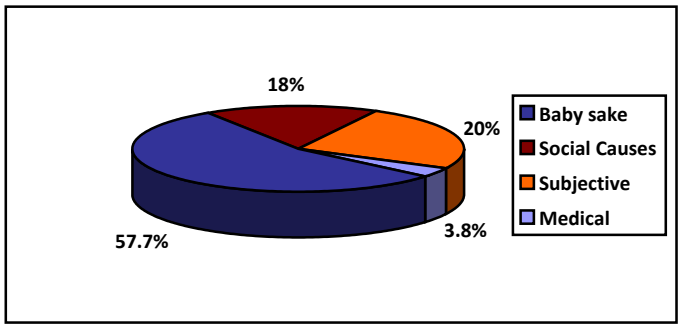
Table 2 and Figure 2 shows that method wise percentage of acceptors namely 58% had chosen IUD, 20.9% chosen DMPA, 17.9% chosen Barrier and 3.2% chosen POPs.

Table 3: Parity and mode of contraception

S.No. n=602	BARR n=108 17.9%	DMPA n=126 20.9%	POP n=19 3.2%	IUD n=349 58.0%
Group A 475 (78.9%) Primi	71 (14.9%)	101 (21.3%)	18 (3.8%)	285 (60%)
Group B 127 (21.1%) Multi	37 (29.1%)	25 (19.7%)	1 (0.8%)	64 (50.4%)

The table 3 shows that percentage of acceptors according to number of living children. 78.9% was primipara of which 60% chose IUD, 21.3% chose DMPA, 14.9% chose barrier and 3.8% chose POPs. And 21.1% was multipara of which 50.4% chose IUDs, 29.1% chose barrier, 19.7% chose DMPA and 0.8% chose POPs.

Figure 3: Reason for Multipara women choosing temporary contraception



The figure 3 shows the percentage of various reasons for multipara women choosing temporary contraction. The factors that Baby sake, social causes, subjective and medical causes influence the acceptance of temporary methods by multi para women.

Table 4: IUD OVERALL CONTINUATION AND DISCONTINUATION RATE

n=349	NO.	%
CONTINUATION	295	84.5%
DIS-CONTINUATION	54	15.4%

Figure 3: Percentage of continuation and discontinuation rate

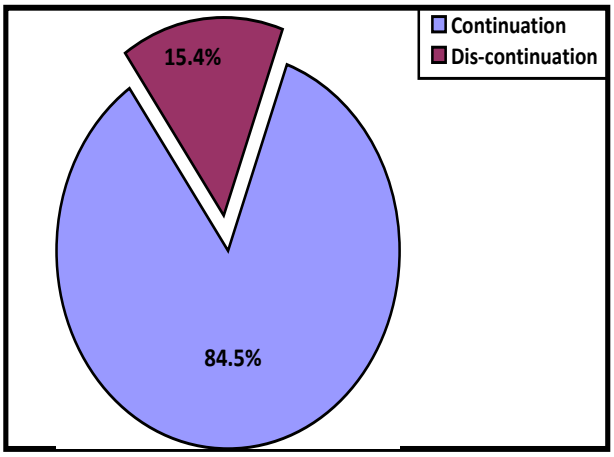


Table 4 and figure 3 shows the percentage of continuation and discontinuation rate of IUD.

84.5% women continued IUD for 6 months and 15.4% women discontinued IUD due to various reasons.

Table 5: Reasons for Discontinuation of IUD

IUD	Menorrhagia	Pain	Expulsion	Leucorrhoea	Subjective	Lost
Primi n=46	15 32.61115	12 26.1%	2 4.3%	4 8.7%	3 6.5%	10 21.7%
Multi n=8	2 25%	3 37.5%	1 12.5%	-	1 12.5%	1 12.5%

The table 5 shows the various reasons for discontinuation IUD within 6 months from the date of insertion of Cu T 380A. About 54 women were discontinued the Cu T within 6 months and 15% of them was due to expulsion of Cu T. 11% were not turned up to follow up services. The remaining 40% was due to medical reasons which includes pain and subjective.

Table 6: Alternative Method Chosen by IUD Removal Couple

METHOD	NO.	%
OP	15	27.8%
BARRIER	11	20.4%
DMPA	12	22.2%
NIL	16	29.6%
TOTAL	54	100%

The table 6 shows that alternative method was chosen by the women who had removed Cu T and shifted to other spacing method namely oral pills, barrier and DMPA methods. The remaining women 29.6% only did not turned up to any other spacing methods after peurperium period.

Table 7: DMPA Acceptors according to no. of living children

DMPA n=126	NO.	PERCENTAGE
PRIMI	100	79.4%
MULTI	26	20.6%

The table 7 stated that 126 eligible women were recruited for this study in 2 years of which 79.4% of women were primipara while the remaining 20.6% was multipara.

Table 8: DMPA – Overall Continuation and Discontinuation

Living children	Continuation	Discontinuation	Total
Primi	71 (56.4%)	29 (23%)	100 (79.4%)
Multi	12 (9.5%)	14 (11.1%)	26 (20.6%)
Total	83 (65.8%)	43 (34.2%)	126 (100.0%)

The table 8 shows that Overall continuation and discontinuation of DMPA according to living children. The continuation rate of DMPA namely Primi and Multi para was 56.4% and 9.5% respectively. Similarly, the discontinuation rate was 23% and 11.1% in primi and multi para women.

Table 9: Reasons for discontinuation of DMPA according to living children

DMPA	Irregular cycles	Amenorrhoea	Husband away	Tubectomy	Subjective	Total
PRIMI	16	6	5	0	2	29
MULTI	3	2	1	8	-	14
TOTAL	19	8	6	8	2	43

The table 9 shows the various reasons for the discontinuation of DMPA according to living children. Nearly, 63% of them discontinued due to medical cause and 18.6% of them discontinued each for Tubectomy and subjective reasons.

Table 10: DMPA – Alternative Method Chosen

METHOD	NO.	PERCENTAGE
OCP	10	23.3%
IUCD	12	27.9%
BARRIER	4	9.3%
PERMANENT	8	18.6%
NIL	9	20.9%
TOTAL	43	100%

The table 10 shows that 43 discontinued women from DMPA were adopted other spacing methods namely OCP, IUCD, Barrier was 23.3%, 27.9% and 9.3% respectively. 18.6% of them adopted permanent method and 20.9% of them did not adopt any other family welfare methods followed by DMPA.

Table 11: Acceptance, Continuation & Discontinuation of POP

Living children	Continuation	Discontinuation	Acceptance
Primi	10 (52.6%)	8 (42.1%)	18 (94.7%)
Multi	-	1(5.3%)	1 (5.3%)
Total	10 (52.6%)	9 (47.4%)	19 (100.0%)

The table 11 shows the acceptance, continuation and discontinuation of POP according to living children. It states that 19 women was accepted POP spacing method. Of them 52.6% continued and 47.6% discontinued POP. Most of them accepted POP with one child.

Table 12: POP – Alternative Method Chosen

METHOD	NO.	PERCENTAGE
IUCD	5	11.1%
BARRIER	1	55.6%
PERMANENT	1	11.1%
NIL	2	22.2%
TOTAL	9	100.0%

The table 12 shows that 9 women discontinued from POP were adopted the other spacing method namely IUD, Barrier was 11.1% and 55.6% respectively. 11.1% of them adopted terminal method. 22.2% of them did not turned up to any other family welfare methods after the discontinuation of POP.

Table13: Acceptance, continuation, discontinuation of Barrier methods

Living children	Continuation	Discontinuation	Acceptance
Primi	52 (48.1%)	19 (17.6%)	71 (65.7%)
Multi	27 (25.0%)	10 (9.3%)	37 (34.3%)
Total	79 (73.1%)	29 (26.9%)	108 (100.0%)

The table 13 shows that the acceptance, continuation and discontinuation of Barrier method according to living children. It states that 79 eligible couple (father) was accepted Barrier spacing method. Of them 73.1% continued and 26.9% discontinued Barrier method. Two third of them accepted Barrier method with one child and one third of them accepted with multi children.

Table 14: Reasons for discontinuation of Barrier method

Barrier n=29	Pregnancy	TAT	Lost	Miscellanious	Total
Primi	6	-	9	4	19
Multi	2	3	4	1	10
Total	8	3	13	5	29

The table 14 shows that various reasons for discontinuation stated by eligible couple women in puerperium who accepted barrier method was due to pregnancy-8, adopt terminal method-3 and miscellaneous cause – 5 and 13 of them did not turned up for follow up services.

Table 15: Barrier – Alternative Method Chosen

METHOD	NO.	PERCENTAGE
TAT	4	13.8%
MTP with Sterilization	2	6.9%
MTP with IUCD	6	20.7%
DMPA	3	10.3%
LOST	12	41.4%
NIL	2	6.9%
TOTAL	29	100.0%

The table 15 shows that 29 women discontinued from Barrier method were adopted the other spacing and terminal method namely DMPA, TAT, MTP with sterilization, MTP with IUCD was 10.3% and 13.8%, 6.9%, 20.7% respectively. 41.4% of them lost follow up services and 6.9% of them did not adopt any other family welfare methods after the discontinuation of Barrier method.

Discussion

The incidence of unintended pregnancies in puerperium is not definitely known. Indeed, more than one half of these unintended pregnancies end in pregnancy termination[1]. A sobering figure that underscores the critical need for those women who do not desire pregnancy to be aware of and have access to the various methods of safe and effective contraception. The puerperium presents an ideal and important opportunity to initiate effective contraception. Counselling is a central and critical part of the

contraceptive process, and in this study, 1150 women in the puerperal period attending Family Welfare Clinic were counseled for contraception, the methods available and their proper use, expected side-effects, and short-term and long-term implications. Out of 1150 women, 602 women accepted to choose a method of temporary contraception.

Of those women who accepted counseling 58% chose IUD, 20.9% chose DMPA, 17.9% chose barrier and 3.2% chose POPs. In present study 349 acceptors of Cu T 380A which stands approximately 58% and at the end of this study 15.4% (54) women had discontinued the method for various reasons, whereas 84.5% (295) women continued using the method. Among the women studied in this group the continuation rate was found to be 84.5% which is comparable to that of Rajeswari et al study[5] in which continuation rates of 87.6% and 93.7% were observed at the end of 6 and 12 months of use respectively.

Reasons for discontinuation in this group of patients are depicted as follows, the most common reason being menorrhagia 31.5% (17) followed by pain 27.7% (15), expulsion 5.6% (3), leucorrhoea and subjective both are 14% (4) and lost to follow up 20.4% (11). In similar study conducted by Mishell, Rosenberg et al, [6] complications and complaints reported during the follow-up period were mostly related to bleeding (26%) in accordance with the findings of our study which is 31.5%. In a study by Jalagar et al[7] Removal had taken place for both personal and medical reasons. Personal reasons included (like husband objects), medical reasons (like bleeding, pain, pelvic infection). Of the 387 acceptors studied, 11 had the device removed at the end of 12 months. In a study done by Riveraa et al[8] the gross cumulative 12-month life table rates of reasons for discontinuation were 13.3 for expulstion, bleeding, pain and personal reasons. The percentage of discontinuation due to expulsion during the 6 months period in our study is 5.6%. This rate is similar to those found in other studies like Trieman et al 1995; which is around 5.2%[9].

DMPA is considered as a highly effective, safe and convenient contraceptive method. An important advantage of this injectible is that it requires minimal compliance with an easy 3 monthly administration schedule. In this study, no pregnancies occurred. The Pearl Index calculated was zero. With standard regimen, pregnancy rates are usually lower than 1 per 100 women years for DMPA[10]. The continuation rate in this study was 65.9% (83), at the end of 6 months. In another similar study by Krishna et al[11] in Mumbai it was 60% for women in puerperal period who continued the use of DMPA at the end of 6 months. The discontinuance rate in this study was 43% whereas others Aktun et al [12] have reported a rate as high as 70%.

POP is a good alternative for women who is lactating, and in conditions where estrogen is contraindicated. The POP appears to be a safe, effective and acceptable contraceptive option for postpartum breastfeeding women[13]. In our study, 3.2% (19) women accepted to use POPs as contraception, of these women 52.6% (10)continued and 47.4% (9) discontinued through month 6, including the lost to follow up (37.5%). The discontinuation rate reported in this study is either in the 3rd or 6th month.. In a similar study conducted by Dr. Hideyo Noguchi et al[14] the 11 month total discontinuation percentage, including those lost to follow up (25.3%) was 551.6% and continuation rate is around 48.4%. In our study menstrual irregularities (62.5%) were cited as the most common reason for discontinuation, followed by lost to follow up 37.5% (3) and unintended pregnancies 11.11% (1). In a similar study conducted by Dr. Hideyo Noguchi et al[15] menstrual problems were reported by 59% of the women after admission. In another study by Porter

et al[16] , altered bleeding patterns is the most common reason (70%) given by women for stopping POPs. A study done by McCann MF, Potter et al[17] between 10% and 25% of women using a POP discontinued this method within 1 year, as a result of these bleeding patterns. Our study results for this method may not be significant because the study population is low compared to the other modes.

The use of condom as a contraceptive method is difficult to estimate because of their easy availability through commercial channels without any prescription. However, it is known that it is the oldest and most widely used method of contraception. In our study, 17.9% (108) couples accepted to use barrier method as contraception, of these couples 73.1% (79) continued and 26.9% (29) discontinued through month 6, including the lost to follow up 44.82% (13), the discontinuation rate reported in this study was higher either in the 3rd or 6th month. In Kippley et al[18] study, the typical use pregnancy rate among condom users varies depending on the population being studied, ranging from 10-18% per year which is comparable to our study which is around 27%. A recent study Dana Fenton et al 2010[19] shows Male condoms have a 14-15 % failure rate, which means that 14-15 people out of every 100 will accidentally conceive within the first year of use. In Hatcher et al[20] all study the perfect use pregnancy rate of condoms is 2% per year whereas in our population group it is much higher around 27%. In Sparrow et al[21] study the rate of breakage is between 0.4% and 2.3%, while the rate of slippage is between 0.6% and 1.3% which is again higher in our study group around 17%.

Conclusion

The mode of contraception chosen was higher for IUD 58% and least for POPs 3.2% among the women counseled for temporary method. The overall continuation rate was higher for IUDs (84.5%) which shows compliance is much better with IUDs compared to other methods. There were no pregnancies in IUD and DMPA users whereas pregnancy was reported in women using POPs and Barrier. The most common reason cited for discontinuation by most women was menstrual irregularity. In present study, about 78.9% of primipara and 21.1% of multpara women accepted temporary contraception. The factors namely Baby sake, Social cause, Subjective and Medical cause influences multi para women for accepting temporary contraception was found in this study.

The mean age group of women observed in this study was 23.72 years. In present study, 52.3% of women accepted temporary method and 47.7% of them not accepted any one of the family welfare methods after the counseling to the study group. This study reveals that Counseling is to be strengthened among the women in puerperium so that unwanted pregnancy can be averted.

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