

Impact of postpartum family planning counseling on use of female contraceptive Methods in upper Egypt

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Abstract:

Background: Postpartum family planning (FP) is the initiation and use of FP methods during the first year after delivery to decrease unintended pregnancies. The **aim** of this study is to evaluate the effect of FP counseling on women knowledge and utilization of postpartum contraceptive methods (PCMs). **Research design:** an experimental design was used. **Setting:** This study was conducted on clients in postpartum period, who attended for immunization of their babies. **Sample:** This study included 980 females from which a sample of 200 primipara clients was selected to quasi-experimental study to assess the effect of counseling program on FP use. **Tools** consisted of interviewing questionnaire form, pretest evaluation and posttest sheet. **Results:** Most of women, were of 21-30 years of age, had intermediate degrees of education, were house wives, lived in urban areas, and had low socio-economic status. FP knowledge was present in 92% and FP use in 21% of clients. Pregnancy occurred in 188 clients, most of them (n=151) were non intended. In experimental study, the rates of initial and final uses of FP methods were higher in wives in intervention group than in those in control group (P<0.0001). **Conclusions:** PCM led to significant increase in FP use. **Recommendations:** Counseling programs of FP have to be directed to women who attend FP centers for immunization of their babies.

Key words: Postpartum FP counseling, FP methods, Upper Egypt

Introduction:

Family planning (FP) is a behavior that allows individuals and couples to anticipate and attain their desired number of children, at the spacing and timing of their births. It is achieved through the use of contraceptive methods and treatment of involuntary infertility.⁽¹⁾

Postpartum FP is the initiation and use of FP methods during the first year after delivery. McKaig and Deller,⁽²⁾ reported that postpartum FP (PPFP) include (1) Immediate PP from delivery to 1 week; (2) Post-placental – within 10 minutes after placenta delivery; (3) PP from 1 week up to 6 weeks; (4) Extended PP from 6 weeks to one year after delivery. Postpartum FP provided through the first year PP should be a

routine service, yet it has not been addressed by either maternal or child health reproductive health and FP programs.⁽³⁾ More than 100 million women in less developed countries or about 17 % of all married women would prefer to avoid pregnancy but are not using any form of FP. In less developed countries, about one-fourth of pregnancies are unintended.⁽⁴⁾

In last decades, there have been tremendous advances in the development of safer and more effective contraceptives, and in the provision of affordable and accessible FP services. The contributions of FP towards improving the quality of life of the population, particularly the health and well-being of the family, have been

the focus of increasing international attention in a variety of contexts, including human rights and equity and participation of women in the process of social and economic development.⁽⁵⁾ Thus, the goals of post partum family planning program are to reduce unmet needs, improves contraceptive choice, promote optimum health through breast feeding, and facilitates spacing of pregnancy programs.⁽³⁾

Aim of study:

Assessment of women knowledge and utilization of PP contraceptive methods, and evaluation of the effect of FP counseling on women knowledge and utilization of PCM.

Hypothesis:

Clients who will receive the family planning counseling program will have higher score of knowledge, have better intention to use of contraceptive methods, and use contraceptive methods in a higher % than clients in the control group.

Significance of the study:

The number of Egyptians has increased nearly six times in the past century and three times since 1950. The most important causes of overpopulation include decline in the death rate, rise in the birth rate, migration, and lack of education. A woman's ability to space and limit the pregnancies has a direct impact on her health and well being as well as on the outcome of each pregnancy. Almost half of postpartum women want to use family planning but are not. This is called unmet need. With PPFM mothers and couples can decide the family size they want and have their babies when they choose ant not just because it happens.⁽⁶⁾

Subjects and methods:**Research design:**

This prospective study was conducted on clients in postpartum period. The research utilized quasi-experimental

design of 200 primipara selected from the whole sample (n=980) to evaluate the effect of the FP counseling on the use of female contraceptive methods.

Setting:

This prospective study was conducted on clients in postpartum period, who attended for immunization of their babies at family planning centers which are affiliated of Assiut city during the period from December, 2010 to December, 2011.

Sample:

This study will be conducted on 980 females selected by simple random sampling to fulfill the minimum required sample size assuming that the prevalence of postpartum FP use was 11.6% (as shown in our pilot study), with a precision (maximum acceptable difference) of 2%, $\alpha = 0.05$ and power of 95%. The following criteria were fulfilled: Female clients in postpartum period, who attended health centers for immunization of their babies at 2, 6 and 12 months PP, with no medical or obstetric disorders, and no contraindications to use of FP methods. These subjects were assessed to document knowledge of FP use and use of PPFM method. A sample of 200 clients who were primipara was selected from the whole sample to quasi-experimental study, and was divided into two groups [intervention group (IG) (n=100) and control group (CG) (n=100)]. Both groups were subjected to pretest evaluation. Counseling program regarding PCM use was given only to intervention group. A Posttest evaluation was done for both groups, immediately after counseling (2 months postpartum), to assess initial FP use and at 6 and 12 months PP, to evaluate final rate of FP use.

Tools:

Two tools were used for data collection; interviewing questionnaire form, and pretest and posttest sheet.

1. **A structured interviewing questionnaire form:** It was used by the researcher to collect the necessary data about the study subjects. The clients were interviewed also to explain the nature of the study. It entails evaluation of socio-demographic data of the whole study sample (n=980); regarding: Personal data (name, age, address, occupation and education level), family history (family size, family income/month), FP history, FP method used and its complications, obstetric history (No of previous pregnancies, and labors, and birth interval), and breast feeding.
2. **Pretest and posttest sheet:** This sheet included:
 - pretest evaluation :(before counseling of clients in intervention and control groups of quasi-experimental study; n=200) was done to evaluate the clients knowledge & its sources, the extent of their convincement regarding FP and also to determine of whether there was previous use of any female contraceptive method or not. If there was use of contraception, the type of contraceptive method used and the reasons of its termination were assessed.
 - Counseling program regarding PPFp use (only to IG clients of quasi-experimental study; n=100).
 - A Post-test evaluation was done (to IG&CG clients of quasi-experimental study; n=200): i) immediately after counseling (2 months PP) to evaluate initial rate of FP use. ii) At 6 months, to evaluate continuous FP use. iii) At 12 months PP to evaluate final rate of FP use.

Field work:

Collection of data covered a period of 12 months from December

2010, to December 2011. Three days per week were specified for data collection. The researcher attended health units to meet clients (in the post-partum period) who came to immunization center for immunization of their babies. The researcher introduced herself to the clients and explained the nature of the study. Oral consent was obtained before data collection. All clients were informed that participation was voluntary and that the collected data would be only used for the aim of the work. All clients (n=980) in this study were interviewed using the history sheet to collect data about; personal history, socio-demographic data, obstetric history, and family planning history.

Assessment of socio-demographic data, obstetric history, utilization of PCM according to parity, mode of delivery, time of PPFp use, type of infant feeding, and occurrence of pregnancy was done. FP knowledge, convincement or not of FP use, and suitable birth spacing and FP use were also evaluated. A sample of 200 clients who were primipara was selected from the whole sample to quasi-experimental study. This sample was divided into two groups; Intervention group (consisted of 100 clients) was subjected to counseling program (one session for each client), and control group consisted of 100 clients and did not subjected to FP counseling. Both groups were subjected to pretest evaluation regarding FP knowledge and their sources, PPFp knowledge, convincement or not of FP use, FP use, and type of FP methods used. Counseling program was conducted in Arabic language to be easily understood by clients. Each session took 15-20 minutes. All data were documented in wife's PP sheet. In each counseling session, providing general and basic information about PPFp

method to be used, followed by detailed description of the chosen FP method regarding its mechanism of action, method of administration, its advantages, disadvantages, side effects, efficacy, and cost. Clients in both groups were subjected to posttest evaluation immediately after counseling (at 2 months), and at follow up visits of 6 and 12 months PP. Both groups were then compared regarding posttest evaluation of initial rate (at 2 months PP i.e. immediately after counseling), and final rate (at 12 months PP) of FP use, drop out and its reasons either desire of pregnancy, occurrence of pregnancy, or development of side effects to FP method used.

Validity:

An interview questionnaire was designed in simple Arabic language structures by the researcher and was validated by highly qualified professors who are experts in the field. The interview was utilized to collect the necessary data about the study subjects.

Reliability:

Test and retest reliability were applied by the researcher for testing the internal consistency of the tool. It was done by administering the same tool to the same subjects under similar conditions on two or more occasions. Scores from repeated testing were compared.

Pilot study:

After the development of data collection tools, a pilot study was carried out on 60 clients. These clients were not included in the main study sample. The purposes of the pilot study were to ascertain the relevance and validity of tools, to detect any problem concerned of data collection tools, and to detect the prevalence of FP use in PPP. It was found that 7 out 60 clients

(11.6%) used FP methods in PPP. After conducting the pilot study, the necessary changes were done and the data collection tools were reconstructed.

Ethical and administrative consideration:

An approval from head of the obstetrics and gynecological department was obtained to conduct this study. A proposal of thesis was attached to the letter. The aim of the work was explained to each client and an oral consent to participate in the study was obtained from her. Confidentiality was ensured throughout the study.

Statistical design:

Data were organized, categorized, tabulated, and analyzed using computer and software SPSS version 17. Chi-square test was used to compare percentages of FP knowledge and use of FP method in intervention and control groups in quasi-experimental study.

Results:

Table (1): describes the socio-demographic characteristics of clients in PPP. This study included 980 clients and was used to document the current trends in knowledge of, attitudes towards, and practices related to birth spacing and use of female contraceptive methods in Upper Egypt. The distribution of clients attended to immunization centers during postpartum period, according to gravidity, parity, birth interval and type of labor is shown in **table (2)** three hundred clients were primigravida, and primipara. Multigravida and multipara constituted 680 clients; most of them had 2 previous pregnancies (n=344), and 2 previous deliveries (n=351). Most of multipara had <2 years birth interval.

Most of clients had normal vaginal delivery (n=758, 77%).

In the present study, only 21% (n=206) of clients, used of FP methods, as shown **figure (1)**. It was found that 87 clients used IUDs, most of them (n=67) in the period from 6 weeks to one year postpartum (PP); 84 clients used pills, most of them (n=52) in the period from one week to <6 weeks PP, and 35 clients used injection, most of them (n=25) in the period from one week to <6 weeks PP, as shown in **table (3)**.

Table (4): shows that most of clients utilized PCM were those who used bottle feeding (113 out of 206 clients; 54.9%), followed by those who used mixed feeding (59 out of 206; 28.6%), then those who used breast feeding (34 out of 206; 16.5%). It was found that IUDs and OCPs were used mainly by clients with bottle feeding (60 out of 87 clients and 43 out of 84 clients respectively), while injections were used mainly by clients with mixed feeding (25 out of 35 clients). Most of clients were not pregnant (n=792, 81%).

Table (5): Clarifies that pregnancy occurred in only 188 clients (19%), most of them were non intended (n=151). Most of clients with non-intended pregnancy did not use PCM (n=135), while 5 clients used IUDs, 10 used OCPs, and only one used injection.

A 92% of clients had FP knowledge, whereas PFP knowledge was present only in 567 clients (58%), with 511 clients (52%), were convinced of PP contraception, as shown in **table (6)**. In this quasi-Experimental study, a sample of 200 primipara clients was randomly selected from the whole sample and was divided into two groups; intervention group (IG; n=100) received counseling program, and the

control group (CG; n=100) did not receive counseling program.

Table (7): Displays that, post test evaluation showed significant increase of PFP knowledge ($p < 0.0001$), and of convincement of PP contraception ($p < 0.0001$) in favor of IG. The initial use of FP method was significantly higher in the IG (85%), than CG (23%) ($p < 0.0001$). Posttest evaluation showed also that final rate of FP use was still statistically significant higher in IG (73%), than in CG (9%) ($p < 0.0001$). The most common FP methods used in IG were OCP& Depo-Provera injection (54%), followed by IUDs (19%). Twelve clients were finally dropped out in IG due to desire of pregnancy or occurrence of pregnancy (n=9) and side effects (n=3) compared to 14 clients (10 due to occurrence and desire of pregnancy, and 4 due to side effects) in CG ($p < 0.0001$). In IG, drop out of FP use occurred in 4 clients due to pregnancy and 5 due to desire of pregnancy. On the other hand, in CG, drop out occurred in 7 clients due to pregnancy, and 3 due to desire of pregnancy.

Discussion:

It was found that when FP messages were given to women bringing their children for immunization services, there was a 54% increase in uptake of FP services, which reflect need for knowledge, and behavior change.⁽⁷⁾ Therefore, PFP provided through the first year PP should be a routine service.⁽⁸⁾

Our study showed that most of women were of 21-30 years of age, had intermediate degrees of education, were house wives (HW), and had low and intermediate SES. This is comparable to what found by Kunwar et al.,⁽⁹⁾ where most of clients were of between 20 and 30 years of age, of intermediate educational degrees

(70%), and low and intermediate SES. Our results were also consistent with those reported by Abdel-Tawab et al.⁽¹⁰⁾, who found that most of Egyptian wives were > 20 years of age, of intermediate degrees of education including and HW. The Egyptian study found also that most of husbands were of intermediate education. An Indian study confirmed our results and showed also that most patients were in the 20-30 age group and of intermediate educational degrees.⁽⁹⁾ In spite of high % of FP knowledge in our study, most of clients did not use FP method, whereas 21% of our clients utilized PCM, mainly in PPP; from one week to 6 weeks, and from 6 week to one year PP. The low rate of FP use (21%), in our study, may explained by demographic surveys that have suggested that men may want larger families than their wives and this poses the problem⁽¹¹⁾, where husbands who oppose contraception or worry about its side effects often prevent their wives from using it.⁽¹²⁾ In our study, most of clients who used PCM were high parity women. Data from numerous countries show that a woman's FP use is positively related to parity.^(13,14) Women of low parity are less likely than women of higher parity to use contraceptives, even if they have a strong desire to delay or space their next pregnancy.⁽¹⁵⁾

Breast feeding is associated with suppression of ovarian activity with variable degrees of amenorrhea and infertility.⁽¹⁶⁾ The main mode of infant feeding among our clients was breast feeding, most of them, did not used FP method, with subsequent high pregnancy rate which was unwanted. These results are in agreement with Shaaban & Glasier⁽¹⁷⁾, who have shown that most of clients breast fed their babies and 25% of them conceived while breast feeding. In our study, most of clients utilized PCM were those who

used bottle feeding, followed by mixed feeding. This may be explained by the fact that lactation is an easy, safe, inexpensive and effective tool of contraception that lowers rates of population growth.⁽¹⁸⁾ There were comparable PCM use rate between clients with vaginal delivery and those with C.S. This is matched with Kestler et al.,⁽¹⁹⁾ who found that the rates of use of OCPs and IUDs were comparable between vaginal delivery and caesarian section clients.

In our study, pregnancy occurred in 188 clients out of 980, 169 clients of them occurred in non FP users, and 19 occurred in FP users, most probably due to irregular use of OCPs. Of pregnant non FP users (n=169), 151 clients did not want their pregnancies. For many years, FP has been found to strengthen women's motivation to prevent unwanted fertility.⁽²⁰⁾ In a Turkish trial, only 34 percent of FP users had begun to use a medical method by five months after childbirth.⁽²¹⁾ Postpartum contraception prevalence ranged between 1% in Africa⁽²²⁾, to 17% in Asia.⁽²³⁾ The high FP knowledge and low contraceptive use were confirmed by Latin American trial.⁽²⁴⁾ In literature, there was a high level of unmet need (59.4%) in the sample of Nigerian women despite a high level of awareness of common methods of contraception.^(25,26) A study by Ross and Frankenberg⁽²⁷⁾ revealed that most postpartum women expressed a desire to prevent pregnancy during first two years after delivery but had not obtained contraceptive protection. Moreover, data from 27 demographic and health surveys indicate that there is a large unmet need for contraception among women during the first year PP³. Clearly a disconnect exists between women's desire for FP and their actual method use, due to barriers to access or lack of knowledge.⁽²⁸⁾ In literature, it was stated that, the

exposure to FP messages has a substantial effect on FP use⁽²⁰⁾. This highlights the importance of FP counseling in the early PPP, which was done 2 months PP in the current study that discussed and approved this concept as the high FP knowledge and low contraceptive use in our clients emphasized the importance of PFP counseling.

In our study, PFP resulted in increase in the rate of FP use. The significantly higher % of women initially using family FP in the IG compared to CG is comparable with initial rate of FP use in an Iranian study⁽²⁹⁾. Our result is also in agreement with Huntington and Aplogan⁽⁷⁾, who found that when FP messages were given to women bringing their children for immunization services, there was a significant increase in uptake of FP services. In an analysis based on 2,332 structured interviews with Latin America women, providing FP information during PP maternal and child health visits resulted in doubling the likelihood that a woman would use FP use in the first six months PP, and doubled the likelihood that a woman would use FP use in the first six months PP.⁽³⁰⁾

It was concluded that counseling about reproductive intentions and FP options is offered during all maternal and child health contacts can be effective for increasing awareness of, demand for and use of FP in this critical period.⁽³¹⁾ Our study showed significant increase in the final rate of FP use one year after counseling program in IG, compared to CG. This is consistent with Bitar⁽³²⁾, who stated that, at 12 months PP, there were significantly higher use of FP methods by clients in the IG than those in the CG. The low rate of FP use in CG may be explained by the absence of counseling program and the fact that

the clients are primipara who desire of pregnancy.

The decrease of FP use in our IG at the end PP period to 73% is comparable with results of an Iranian study, where the initial rate of FP use was dropped from 93.4% to 76% 3 months after delivery, mainly due to desire of pregnancy⁽²⁹⁾. The rapid decline of FP use in the reported study may be explained by absence of PP counseling. This reflects the importance of PP counseling in maintaining the continuation of contraceptive use. Our result in CG is matched with a reported study that stated that, for all countries, nearly 40% of women in the extended PPP intend –without counseling program -to use a method within the next year⁽³³⁾. Our study showed that the most common FP methods used in IG were pills, injection and IUDs. The distribution of used FP methods in both groups was significantly different ($p < 0.0001$). It was reported that the most common FP method was pill and IUDs⁽²⁹⁾. The relatively lower % in the reported study may be due to inclusion of other methods as condom, vasectomy, and withdrawal.

It was stated that, $>2/3$ of current modern contraceptive use among married women is pill use⁽³⁴⁾. The likelihood of initiating pill use PP is high compared to adopting non-pill FP methods. The % of women initiating pill use was 54% by 12 months PP which is similar to the % of pill use in the present study⁽³⁵⁾. The choice of FP method and the time at which its use begins should be taken into account when adopting PFP⁽³⁶⁾. The decision to use or not to use a FP method was positively influenced by SES and demographic variables such as age, education, place of residence, and wealth index⁽³⁷⁾. This result was consistent with a reported analysis

where older, better educated, wealthier women, as well as those women who were regularly exposed to media, and who delivered in private health care facilities, were all more likely to use contraception.⁽³⁸⁾

Conclusions:

In spite of the presence of family planning knowledge's in most of clients, the minority used family planning methods. The high family planning knowledge's and low contraceptive use in our clients emphasized the importance of post partum family planning counseling.

Program of family planning counseling to women in post partum period had led to statistically significant increase in the initial use and continuation rate of family planning methods.

Recommendations:

Programs of FP counseling have to be directed to women in post partum period who attend FP centers for immunization of their babies.

Table (1): Characteristics of the whole (n=980)

Characteristics	No.	%
Age (years)		
< 20	120	12.2
21 – 30	685	69.9
31 – 40	175	17.9
Education of Wives		
Illiterate	353	36
Intermediate Education	544	55.5
University degree	83	8.5
Occupation of Wives		
House Wife	839	85.6
Employed	141	14.4
Education of Husbands		
Illiterate	111	11.3
Intermediate Education	699	71.3
University degree	170	17.4
Occupation of Husbands		
Employed	598	61
Non employee (Manual work)	382	39
Income		
Low	861	87.9
High	119	12.1
Residence		
Urban	600	61.2
Rural	380	38.8

Table (2): Obstetric history of the whole clients (N=980)

Characteristics	No.	%
Number of pregnancies		
Primigravida	300	30.6
2	344	35.1
3-4	233	23.8
>4	103	10.5
Range	1 - 6	
Mean ± SD	2.39 ± 1.39	
Number of deliveries		
Primipara	300	30.6
2	351	35.8
3-4	237	24.2
>4	92	9.4
Range	1 - 6	
Mean ± SD	2.37 ± 1.38	
Birth interval		
Primipara	300	30.6
Multipara; <2 years birth interval	390	39.8
Multipara; ≥ 2 years birth interval	290	29.6
Range	3 – 36 months	
Mean ± SD	19.9 ± 9.7 months	
Type of labor		
Normal labor	758	77.3
CS	222	22.7

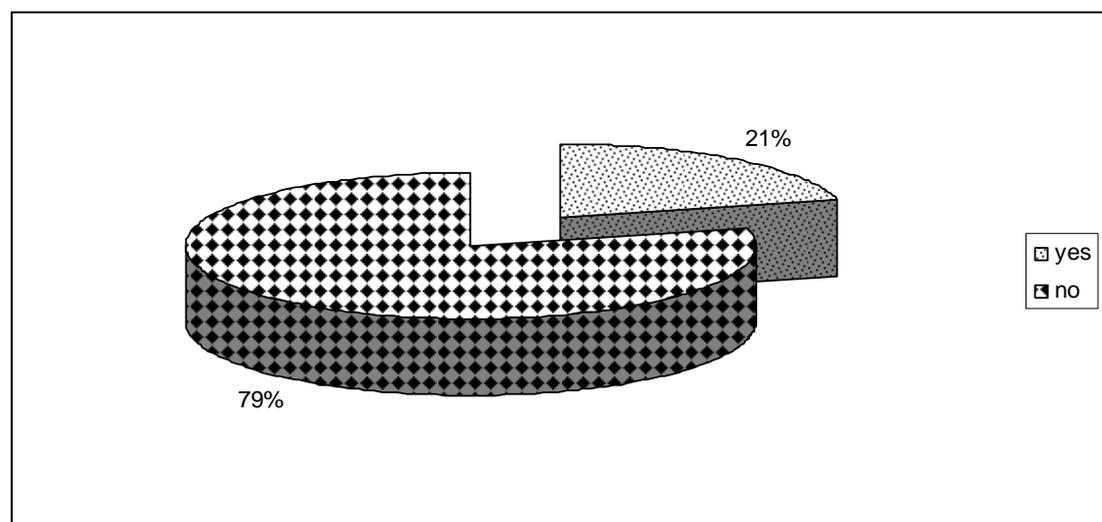
**Figure (1): Use of postpartum FP methods in the whole group (n =980)**

Table (3): Type of PCM used according to time of use in PPP by clients in our study (n=980)

Type of PCM used	Postpartum (1 – 6 weeks)		Extended postpartum (6 week-1 year)		Total	
	No.	%	No.	%	No.	%
IUD	20	2	67	6.8	87	8.8
Injection	25	2.6	10	1	35	3.6
OCP	52	5.3	32	3.3	84	8.6
None					774	79
Total					980	100

Table (4): Type of PCM used according to breast, bottle, and mixed feedings (n=980)

PCM used	Breast feeding		Bottle feeding		Mixed feeding		Total	
	No.	%	No.	%	No.	%	No.	%
IUDs	8	0.8	60	6.1	19	1.9	87	8.9
Injection	0	0	10	1	25	2.6	35	3.6
OCP	26	2.7	43	4.3	15	1.5	84	8.5
Total FP use	34	3.5	113	11.4	59	6	206	21
No FP use	414	42.2	181	18.5	179	18.3	774	79
Total	448	45.7	294	30	238	24.3	980	100

Table (5): Type of PCM used according to occurrence of pregnancy (n=980)

PCM used	No pregnancy (N=792)		Pregnancy (N=188)				Total	
	No.	%	Intended (n=37)		Non intended (n=151)		No.	%
			No.	%	No.	%		
IUDs	82	8.4	0	0	5	0.5	87	8.9
Injection	34	3.5	0	0	1	0.1	35	3.6
OCP	71	7.2	3	0.3	10	1	84	8.5
None	605	61.7	34	3.5	135	13.8	774	79
Total	792	80.8	37	3.8	151	15.4	980	100

Table (6): Evaluation of FP knowledge of the whole clients (N=980)

Characteristics	No.	%
Presence of FP knowledge:		
Yes	902	92
No	78	8
Presence of knowledge of PP FP:		
Yes	567	57.9
No	413	42.1
Convincement of post partum contraception:		
Yes	511	52.1
No	469	47.9
Sources of FP knowledge:		
Health centers	344	35.1
Neighbors & relatives	558	56.9
No	78	8

Table (7): Posttest evaluation of PP FP knowledge, initial and continuous FP use and its side effects, and occurrence of pregnancy among clients of intervention (n=100) and control (n=100) groups in the quasi-experimental study

Characteristics	Intervention group		Control group		X ² value	P value
	No.	%	No.	%		
Presence of PP FP knowledge					56.41	<0.0001
yes	100	100	56	56		
no	0	0	44	44		
Convincement of PP FP					38.28	<0.0001
yes	85	85	43	43		
no	15	15	57	57		
Initial use of FP					77.38	<0.0001
yes	85	85	23	23		
no	15	15	77	77		
FP method used					85.18	<0.0001
Natural (LAM)	30	30	0	0		
Chemical (POP& Injection)	46	46	18	18		
IUDs	9	9	5	5		
No method	15	15	77	77		
Continuous use of FP					84.66	<0.0001
yes	73	73	9	9		
no	27	27	91	91		
FP method used					82.37	<0.0001
Chemical (OCP& Injection)	54	54	6	6		
IUDs	19	19	3	3		
No method	27	27	91	91		
Final drop out					47.13	<0.0001
No (still FP users)	73	85.9	9	39.1		
yes	12	14.1	14	60.9		
Pregnancy (or desire of pregnancy)					25.98	<0.0001
yes	9	10.6	10	43.5		
no	76	89.4	13	56.5		
Side effects of FP method					8.99	0.0027
yes	3	3.5	4	17.4		
no	82	96.5	19	82.6		
Initial FP users					26.57	<0.0001
Pregnancy	4	4.7	3	13		
Desire of pregnancy	5	5.9	7	30.4		
No pregnancy or desire of pregnancy	76	89.4	13	56.6		
Initial FP non users					0.13	0.72
Pregnancy	3	20	14	18.2		
Desire of pregnancy	12	80	63	81.8		

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