

Effect of Video Assisted One-to-One Health Education Program Compared to Conventional Health Education Program on Post- Partum Intrauterine Contraceptive Device Adoption among Postnatal Mothers in Tertiary Care Hospital: A Randomized Controlled Trial

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Abstract:

➤ *Background:*

The aim of the study was to find the effectiveness between video assisted teaching one-to-one health education programs compared to conventional health education program on PPIUCD among postnatal mothers.

➤ *Methods:*

The design used for the study was randomized controlled trial among 204 (102 in each group) pregnant mothers at the Women and Children Hospital, JIPMER. 204 mothers were chosen by simple random technique method and randomized into (two groups) intervention and control group by lot method. The study was done in antenatal outpatient department of JIPMER. The duration spent for each participant was 10-15 minutes. The intervention group received video assisted one-to-one health education about advantages of insertion of copper T and control group received pamphlet based health education about advantages of general contraceptive practice. At the end of six weeks in addition they were also contacted to find their postnatal clinic contraception practice during the past six weeks.

➤ *Results:*

Mothers given one-to-one health education in intervention group had accepted 28.4% PPIUCD as compared to 7.8% of the mothers in the control group, who were given pamphlet based health education given and it was found to be statistically significant at $p < (0.00)$ level. The knowledge about contraception was also significantly better with 60.8% in the experimental group when compared to 44.1% in the control group.

➤ *Conclusion:*

The study concluded that video assisted one-to-one health education was more effective in adoption of post-partum intrauterine contraceptive device among postnatal mothers. When compared to conventional pamphlet based general contraceptive education.

Keywords: Post-Partum Intrauterine Contraceptive Device.

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I. INTRODUCTION

The maternal health is one of the most important health indicators of the country. The antenatal, intranatal and postpartum period are crucial periods in maternal care that influences the outcome of pregnancy¹. In India unmet need for family planning is found among during 65% of women first year of postpartum period. The adverse effect such as abortion, premature labour, and post-partum haemorrhage, low birth weight babies, foetal loss and maternal morbidity and mortality have increased among pregnancies that take place within 2 year of previous birth.

II. METHODS

The design used for the study was randomized controlled trial among 204 (102 in each group) pregnant mothers at the Women and Children Hospital Department, JIPMER. Permission was obtained from the Institute Ethics Committee, Human studies. (JIPMER) Informed consent was obtained from every participant after explaining the detail

patient information sheet regarding the study by the researcher. Confidentiality and anonymity were maintained during the data collection. 204 mothers were chosen by simple random technique method and randomized into (two groups) intervention and control group by lot method. The study was done in antenatal outpatient department of JIPMER. The duration spent for each participant was 10-15 minutes. The intervention group received video assisted one-to-one health education about advantages of insertion of copper T, effectiveness about post-partum intrauterine contraceptive device. The control group received pamphlet based health education about advantages of general contraceptive practice done after delivery. The data collection instrument consists of three sections section- A Socio-Demographic Proforma section-B: Reproductive History section C Obstetrical History. At the end of six weeks in addition they were also contacted to find their postnatal clinic contraception practice during the past six weeks. The entire study participants were contacted through phone to find their status of delivery.

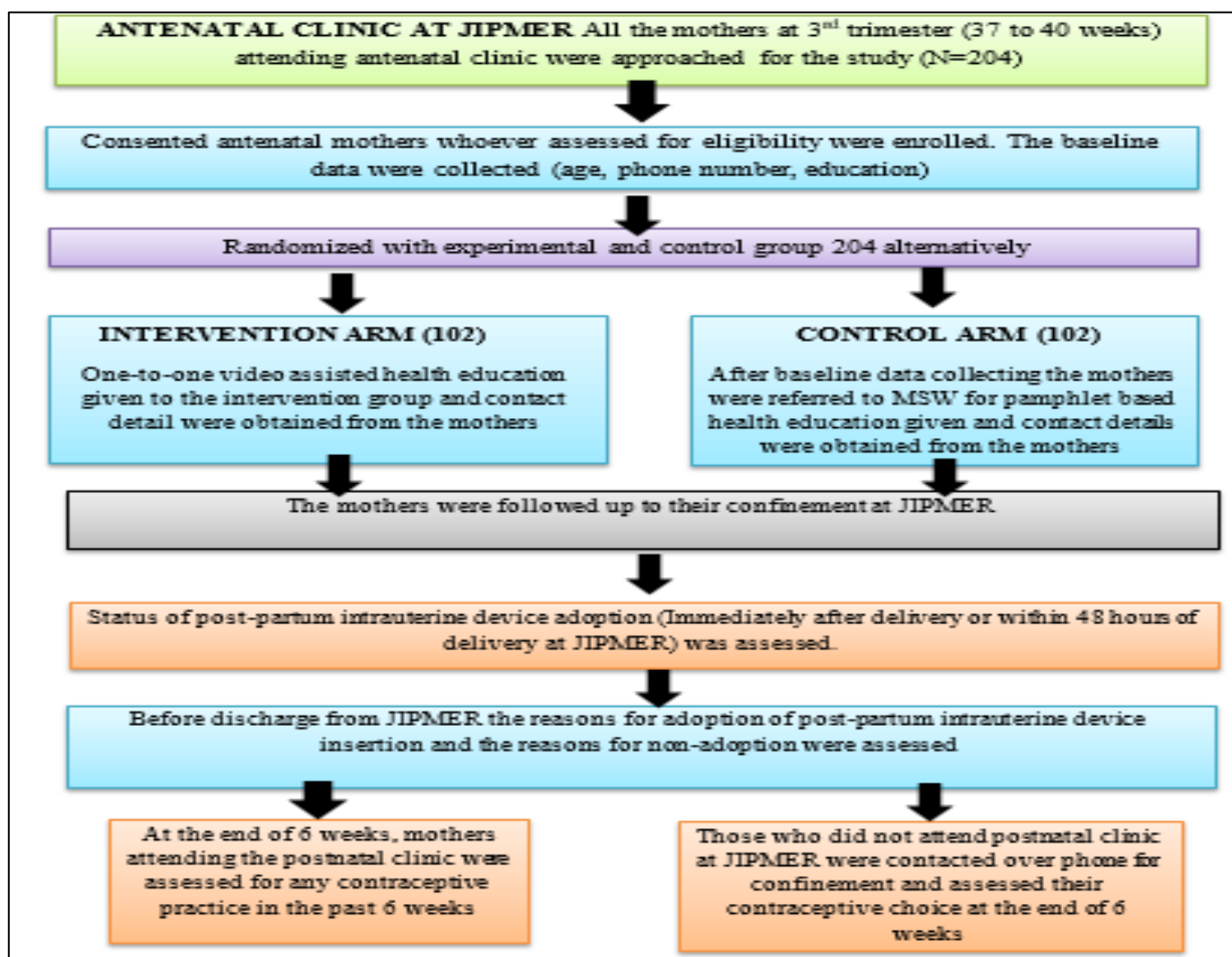


Fig 1: Consort Diagram

III. RESULTS

In this study, a total of 204 (102 interventional and 102 control group) women in the third trimester were enrolled. Around 98% of the mothers in intervention group and 97% of the mothers in the control group were in the age group of 18-29 years (table1). Approximately 50% of the mothers in interventional and control group had formal school level education and rest of them had graduate degree. Regarding occupation, it was observed that 54.9% mothers and 90.2% mothers were house wife in interventional group control group respectively. Daily wage workers were 5.9% in both groups. Proportion of the mothers employed were 39.2% in interventional group and 3.9% in control group. Family income showed that monthly income of 64.7% mothers in interventional group and 71.6% mothers in control group were between 2000-7000. The distribution of type family shows that 79.4% of mothers in interventional group and 73.5% mothers in control group were joint family. (Table-1)

Nearly 95% of the mothers in interventional and control group had duration of menstrual flow ranged for 3 to 6 days. Only five percent had menstrual flow more than 6 days. In the study participants 79.5% of the mothers in the interventional group and 87.3% of the mothers in control group attained menarche between 10-15 years of age. Mostly 75% of the mothers in the interventional and control group had married between 18 and 29 years of age, 3.9% of the mothers in the interventional group and 2.0% of the mothers in control group had married between 30 and 35 years of age. (Table-2)

3.9 % of the mothers in interventional group and 1.0% mothers in the control groups were practiced contraceptive methods. There were 85.3% mothers in the experimental group and 63.7% in the control group felt that there was no difficulty in using intrauterine contraceptive device. Nearly 96% of the mothers in experimental and control group did not practice any contraceptive methods. There were 57.8% of mothers in experimental group and 30.4% of mothers in control group were planning to have another child. (Table 3)

52.9% mothers in the experimental group 32.4% of mothers in the control group mothers aware that others use Cu T as contraceptive methods. (Figure-2)

When mothers expressed their willingness for PPIUCD after their delivery, around 66.7% mothers in intervention group and 22.5% mothers in the control group expressed their willingness to adopt PPIUCD immediately after the video-assisted one-to-one Health education among intervention group and pamphlet based health education among control group. Around one third in the intervention group and more than three fourth in the control group were not willing to adopt PPIUCD after the respective intervention. It was found to be statistically significant at $**P < 0.00$ level (Figure-3)

Among 91 participants who were willing for PPIUCD adoption, only 26 accepted after delivery. Around 71% did not accept even though they expressed willingness during the intervention. Hardly 5% adopted PPIUCD after expressing that they were not willing before delivery. Around 17.4%

among the control group accepted out of 23 who expressed their willingness to accept. Remaining 82.6% did not accept even after expressing interest in the beginning. Around 32% among the intervention group accepted out of 68 who expressed their willingness to accept. Remaining 68% did not accept even after expressing interest in the beginning. (Table 4)

All the study participants delivered at JIPMER were followed-up till discharge and participants delivered at other places were called over phone to know their adoption status of PPIUCD. Out of the 204 total mothers followed till delivery, 75.5% in the intervention group and 82.5% in the control group mothers were delivered at JIPMER and 24.5 % in the intervention group and mothers delivered at other hospitals in Pondicherry. 28.4% in intervention group and 7.8 % in control group adopted post-partum intrauterine contraceptive device. The acceptance rate of PPIUCD between intervention and control group was found to be statistically significant at $P = 0.00$ level (Figure 4)

The reason for willingness to adoption of intrauterine contraceptive device among mothers were found to be for the sake of baby's health (11.7 % in intervention group and 6.8 % in the control group), for the reason of spacing (37.2 % in intervention group and 8.8 % in the control group), adopted with family's suggestion (18.6 % in intervention group and 20.5 % in the control group).

The reasons unwillingness for non-adoption of PPIUCD among the mothers were non-willing husband are (11.7 % in intervention group and 24.5% in the control group), non-willing patient's mothers (8.8% in intervention group and 14.7 % in the control group), fear about copper T was around (6.8 % in intervention group and 14.7 % in the control group) and not known about copper-T was (4.9 % in experimental group and 9.8 % in the control group). It was found to be statistically significant at $**P < 0.00$ level (Table 5)

40% of mothers in the intervention group and 13.7% mothers in the control group were interested to practice any contraceptive methods after six weeks of delivery. 86.3% of mothers in intervention group and 51.0% of mothers in control group were not interested to practice any contraceptive methods after six weeks of delivery The comparison of intervention and control group practice of any contraceptive methods were found to be statistically significant at $P < 0.000$ level. (Table 6)

IV. DISCUSSION AND CONCLUSION

For the first objective to find the difference in willingness and adoption rate for postpartum intrauterine contraceptive device

In the present study, among 102 mothers in each group 66.7% in intervention group and 22.5% in the control group expressed their willingness to adopt PPIUCD immediately after the video-assisted one-to-one Health. Around 28.4% of the postnatal mothers in intervention group and 7.8% in control group adopted PPIUCD, which is statistically

significant at the level of $P < 0.005$. This showed that the video assisted one-to-one health education program on adoption of post-partum intrauterine contraceptive device insertion was effective among postnatal mothers.

28.6% out of 91 postnatal mothers, who expressed willingness, adopted PPIUCD after delivery. This is not as expected. Safwat et al [13] did a similar study on Acceptability for the Use of Postpartum Intrauterine Contraceptive Devices among 3,541 clients. The study finding revealed that 31.8% accepted the Postpartum Intrauterine Contraceptive Devices. Both the acceptance and actual insertion of IUCD were low probably because the use of IUCD is a new concept in the community. In Mansoori et al study post intervention (video assisted health education) improvement in knowledge score was 82.2%. In our study the knowledge score was 60.8%. Video assisted health education was useful; however dedicated time by the health personnel to give one-to-one health education each mother is a challenge. A team of ASHA or field level ANM should be trained to implement such one-to-one video assisted health education at the community in order to address the lack of time in the tertiary institution.

For the second objective to compare the contraceptive usage pattern between intervention and control group at the end of six weeks.

At the end of six weeks it was found that intervention group adopted some methods of contraception at higher proportion compared to control group. Safwat et al [13] did similar study on Acceptability for the Use of Postpartum Intrauterine Contraceptive Devices among 3,541 clients. The findings revealed that after 6 weeks 83% women followed-up. Rest 17% could not be contact even through telephones.

For The third objective to explore the reasons for their decision on post-partum intra uterine contraceptive device adoption

In exploring the reasons for adoption of PPIUCD among mothers, the present study revealed 11.7 % in intervention group and 6.8 % mothers in the control group adopted PPIUCD considering their baby's health that is nothing but bringing up of first child. 37.2% mothers in the intervention group and 8.8% in the control group adopted PPIUCD for the reason of spacing between the first and next pregnancy. 18.6% in the intervention group and 20.5% in the control group 20.5% are willing to adopt copper T with family suggestion in which the adoption of PPIUCD decision is made by the husband, mother, and mother-in-law.

The reason for non-adoption of PPIUCD is 20.5% in the intervention group and 39.2% in the control group which was because their family members were not accepting

The present study concludes that video assisted one-to-one health education program compared to conventional health education program was more effective on post- partum intrauterine contraceptive device adoption among postnatal mothers.

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DECLARATIONS

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- *Conflict of Interest: None Declared*
- *Ethical Approval: Approved by Nursing Research Monitoring Committee (NMRC) and Institute Ethics Committee, Human studies. Of JIPMER*

REFERENCES

- [1]. Sudha T, Banapurmath R, Girija B, Dotrad S, Doreswamy N, Shyamala. Feasibility of post-partum insertion of intrauterine contraceptive device-expanding the use of intrauterine contraceptive devices in post -partum period. *Int J Res.* 2014;6:38-48.
- [2]. Maluchuru S, Aruna V, Prabhavathi N. Post -Partum – Intrauterine Device Insertion – 2yr Experience at a Tertiary Care Center in Guntur Medical College / Govt. General Hospital, Guntur. *J Dent Medi Sci.* 2015;14:56-61.
- [3]. Mohamed A I, Elati I H A, Ramadan E N. Assessment Effect of Post Puerperal and Immediate Post Placental Intrauterine Contraceptive Devices Insertion after Cesarean Delivery on Women's Health. *J Nurs Health Sci.* 2015;4: 01-07.
- [4]. Sharma A, Gupta V, Bansal N, Sharma U, Tandon A. A prospective study of immediate postpartum intra uterine device insertion in a tertiary level hospital. *Int J Res Med Sci* 2015;3:183-7.
- [5]. Kanhere AV, Pateriya P, Jain M. Acceptability and feasibility of immediate postpartum IUCD insertion in a tertiary care centre in Central India. *Int J Reprod Contracept Obstet Gynecol* 2015;4:179-84.
- [6]. Jaira J S, Dayyala S. A Cross Sectional Study on Acceptability and Safety of IUCD among Postpartum Mothers at Tertiary Care Hospital, Telangana. *J Clin Diagn Res.* 2016;10:
- [7]. Ramya KS, Meena TS, Mothilal R. A comparative study of PPIUCD acceptance between primiparaous and multiparaous women in a tertiary care hospital in Tamil Nadu. *Int J Reprod Contracept Obstet Gynecol.* 2017;6:3569-72.
- [8]. Agarwal N, Gupta M, Sharma A, Arora R. Antenatal counselling as a tool to increase acceptability of postpartum intrauterine contraceptive device insertion in a tertiary care hospital. *Int J Reprod Contracept Obstet Gynecol* 2015;4:1137-41.

- [9]. Rishard, M.R.M., Pushpakanthan, E.J., Nishad, A.A.N., Hewage, S.A. and Gunawardane, K., 2017. Safety and Success of immediate post-placental intrauterine device insertion at the time of Cesarean Section. *J Obstet Gynaecol*, 39(2), pp.36–7.
- [10]. Kumar S, Sethi R, Balasubramanian S, Charurat E, Lalchandani K, Semba R, and Sood B Women's experience with postpartum intrauterine contraceptive device use in India. *Reproductive Health* .2014;11:32.
- [11]. Gupta N, Sinha R, Mangal A. Knowledge, attitude and practice study on immediate postpartum intrauterine contraceptive device method of family planning. *Int J Community Med Public Health*. 2017;4:2981-4.
- [12]. Tefera LB, Abera M, Fikru C, Tesfaye DJ (2017) Utilization of Immediate PostPartum Intra Uterine Contraceptive Device and Associated Factors: A Facility based Cross Sectional Study among Mothers Delivered at Public Health Facilities of Sidama Zone, South Ethiopia. *J Preg Child Health*.2017;4:326.
- [13]. Safwat A, Momen M, Omar K, Hossam S. Acceptability for the Use of Postpartum Intrauterine Contraceptive Devices. *Med Princ Pract*.2003;12:170–75.
- [14]. Janwadkar A, Shekhawat G S. Acceptance, perception, experience and satisfaction of the couple with postpartum intrauterine contraceptive devices (PPIUCD) insertion. *Asian Pac. J. Health Sci*. 2016;3:55-64.
- [15]. Jaira S, Dayyala S. A Cross Sectional Study on Acceptability and Safety of IUCD among Postpartum Mothers at Tertiary Care Hospital, Telangana. *Jour of Clin Diag Res*. 2016;10:
- [16]. Nagamala J, Muthulakshmi P, Kayalvizhi M (2018) A Study to Assess the Knowledge, Practice and Attitude on Temporary and Permanent Contraceptive Methods among Primi and Multi Mothers in Selected Areas in Coimbatore. *Health Sci J*. Vol. 12 No. 3: 569.
- [17]. Ashok Y, Koshalya. Knowledge and attitude among antenatal mothers regarding PPIUCD at a selected hospital of Jaipur district. *Int J Medi Health Res*. 2017; 3: 63-65.
- [18]. Shukla M, Fonseca M, Deshmukh P. A study on contraceptive knowledge, attitudes and practices among women in the reproductive age group. *Int J Reprod Contracept Obstet Gynecol*. 2017;6:3560-3.
- [19]. Sharma J, Dorairajan G, Chinnakali P. Knowledge and attitude towards contraceptive methods for spacing and decision making factors regarding its use in postpartum women. *Int J Reprod Contracept Obstet Gynecol* 2015;4:750-4.
- [20]. Bajracharya A. Knowledge, Attitude and Practice of Contraception among Postpartum Women Attending Kathmandu Medical College Teaching Hospital. *Kathmandu Univ Med J* 2015;4:292-7.
- [21]. Renjhen P, Kumar A, Pattanshetty S, Sagir A, Samarasinghe C M. A study on knowledge, attitude and practice of contraception among college students in Sikkim, India. *J Turkish-German Gynecol Assoc* 2010; 11:78-81
- [22]. Mansoori M, Sharma D K. A Study to Assess the Effectiveness of Video Assisted Teaching Programme on Knowledge Regarding Post-partum Intrauterine Contraceptive Devices among Antenatal Mothers in Selected Rural Areas at Udaipur, Rajasthan. *J Nur Today* 2016;4:28-36.
- [23]. Gara M.S, Swarna S, Sudharani P. Effectiveness of Structured Teaching Programme on PPIUCD (PostPlacental Intrauterine Contraceptive Device among Primigravida Mothers in Selected MCH Centre, Tirupati. *Int J Pract Nurs*. 2014; 2:87-9.
- [24]. Choudhary V, Saini P Effectiveness of Structural Teaching Programme on Knowledge Regarding the Contraceptive Method among the Eligible Couples. *IOSR Journal of Nursing and Health Science*.2014;3:36-7.
- [25]. Dash M. Effectiveness of video assisted teaching module on contraceptive practices with special Emphasis to Emergency contraception among the Eligible couples in the villages of Pondicherry. *Res. J. Family, Community and Consumer Sci*.2014;2:6-8.
- [26]. Adiba S, Abhishek S, Anu B, Kuldeep J. A community based interventional study to assess the expressed practices regarding contraceptive methods among women before and after the structured teaching programme in rural India. *Indian J Matern And Child Health*, 2012;15:1-7.
- [27]. Poovathi M, Sondararajan P. Immediate postpartum intrauterine contraceptive device insertion: a prospective follow up study. *Int J Reprod Contracept Obstet Gynecol* 2016;5:1902-5.
- [28]. Hooda R, Mann S, Nanda S, Gupta A, More H, Bhutani J. Immediate Postpartum Intrauterine Contraceptive Device Insertions in Caesarean and Vaginal Deliveries: A Comparative Study of Follow-Up Outcomes. *Int J Reprod Med*. 2016;1-6
- [29]. Alukal AT, Ravendran RC, George L. PPIUCD awareness and reasons for non – acceptance. *Int. Reprod Contracept Gynecol*. 2018;7:582-86.

Table 1: Distribution of Socio-Demographic Variable among the Study Participants N= (204)

DEMOGRAPHIC VARIABLE	INTERVENTION GROUP		CONTROL GROUP		TOTAL
	N	%	N	%	
AGE IN YEAR					
18-23	69	67.6	60	58.8	129
24-29	31	30.4	39	38.2	70
30-35	2	2.0	3	2.9	5
TOTAL	102	100	102	100	204
EDUCATIONAL STATUS					
Primary school	2	2.0	3	2.9	5
High school	31	30.4	26	25.5	57
Secondary school	19	18.6	19	18.6	38
Graduate	50	49.0	52	51.0	102
Post graduate	0	0	2	2.0	2
Illiterate	0	0	0	0	0
OCCUPATIONAL STATUS					
House wife	56	54.9	92	90.2	148
Daily worker	6	5.9	6	5.9	12
Employee	40	39.2	4	3.9	44
Farmer	0	0	0	0	0
HUSBAND'S EDUCATIONAL STATUS					
Primary school	1	1.0	1	1.0	2
High school	38	37.3	41	40.2	74
Secondary school	16	15.7	9	8.8	25
Graduate	46	45.1	46	45.1	92
Post graduate	1	1.0	1	1.0	2
Illiterate	0	0	4	3.9	4

Table 2: Distribution of Socio-Demographic Variable among the Study Participants N=(204) (Continued)

EMOGRAPHIC VARIABLE	INTERVENTION GROUP		CONTROL GROUP		TOTAL
	N	%	N	%	
Daily worker	56	54.9	44	43.1	100
Employee	6	5.9	19	18.6	25
Farmer	40	39.2	39	38.2	79
INCOME STATUS					
2000-7000	66	64.7	73	71.6	139
8000-13000	30	29.4	23	22.5	53
14000-19000	3	2.9	5	4.9	8
20000-25000	3	2.9	1	1.0	4
RELIGION					
Hindu	100	98.0	97	95.1	197
Christian	2	2.05	5	4.9	7
TYPE OF FAMILY					
Joint family	81	79.4	75	73.5	156
Nuclear family	21	20.6	27	26.5	48
Extended family	0	0	0	0	0

Table 3: Distribution of Reproductive Variable among the Study Participants (N=204)

REPRODUCTIVE VARIABLE	INTERVENTION GROUP		CONTROL GROUP		TOTAL
	N	%	N	%	
DURATION MENSTRUAL FLOW					
3-4	62	60.8	63	61.8	125
5-6	35	34.3	33	32.4	68
7-8	5	4.9	6	5.9	11
NATURE OF MENSTRUAL CYCLE					
Regular	93	91.2	93	91.2	186

Irregular	9	8.8	9	8.8	186
AGE AT MENARCHE					
10-12	33	32.4	22	21.6	55
13-15	48	47.1	67	65.7	115
16-18	21	20.6	13	12.7	34
AGE AT MARRIGE					
18-23	73	71.6	81	79.4	154
24-29	25	24.5	19	18.6	44
30-35	4	3.9	2	2.0	6

Table 4: Distribution of Obstetrical Information among the Study Participant (N=204)

OBSTETRICAL VARIABLE	INTERVENTION GROUP		CONTROL GROUP		TOTAL	P VALUE
	N	%	N	%		
LIVING CHILDREN						
Present	5	4.9	6	5.9	11	0.13
ANY CONTRACEPTIVE METHODS PRACTICED						
YES	4	3.9	1	1.0	5	0.17
DIFFICULTY PECEIVED IN USING CONTRACEPTIVE						
YES	15	14.7	37	36.3	52	0.00*
PLANNING TO HAVE ANOTHER CHILD						
YES	59	57.8	31	30.4	90	0.000**

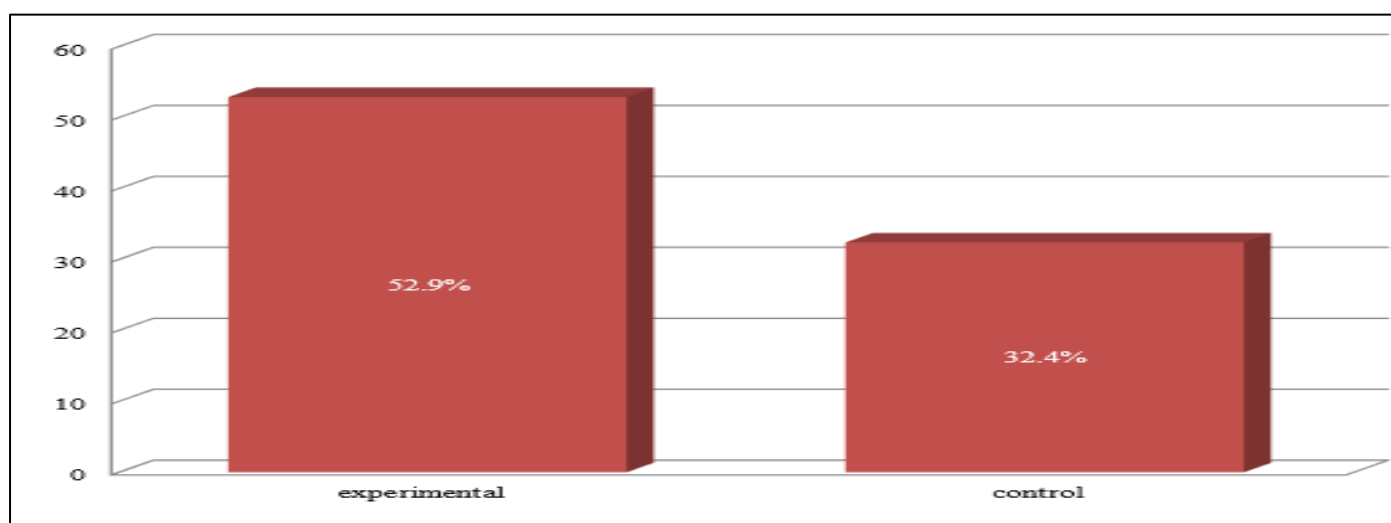


Fig 2: Percentage Distributions Awareness among the Study Participants about others Using Cu T

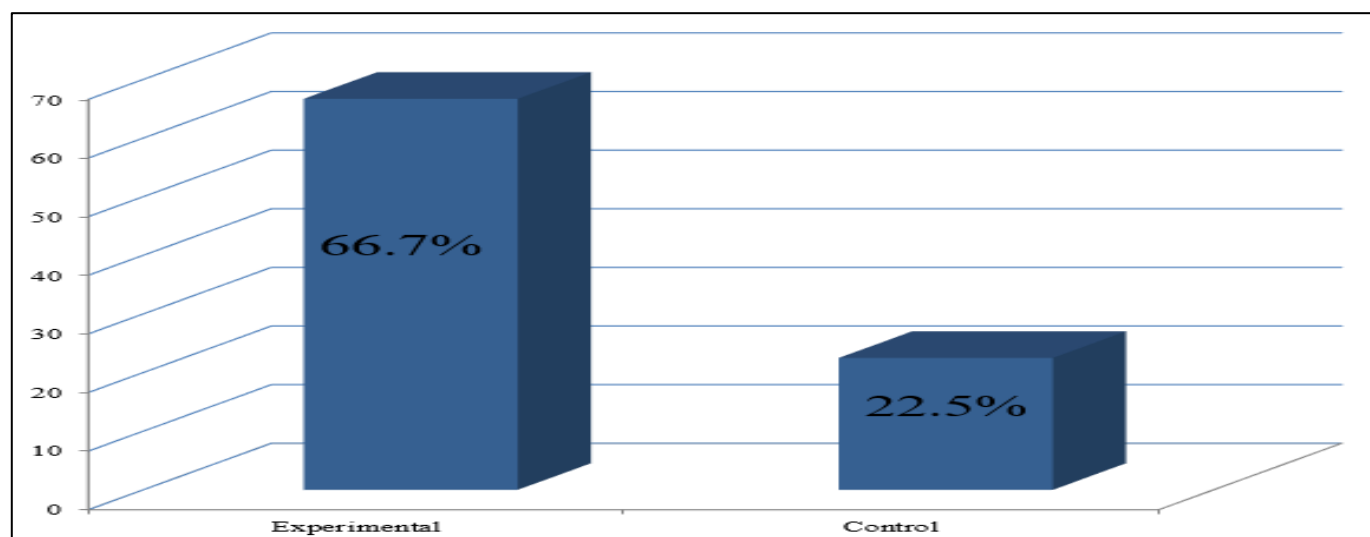


Fig 3: Willingness and adoption of PPIUCD among Study Participants in Intervention and Control Group

Table 5: Adoption of PPIUCD According to the Willing Status in all Study Participants

ADOPTION STATUS	ACCEPTED	NOT ACCEPTED	TOTAL	P VALUE
TOTAL (both the group) 204				
WILLINGNESS	26	65	91	0.00
NON WILLINGNESS	6	107	113	
CONTROL GROUP (n = 102)				
WILLINGNESS	4	19	23	0.053
NON WILLINGNESS	4	75	79	
INTERVENTION GROUP (n = 102)				
WILLINGNESS	22	46	68	0.003
NON WILLINGNESS	2	32	34	

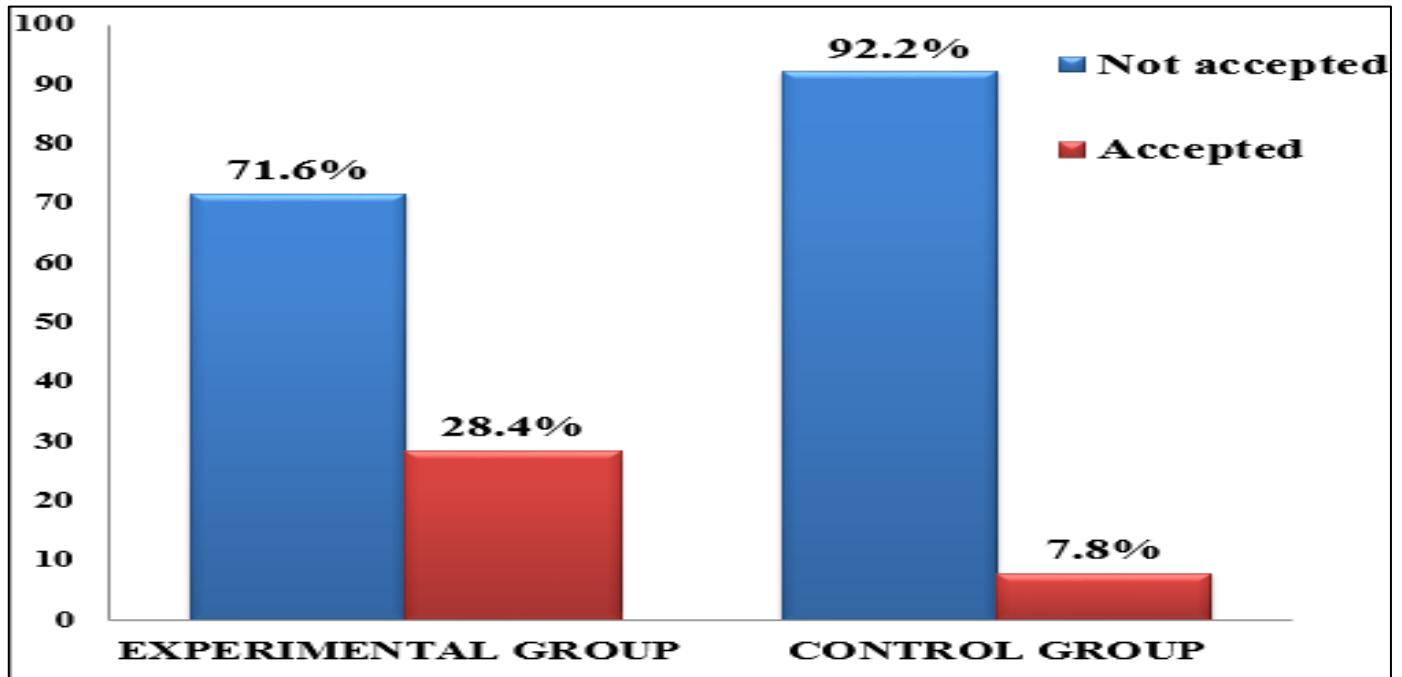


Fig 4: Percentage Distribution of Acceptance Level of PPIUCD among Study Participants in Intervention and Control Group

Table 6: Reasons for Willingness and Unwillingness to Adopt PPIUCD among the Intervention and Control Group.

REASONS	INTERVENTION GROUP		CONTROL GROUP		TOTAL	P value
Reason for willingness to adoption of PPIUCD (n=106)						0.000
	N	%	N	%		
For Baby health	12	11.7	7	6.8	19	
For Spacing	38	37.2	9	8.8	47	
Family Decision	19	18.6	21	20.5	40	
Reason for Unwillingness to non-adoption of PPIUCD (n=98)						
Husbands not willing	12	11.7	25	24.5	37	
Mothers not willing	9	8.8	15	14.7	24	
Fear of Procedure	7	6.8	15	14.7	22	
No confidence on Cu-T	5	4.9	10	9.8	15	

Table 6: Adoption of Any Method of Contraception by the End of Six Weeks by Intervention and Control Group Participants

ADOPTION OF PPIUCD AFTER SIX WEEKS	INTERVENTION GROUP		CONTROL GROUP		TOTAL	P VALUE
	N	%	N	%		
Yes	50	49.0	14	13.7	64	0.000**
No	88	86.3	52	51.0	140	