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Effect of Motivational Intervention on Acceptance, Health Literacy and Decisional Conflict Regarding Post-Placental IUD among Pregnant Women

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Abstract: Background: Post-placental intrauterine device is a family planning method which is highly effective, reliable, inexpensive, immediately reversible, and long-acting contraceptive that can be initiated during the immediate postpartum period. **Purpose:** To evaluate the effect of motivational intervention on acceptance, health literacy, and decisional conflict regarding post-placental IUD among pregnant women. **Methods:** A Quasi-experimental design (study and control group) pre and posttest was used. **Subjects:** A purposive sample of 300 pregnant women was chosen. Setting: This study was conducted at Maternal and Child Health Centers at Shebin El-Kom, Menoufia Governorate. **Instruments:** Data was collected using five instruments (Structured interviewing questionnaire, Post-placental intrauterine contraceptive device knowledge questionnaire, Post-placental intrauterine contraceptive device attitude scale, post-placental intrauterine contraceptive device acceptance questionnaire and Decisional conflict scale). **Results**: Pregnant women in the study group had higher level of knowledge than pregnant women in the control group at post-intervention (P<0.001). Post-intervention, 88.7% of the study group exhibited a positive attitude as compared to 47.3% of the control group (P<0.001). Regarding decisional conflict, after the intervention, the study group had a lower mean total score of decisional conflict than the control group (14.5±2.6 vs. 51.23±32.5, respectively; P <0.001). The study findings revealed that post-intervention, acceptance of PPIUCD was higher in the study group (84.0%) than in the control group (48.0%) (P<0.001). **Conclusion:** Women who participated in the motivational intervention experience an improvement in knowledge and attitude and exhibit lower decisional conflict than controls. **Recommendations:** Pregnant women should be empowered with adequate knowledge to enhance their decision-making abilities regarding PPIUCD.

Keywords: *Acceptance, decisional conflict, health literacy, motivational intervention, and post-placental IUD*

Introduction

Postpartum family planning, which prevents unplanned pregnancies in the first year following childbirth, is acknowledged as a critical strategy that can save the lives of both mothers and their offspring. The World Health Organization (WHO) suggested a 24-month inter-pregnancies space. The likelihood of an unplanned pregnancy with short birth intervals during the postpartum period is significant, and this increases the risk of unfavorable pregnancy outcomes such preterm labor, abortion, postpartum hemorrhage, low birth weight, stillbirths, neonatal mortality, and maternal depletion syndrome (Yemane et al., 2021).

Post-placental intrauterine device (PPIUD) is a procedure in which an IUD is inserted into the endometrial cavity shortly after the placenta is delivered. It is referred to as immediate when inserted within 10-15 minutes after placental delivery, or early postpartum if inserted within 48 hours of delivery. It appears to be a viable option for increasing access to postpartum IUDs because it does not require a separate postpartum appointment. The implementation and availability of family planning methods shortly following delivery protects women from becoming pregnant unintentionally before they begin sexual activity or become fertile again (Safty et al., 2022). The only family planning method that is incredibly effective, dependable, reasonably priced, rapidly reversible, long-acting, and able to be started in the early postpartum phase without interfering with lactation is the post-placental intrauterine contraceptive device (PPIUCD). Additionally, by preventing the financial, psychological, obstetric, and other health issues connected to spaced pregnancies, PPIUCD might enhance the health of mothers and their offspring (WHO, 2023).

In this regard, Khurshid et al. (2020) carried out a study to examine safety, efficacy, and satisfaction of post-placental IUD (PPIUD) implantation versus interval IUD insertion. They found that the PPIUD, with its immediate and ongoing contraceptive advantages is a secure, simple, convenient, and successful alternate to intermittent IUD insertion. They also found that PPIUD works well as a first-line contraceptive method for appropriate women. Additionally, because the cervix is open during this period, there is less discomfort and a lower incidence of adverse effects including infection, uterine perforation, or postpartum hemorrhage. Moreover, systematic reviews have concluded that compared to delayed IUD insertions, PPIUD is safe and effective (Gurney et al., 2018).

Motivational intervention is a client-centered, prescriptive method that increases patients' internal motivation to change by examining and solving ambiguity. This method takes guidelines from Carl Rogers' client-centered strategy, especially from its most important element: sympathy for

a client. Motivational intervention uses counselling techniques and makes an effort to alter the client's perspective on the benefits and drawbacks of continuing harmful behaviors. This non-aggressive strategy is extremely useful for those who are reluctant or unprepared for change (Laporte et al., (2020). Forty percent of women who need contraception after giving birth do not have access to methods of contraception. This is made worse during emergencies like the COVID-19 epidemic, when access to healthcare was restricted and efforts to use contraceptives were curtailed despite their need (Surita et al., 2020; Barbieri et al., 2021). In addition, it is estimated that 214 million reproductive age women in low-income nations wish to prevent getting pregnant but do not use a modern form of contraception (WHO, 2021). Further research from 27 countries indicates that while 70% of women in their first year postpartum do not use contraception, 95% of them wish to prevent getting pregnant in the next 24 months (UNFPA, 2019). Likewise, the postpartum intrauterine device (PPIUCD) still accounts for a relatively low percentage of contraceptive service delivery in sub-Saharan African nations (Abraha et al., 2018).

Unfortunately, many women are discharged after delivery without receiving contraceptive counseling or method provision, which contributes to the high global rate of unplanned short-interval pregnancy (Whitaker et al., 2018). According to a study by Kanakuze et al. (2020) that evaluated the prevalence and variables related to postpartum women's uptake of PPIUCD, mothers' health education regarding PPIUCD, healthcare providers' training, and the accessibility of PPIUCD supplies all had an impact on PPIUCD uptake. Thus, prenatal intensive counseling and motivational intervention enhances the mother's literacy, acceptance and reducing decisional conflict regarding using PPIUCD (Shanthini et al., 2020).

Significance of the study

Postpartum Family planning is central to gender equality and women’s empowerment, and it is a key factor in reducing poverty. Yet, globally at least 222 million women who want to use safe and effective family planning methods are unable to do so because they lack access to information, services, commodities or the support of their partners or communities. In Egypt, around 66.4 percent of currently married women are using contraception (UNFPA, 2021). According to the 2015 Egypt demographic and health survey, the 14.7 percent of married women are not aware of the IUD procedures. This indicates that there is a still lack of knowledge among women regarding PPIUD (Ministry of Health and Population 2019). Motivational intervention and counseling for postpartum contraception can be given during prenatal care visits or it can be given after birth or both . Contraceptive counseling during routine prenatal care visits, especially in the third trimester according to the

needs of couples might increase the use of postpartum contraception (Shahienaz et al. 2021).

Previous studies were conducted by Marangoni et al. (2021) on improving knowledge did not focus on changing attitude and acceptance as they found that many health care workers are not informed well and most of women are not offered the option to accept and decide to insert PPIUD. Other studies reported that the acceptance of PPIUCD is low due to lack of awareness among women, In spite of making contraception widely available there is poor acceptance of contraception due to ignorance and fear of complications. Inadequate knowledge about contraceptive method and incomplete information about their use are the main reasons for not accepting the post placental IUD (Nyirenda and Besa 2023). Few health programs were conducted in Egypt on postpartum contraceptive counseling during the prenatal period and they are usually neglected. For this reason the researchers were motivated to conduct this study in order to evaluate the impact of motivational intervention on improving pregnant women's acceptance, health literacy, and reducing decisional conflict regard to post-placental IUDs.

Purpose of the study:

The purpose of this study was to evaluate the effect of motivational intervention on acceptance, health literacy, and decisional conflict regarding post-placental IUD among pregnant women.

Operational definitions

- **Health literacy:**

Refers to knowledge and attitude regarding post-placental IUD and was measured using post-placental intrauterine contraceptive device knowledge questionnaire and attitude scale. It will be assessed using post-placental intrauterine contraceptive device knowledge questionnaire and post-placental intrauterine contraceptive device attitude scale (Instruments two and three).

- **Acceptance of IUCD:**

Woman's verbal consent to use IUCD within 10 min to 48 hrs. of delivery of placenta after they were counseled about PPIUCD. It will be assessed by post-placental intrauterine contraceptive device acceptance questionnaire (Instrument four).

- **Decisional conflict:**

It is defined as women uncertainty and hesitancy about the use of PPIUCD due to inadequate knowledge, unclear values, inadequate support, and the perception that an ineffective decision has been made. It will be assessed by Decisional conflict scale (Instrument five).

- **Motivational intervention:**

It involves counseling approaches that enhances women intrinsic motivation to change by exploring and resolving ambivalence about PPIUCD.

Research hypotheses

- **Hypothesis one**: Pregnant women who receive a motivational intervention will have a higher

knowledge score about post-placental intrauterine contraceptive device than pregnant women in the control group.

- **Hypothesis two**: Pregnant women who receive a motivational intervention will exhibit positive attitude regarding post-placental intrauterine contraceptive device than pregnant women in the control group.
- **Hypothesis three**: Pregnant women who receive a motivational intervention will exhibit a higher level of acceptance regarding post-placental intrauterine contraceptive device than pregnant women in the control group.
- **Hypothesis four**: Pregnant women who receive a motivational intervention will exhibit a lower decisional conflict regarding post-placental intrauterine contraceptive device than pregnant women in the control group.

Methods

Study design

A quasi-experimental design (study and control group pretest/posttest) was utilized to test the given hypotheses. Participants in this design are grouped into either the intervention group or the control group. Participants in the study group received just the planned intervention.

Study Setting

The current study was carried out at Maternal and Child Health Centers in Shebin El-Kom, Menoufia. The primary duty is to offer moms and kids up to age six with health care. The MCH offers women services like family planning, postpartum care, and prenatal care for normal labor. This facility primarily deals with routine cases. Abnormal or complex cases are transferred to General or University Hospitals because of the technical and specialized services necessary for diagnosis and treatment, such as ultrasonography.

Sampling

A purposive sample of 300 pregnant women was divided evenly into two groups: the control group (who received usual routine care) and the study group (who received a prenatal motivational intervention regarding PPIUCD). Pregnant women were selected based on the following criteria: 1.Women are Para one, 2. In their second or third trimester, free of any medical conditions or postpartum complications, and willing to participate in the study.

Sample size calculation

Calculation of the required sample size is important to determine the effect of motivational intervention on acceptance, health literacy, and decisional conflict regarding post-placental IUD among pregnant women, the researchers used the Epi statistical tool from Open-Source Statistics for Public Health. The assumptions were: a two-sided confidence level of 95% = (1-α); a power (1-β) or (% probability of detecting) of 80%; a sample size ratio of unexposed (control)/exposed (study group) = 1% of unexposed with outcome = 20%. The researchers then entered one of two factors, the least

extreme Odds Ratio (3) to be discovered, while the Epi website program estimated the other. The researchers used the Epi website software and presented their findings using Kelsey et al., (2010) methodologies. The researcher employed the Fleis correction method with 150 women as the study group and another 150 women as the control group, for a total sample size of 300 pregnant women.

Instruments:

Instrument one: Characteristics of Women Structured interviewing questionnaire:

It was developed by the researchers based on reviewing of the related literatures (Kanakuze et al., 2020; Shanthini et al., 2020). It includes the following data: a) Socio-demographic characteristics of pregnant women: such as age, income, residence, educational & occupational statuses of woman and her husband. B) Pregnant women's obstetric characteristics: such as gravida, parity, status of birth, numbers of ante-natal care follow ups, number of live children, future pregnancy desire, contraceptive use before to this delivery, kind of contraceptive, and who decided the use of modern family planning.

Instrument two: Post-placental intrauterine contraceptive device knowledge questionnaire:

It was developed by the researchers and has ten items that assess women's knowledge of PPIUCD as a method of birth spacing and its advantages. Each item has three options: "yes", "no", and "don't know". Correct responses received a "1" score, while incorrect and "don't know" responses received a "0." The overall knowledge score was attained by adding the scores for the ten items, which varied from 0 to 10. The woman's score is classified as "good knowledge" if it exceeds 60% or "poor knowledge" if it is less than 60%.

Instrument three: Post-placental intrauterine contraceptive device attitude scale:

It was adopted from Gonie et al., (2018). It included 6 items to assess woman's attitudes toward PPIUCD. Typically, each item is responded on a three-point Likert scale ranging from 0 "disagree" to 2 "agree". The scores of each item were added together to calculate the total attitude score ranging from 0 to 12. After that, the total attitude score was classed as "positive attitude" (> 50%) or "negative attitude" (≤ 50%).

Instrument four: Post-placental intrauterine contraceptive device acceptance questionnaire:

It comprised a single question that tested mothers' acceptance ("Yes" or "No") to have the insertion of an intrauterine contraceptive device within 10 minutes and 48 hours following placental delivery.

Instrument five: Decisional conflict scale (DCS):

This scale was developed and adopted from O'Connor, 1993. It included a

10-item self-report questionnaire designed to assess mothers' levels of uncertainty about PPIUCD. Participants rated each item on a three-point Likert scale. Items were scored as follows: 0 for 'yes', 2 for 'unsure', and 4 for 'No'. To get the overall score, the scores of all items were added together, divided by ten, then multiplied by 25 to yield a score that ranged from 0 (no decisional conflict) to 100 (extremely high decisional conflict).

Validity of the instruments

Instruments constructed by the researchers were submitted to five scholastic nursing specialists in the field of community, woman's health and midwifery nursing, to assess face and content validity. Instruments were tested for clarity, relevance, and completeness of material. The necessary modifications were made in accordance with the professionals' recommendations.

Reliability of the instruments

The instruments' reliability was assessed utilizing test-retest reliability over a two-week period. The internal consistency Cronbach Alpha coefficients for instruments two, three, and four were 0.85, 0.78, and 0.80, respectively.

Ethical consideration

Approval of Research Ethics Committee at the Faculty of Nursing, Menoufia University was obtained. Pregnant women were provided with written consent to participate in the research following a first interview to tell them about the aim and methods of data collection. Pregnant women were promised that the data they provided would be kept confidential and used only for research purposes. They also stated that their inclusion in the study was not compulsory, and they could withdraw at any stage.

Pilot study

A pilot study was carried out on 10% of the entire sample (30 pregnant women) after the instruments were developed and before data collection started. The researcher started to determine the time needed to fulfill the instruments and to evaluate the applicability, consistency, practicability, clarity, and feasibility of instruments. The researcher did not modify the instruments. All pregnant women who participated in the pilot trial were not included in the study.

Procedure

A letter was submitted from the Dean of the Faculty of Nursing, menoufia to the heads of maternity and child health institutions granting approval for data collecting. Data was collected over a four-month period, starting in September 2022 and ending in December 2022. A detailed review of related literature was conducted in order to design and construct motivational interventions. The program was developed using motivational intervention principles and written in plain Arabic. Researchers conducted an interview to collect baseline data from pregnant women who approved to participate in the study and given informed consent. They were instructed to complete out the study instruments individually in

front of the researchers so that they could provide any necessary clarifications. The assessment was done using the structured interviewing schedule, post-placental intrauterine contraceptive device knowledge questionnaire, attitude scale, acceptance questionnaire, and decisional conflict scale (DCS). This interview took about 30 minutes for each pregnant woman.

Pregnant women in the control group got the routine care. The study group was categorized into small groups of 10-15 women. Every group completed three sessions per week. Each session lasted approximately for 20-30 minutes. The content of these sessions was introduced according to the principals of motivational intervention approach. During the first session, pregnant women were motivated to express their emotions about PPIUCD and its possibility through active and reflective listening based on the "empathy express part" of motivational intervention principles. Following that, pregnant women were given information about the definition, benefits, misconceptions, insertion, and mechanism of action of PPIUCD. In the second session, questions and concerns from mothers were handled seriously and addressed with answers. Listening to their health behaviors discussions, motives, sensations, and values helped to clarify the reasons for feeling the need for change regarding PPIUD. When there was resistance, the researcher changed approach and looked for the issues and barriers facing the women.

The third session focused on enhancing pregnant women's self-efficacy to promote change through empowerment. To encourage them, supporting strategies, thoughts, and approaches were applied. So, women were interviewed if they agreed to use a PPIUD after delivery. Women were also informed about the advantages and disadvantages of PPIUCD, as well as the related complications and required follow-up and care after insertion. Each session ends with a summary of essential points. The instructional approaches included group discussions and lectures. The instructional materials comprised a power point presentation and an illustrated structured colored booklet. It was produced and written in easy Arabic, with illustrative pictures used to help with the educational process that was taught to the study group. After the completion of the motivational intervention sessions, women were reassessed by asking them to fill the same instruments which conducted at the baseline. Posttest was conducted after two months.

Statistical analysis

The collected data was organized, coded, and statistically analyzed on an IBM personal computer running the Statistical Package for Social Science (SPSS) version 22 (SPSS, Inc, Chicago, Illinois, USA). Data were analyzed using both descriptive and inferential statistics. Continuous data were reported as mean and standard deviation. Categorical data was expressed as numbers and percentages.

The categorical variables were compared using the chi-squared [X2] test. The t-test was employed to assess the significance of a difference between two means. The quantitative variables were correlated using Spearman's correlation (r). P-values were considered significant when less than 0.05 and highly significant when less than 0.001.

Results

Table 1 reveals socio-demographic characteristics of the study and control group, as no statistical significant differences were found in relation to age, income, educational level, occupational status and husband education and occupation between pregnant women in the two groups ($p > 0.05$). Approximately two-thirds of the study and control group (74.0% and 64.7%, respectively) were aged 21 to 25 years. The majority of both groups (89.3%, 82.0% respectively) had enough income. Regarding educational level, greater than two thirds of women in study and control group (78.7% and 69.3%, respectively) completed their university education. Concerning occupation, 84.0% of women in the study group, 71.3% in the control group were employed. Related to husbands' education, 76.7% of the study group and 72.0% of the control group had finished their university. Regard to husband occupation, 92.7% of the study group and 90.7% of the control group were employed.

Table 2 shows obstetric characteristics of the study and control group. In terms of gravidity, the majority of the study and control group (88.0% and 72.0%, respectively) were primigravida. Related to follow-up visits for prenatal care, 86.0% of the study group and 87.3% of the control group attended just one visit. Moreover two thirds (68.0%) of control group reported wanting to get pregnant three times while most of study group (86.0%) had reported two times of future pregnancy desire with statistically significant difference. A high percentage of both study and control group (88.7% and 70.7%, respectively) reported no response in regard to previous contraceptive use. A large portion of the study group (75.3%) and over two-thirds of the control group (68.0%) reported that the use of family planning methods was decided jointly by the wife and husband.

Table 3 presents pregnant women's knowledge about post placental intrauterine contraceptive as in before intervention, the mean knowledge score of study group was 11.02±4.7 comparing to 10.94±5.3 for control group. Post intervention, the mean score was significantly increased to 19.83±3.34 in the study group in contrast to 12.04±4.1 for control group ($P<0.001$).

Table 4 illustrates mothers' attitude toward post placental intrauterine contraceptive, pre-intervention 60.0% of the study group and 56.0% of the control group had a negative attitude toward post placental intrauterine contraceptive without significant difference ($P = 0.559$). After intervention, 88.7% of the study group displayed a positive attitude versus

47.3% of the control group, indicating a highly significant difference (p<0.001).

Table 5 clarifies that at pre-intervention, the total mean score of decisional conflict was 53.23±38.3 in the study group and 54.63±39.2 in the control group, with no significant difference (P = 0.755). Despite this, following intervention, the study group had a significant lower mean total score than the control group (14.5±2.6 vs. 51.23±32.5, respectively; P <0.001).

Figure 1 demonstrates that 42.0% of the study group and 45.3% of the control group accepted PPIUCD at pre-intervention. At post-intervention, 84.0% of the study group accepted PPIUCD against 48.0% of the control group, with high significant difference between them.

Table 6 indicates that there was a significant positive correlation between knowledge score and attitude score within the study group where improved attitude score was significantly connected with increasing knowledge (r= 0.210, P= 0.010). Additionally, there was a significant positive association between decisional conflict score and knowledge score among the study group whereas increased no decisional conflict score was significantly correlated with increased knowledge (r= 0.164, P= 0.045). Moreover, there was a significant positive relationship between better attitude and higher no decisional conflict score in the study group (r= 0.769, p =0.000).

Table (1): Distribution of Pregnant Women in the Study and Control Groups according to Their Demographic Characteristics (N=300)

Demographic Characteristics	Study group (n=150)		Control group (n=150)		Chi-square	
	No.	%	No.	%	X^2	p-value
Age in years					5.7	0.223
≤ 20	5	3.3	3	2.0		
21-25	111	74.0	97	64.7		
26-30	31	20.7	42	28.0		
31–35	3	2.0	7	4.7		
≥36	0	0.0	1	0.7		
Income					F=3.28	0.099
Enough	134	89.3	123	82.0		
Not enough	16	10.7	27	18.0		
Educational level of women					6.36	0.095
Primary education	1	0.7	3	2.0		
Preparatory education	10	6.7	7	4.7		
Secondary education	21	14.0	36	24.0		
University education	118	78.7	104	69.3		
Occupational status of women					F=6.937	0.012
Housewife	24	16.0	43	28.7		
Employee	126	84.0	107	71.3		
Educational level of husband					1.04	0.792
Primary education	1	0.7	2	1.3		
Preparatory education	11	7.3	13	8.7		
Secondary education	23	15.3	27	18.0		
University education	115	76.7	108	72.0		

Occupational status of husband					8.233	0.016
Farmer	5	3.3	0	0.0		
Merchant	6	4.0	14	9.3		
Employee	139	92.7	136	90.7		

F "Fisher's Exact Test

Table (2): Distribution of Pregnant Women in the Study and Control Groups according to Their Obstetric Characteristics (N=300)

Variables	Study group		Control group		Chi-Square	
	No.	%	No.	%	X2	p-value
Number of gravidity						
1	132	88.0%	108	72.0%	13.47	0.001
2-4	14	9.3%	38	25.3%		
≥ 5	4	2.7%	4	2.7%		
Number of Parity						
1	6	33.4%	2	4.7%	3.33	0.13
2-4	8	44.4%	36	85.7%		
≥ 5	4	22.2%	4	9.6%		
Number of antenatal care visits						
1	129	86.0%	131	87.3%	7.263	0.026
2	19	12.7%	10	6.7%		
3	2	1.3%	9	6.0%		
Status of birth						
Wanted	144	96.0%	141	94.0%	F=0.632	0.598
Unwanted	6	4.0%	9	6.0%		
Number of living children						
1	6	42.9%	2	5.3%	17.77	<0.001
2	5	35.7%	25	65.8%		
3	2	14.3%	8	21 %		
4	1	7.1%	3	7.9%		
Number of future desired pregnancy						
1	5	3.3%	8	5.3%	120.373	<0.001
2	129	86.0%	37	24.7%		
3	15	10.0%	102	68.0%		
4	1	0.7%	0	0.0%		
No more	0	0.0%	3	2.0%		
Previous contraceptives use						
Yes	17	11.3%	44	29.3%	F=15.00 1	0.392
No	133	88.7%	106	70.7%		
If yes, which type						
Pills	9	52.9%	7	15.9%	10.437	0.015
Injectable	2	11.8%	10	22.7%		
Implant	0	0.0%	8	18.2%		
IUDs	6	35.3%	19	43.2%		
Who decided the use of modern FP						
Wife	31	20.7%	30	20.0%	6.579	0.037
Husband	6	4.0%	18	12.0%		
Both	113	75.3%	102	68.0%		

Table (3) Distribution of Pregnant Women in the Study and Control Groups according to Their Level of Knowledge Scores at Pre- and Post-Intervention (N=300)

Level of knowledge	Study group (n=150)		Control group (n=150)		Chi-square	
	No.	%	No.	%	X^2	P-value
Pre-intervention						
Poor knowledge	101	67.3	111	74.0	2.38	0.305
Fair knowledge	11	7.3	12	8.0		
Good knowledge	38	25.3	27	18.0		
Mean + SD	11.02±4.7		10.94±5.3		1.86*	0.064
Post-intervention						
Poor knowledge	12	8.0	103	68.6	137.2	0.001
Fair knowledge	0	0.0	16	10.7		
Good knowledge	138	92.0	31	20.7		
Mean + SD	19.83±3.34		12.04±4.1		11.72*	<0.001

*** Comparison using t test**

Table (4): Distribution of Pregnant Women in the Study and Control Groups according to Their Attitude Scores at Pre- and Post-intervention (N=300)

Attitude	Study group (n=150)		Control group (n=150)		Chi-square	
	No.	%	No.	%	X^2	P-value
Pre-intervention						
Negative attitude	90	60.0	84	56.0	0.493	0.559
Positive attitude	60	40.0	66	44.0		
Post-intervention						
Negative attitude	17	11.3	79	52.7	32.30	<0.001
Positive attitude	133	88.7	71	47.3		

Table (5) Distribution of Pregnant Women in the Study and Control Groups according to Their Decisional Conflict Scores at Pre- and Post-Intervention (N=300)

Levels of Decisional conflict	Study group (n=150)		Control group (n=150)		Chi-square	
	No.	%	No.	%	X^2	P-value
Pre-intervention						
No decisional conflict	43	28.7	45	30.0	4.09	0.252
Low decisional conflict	9	6.0	3	2.0		
High decisional conflict	98	65.3	102	68		
Mean ± SD	53.23±38.3		54.63±39.2		0.313*	0.755
Post-intervention						
No decisional conflict	122	81.3	47	31.3	84.63	<0.001
Low decisional conflict	4	2.7	5	3.3		
High decisional conflict	24	16.0	98	65.4		
Mean + SD	14.5±2.6		51.23±32.5		11.016*	<0.001

*** Comparison using t test**

Figure (1) Distributions of Pregnant Women in the Study and Control Groups according to Their Acceptance Level of PPIUCD at Pre- and Post- Intervention (N=300)

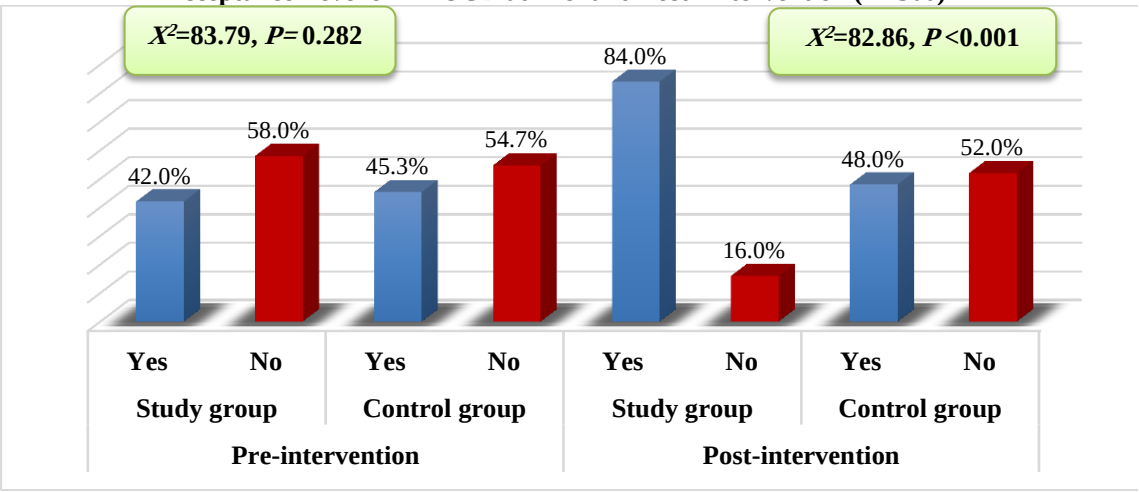

Table (6): Correlation between Total Scores of Knowledge, Attitude and Decisional Conflict among The Study Group Post-Intervention

Correlation		Attitude score	knowledge score
Decisional conflict score	r	0.769	0.164
	P value	0.000**	0.045*
Attitude score	r		0.210
	P value		0.010**

**. Correlation is significant at the 0.01 level (2-tailed)

*. Correlation is significant at the 0.05 level (2-tailed)

Discussion

The postpartum phase is crucial when the chance of unexpected pregnancy rises. However, it's also a common period for caregiving. This makes the time for a family planning strategy that satisfies the need to avoid unplanned pregnancy and is appropriate for lactating mothers (Wayessa et al., 2020). Use of the postpartum intrauterine contraceptive device (PPIUCD) is best option for family planning following childbirth. It works very well, is dependable, affordable, long-lasting, free-hormonal, instantly reversible, and isn't disruptive with breastfeeding (Najan et al., 2023). Therefore, the purpose of this study was to evaluate the effect of motivational intervention on acceptance, health literacy, and decisional conflict regarding post-placental IUD among pregnant women.

Regarding decisional conflict, attitude and knowledge, the current study proved that there was no statistical significant difference between the study and control groups as the majority of both had reported high decisional conflict, negative attitude and poor knowledge about post placental intrauterine contraceptive

device pre intervention. This conclusion was consistent with Sisay et al., (2023) finding that exceeding two thirds of women had insufficient knowledge and more than half had negative attitude towards PPIUCD. Also, a greater number of women rejected using IUCD postpartum. This might be relevant to most of women in our study were primigravida because of their limited experience and hesitance to take decision to use PPIUCD due to their misconception about its side effects and disadvantages.

Concerning decisional conflict, attitude and knowledge among study group pre and post intervention. The present study presented that there were significant improvements in decisional conflict, attitude and knowledge in the study group after intervention compared to before intervention as the majority of study group reported no decisional conflict, positive attitude and good knowledge about post placental intrauterine contraceptive device. This outcome coincided with Tesfaye et al., (2023) who figured out that the proportion of subjects who chose post placental family planning (PPFP) raised after the intervention in contrast to the baseline. The total level of service satisfaction among study participants was significantly higher after intervention than at baseline. This demonstrated that the intervention was delivered to cases in a pleasant simple manner, which had a favorable impact on postpartum contraception acceptance.

Moreover, this result matched up with Pal et al., (2022) who observed that after counseling, eighty nine percent of participants agreed to use postpartum family planning method. A lot of them had good knowledge and positive attitude to postpartum contraception. This could be related to counselling and collaborative sessions that assisted women in adopting contraceptive methods after childbirth and promoting adherence to use. In contrast, this finding was contradicted with Tounkara et al., (2022) who discovered that women had minimal knowledge about PPIUD even after education. It is suggested that women's lack of awareness of the benefits of PPIUDs may have resulted from inadequate contraceptive counselling.

In regards to acceptance level of the use of post placental IUCD among the study and control groups pre and post intervention. The present study identified that a large portion of the study group approved to use IUCD immediately after birth following intervention, compared to less than half before intervention with statistically significant difference. The result shown was in the same line with Husain et al. (2019) who determined that almost all of women were ready to take PPIUCD after counselling. There was a statistically significant difference between the woman's first decision and her last decision to adopt PPIUCD. Furthermore, this outcome was consistent with Najan et al. (2023) who found that the majority of women in the counseling group accepted PPIUCD compared to the routine group with significant difference. This could be because women were highly educated and more likely to be

convinced about the advantages of using PPIUCD.

The current study found that there was no statistical significant difference in the total mean scores of knowledge, attitude and decisional conflict among study and control group pre intervention. This result was congruent with Sey-Sawo at al. (2023) who observed that a higher proportion of the intervention and comparison groups at baseline had poor knowledge, negative attitude and no intention to use PPIUCD with no significant difference. Also, the current study revealed that the total mean scores of knowledge and attitude among the study group increased significantly post intervention. This outcome was aligned with Franklin et al. (2021) who stated that educational intervention can be successful in enhancing knowledge and attitudes towards postnatal IUCD use. The total mean scores for knowledge and attitude increased with significant difference between pre and posttest. Additionally, this finding was consistent with Mushy et al. (2023) who demonstrated that the total mean scores of knowledge, attitude, satisfaction and contraceptive adherence increased significantly more than control group. This might be linked to the utilized intervention which led to an important transition in women's understanding and removed a lot of misconceptions about IUDs, which discouraged their usage.

However, this study revealed that the total mean score of decisional conflict among study group was significantly decreased post intervention. This data was adhered to Mushy et al. (2023) they found that the intervention group had a lower mean score in the Decisional Conflict Scale (DCS) than in the control with statistically significant difference. This indicated that the decision aid and intervention had affordable costs and applicability for pregnant women.

The current study demonstrated a strong positive association between the attitude and knowledge scores whereas improvement of attitude score was significantly correlated with increased knowledge. Additionally, the knowledge score and the decisional conflict score showed a strong positive correlation. Whereas higher no decisional conflict score was significantly correlated with increased knowledge. Moreover, there was a statistical significant positive association between better attitude and increased no decisional conflict score. These outcomes were aligned with Shanthini et al., (2020) who found that the relationship between posttest mean score of knowledge and mean score of attitude showed significant positive correlation. This proved that when women had enough understanding of PPIUCD, they achieved a positive attitude towards it. Also, they reported that the correlation between posttest mean score of attitude and the mean score of acceptance showed significant positive correlation. This clearly illustrated that when mothers had a good attitude, they were ready to tolerate the PPIUCD implantation. As well as, the mean acceptance score and the mean knowledge score showed a positive association. This meant that

the mothers have good knowledge were willing to accept for PPIUCD insertion.

Conclusion:

Drawing on the results of this study, it can be assumed that pregnant women who participated in the motivational intervention experienced an improvement in acceptance level, knowledge, attitude and exhibit lower decisional conflict than controls.

Recommendations:

In the light of the results, it was recommended that pregnant women should be empowered with adequate knowledge to enhance their decision-making abilities regarding PPIUCD. Health education sessions should be conducted and employ motivational interview strategy. A PPIUCD counseling service should be integrated at the prenatal clinic with partner involvement to improve program success. PPIUCD should be endorsed in nursing syllabus. This study should be replicated on a bigger probability sample and in diverse circumstances in order to generalize the results.

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