



ORIGINAL ARTICLE

Efficacy assessment of post partum intra uterine contraceptive devices following caesarean section and vaginal birth.

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ABSTRACT... Objectives: To assess the relative efficacy of post-partum intra uterine contraceptive devices following cesarian and vaginal birth. **Study Design:** Retrospective study. **Setting:** Department of Obstetrics and Gynecology Unit B, Lady Reading Hospital, Peshawar, KPK, Pakistan. **Period:** September, 2020 to June, 2021. **Material & Methods:** Focusing 948 delivery cases after, the placental delivery intrauterine insertion was done by using CuT-380 A and directed towards cervix. Enough care was taken not to dislodge IUCD as hand is removed. Strings were guide towards lower uterine segment without disturbing IUCD's fundal position. Patients were further monitored for six-month follow-up timecard to assess efficacy of applied contraception method. **Results:** Only 22 % (66) accepted intra-uterine contraception device intra-cesarian deliveries. In vaginal birth 241 women accepted intra-uterine contraception device. The Chi-Square test outcomes and P-value < 0.00001 represent significant acceptance trends (32.3 %) of intra-uterine contraceptive devices in both vaginal and intra-cesarian deliveries (Table.3.1). The mean of participants was 33.26 year \pm 5.109. About 231 (24.4 %) women were belonging from age range 15-29 year of age. **Conclusion:** The lack of women knowledge, attitude and mal practices using contraception devices are the key factors for heightened complexity like, expulsion and removal of the contraception devices in both intra-cesarian and vaginal deliveries. Early follow up and patient counselling are essential to minimize common problems associated with contraception device usage and improved efficacy.

Key words: Birth Control, Contraception, Family Planning.

INTRODUCTION

The lack of effective obstetric care for pregnant women at resource limited tertiary healthcare settings turn out heightened fetomaternal death rates in underdeveloped world. The Global healthcare estimates suggest, caesarean sectioning a safe and effective surgical procedure for deliveries. On contrary basis, expert gynecologists affirmed that, availability of essential MCH services like, caesarean sectioning had no significant impact to reduce fetomaternal mortality. Additionally, a great chaos has been reported in literature among pregnant women in terms of knowledge, attitude, and benefits of vaginal birth over caesarean sectioning.¹⁻⁴ Recent research facts from Brazil, Egypt and Turkey unveiled that, 50 % of recorded deliveries were caesarean sections in 2018. Similar statistics

were reported from United States, Australia and Germany, where 1/3rd of pregnant women has a caesarean section delivery.⁵ WHO recommended standards consider 15% caesarean section an ideal range, where a significant rise (20%) in caesarean birth trends has been recorded in Pakistan from year 1990-2018.

High parity and closely spaced child births are another reason for poor fetomaternal health. Significant family planning interventions were introduced in past focusing different contraception methods to control birth.⁶ To date, no one contraception method has been recognized 100 % effective. The existing heterogeneity in either contraception method challenges gynae experts choosing an appropriate and effective contraception approach to control un-intendent

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pregnancies and in decision making during postpartum period. In general, the contraception methods are further categorized into permanent and temporary methods.⁷⁻⁹ Different research reports tested relative effectiveness of long-acting reversible, hormonal, and non-hormonal contraception methods on selective populations with small sample size.¹⁰⁻¹²

Current research is designed to assess effectiveness of post-partum intra uterine contraceptive devices focusing pregnant women belonging from Khyber-Pakhtunkhwa, Pakistan.

MATERIAL & METHODS

Current retrospective study following convenient sampling was conducted at Obstetrics and Gynecology unit B, Lady Reading Hospital, Peshawar, KPK, Pakistan from Sept, 2020 to June, 2021. The pregnant women willing to intra-caesarean IUCD insertion were included in the study after informed consent about the procedure. The study was approved by principal officer ethical committee, Lady Reading Hospital, Peshawar via no. 359, GBU/LRH. Patients' inclusion criteria were set-forth as willingness for intra-caesarean IUCD contraception with no uterine abnormalities ranging 15-60 years. In contrast patients presenting previous congenital uterine abnormalities in parallel with any sort of microbial co-infection and postpartum haemorrhage were excluded from the study. Just after the placental delivery intrauterine insertion was done by using CuT-380 A and directed towards cervix.

Each of included participant in the study was monitored for six-month follow-up time to assess the effectiveness and safety of chosen intra uterine contraceptive devices. The IUCD was removed from insertion sleeve and placed on sterile field. Uterus was stabilized by grasping it at fundus. IUCD was held between middle and index fingers and inserted into the uterus through uterine incision and released at fundus of uterus. Hand was removed slowly from the uterus. Enough care was taken not to dislodge IUCD as hand is removed. Strings were guide towards lower uterine segment without disturbing IUCD's fundal position. Care was also taken not to include IUCD

strings during uterine closure.

The demographic details and follow-up complexities were recorded by using pre-designed questionnaire. Further data analysis was done by using SPSS v. 20 and SAS statistical software. Chi-square test was performed for categorical variables analysis and the outcomes were considered statistically significant $P < 0.05$.

RESULTS

Out of total 948 cases, about 369 (39%) were cesarian deliveries and 579 (60%) cases of vaginal deliveries. Only 22 % (66) accepted intra-uterine contraception device intra-caesarian deliveries. In vaginal birth 241 women accepted intra-uterine contraception device. The Chi-Square test outcomes and P-value < 0.00001 represent significant acceptance trends (32.3 %) of intra-uterine contraceptive devices in both vaginal and intra-caesarian deliveries (Table-I). The mean of participants was 33.26 year ± 5.109 . About 231 (24.4 %) women were belonging from age range 15-29 year of age. Where majority of the women (65.8%) were in 30-39 year of age group. Only 9.8 % women were above 40 years of their age. Upon demographic educational assessment of included participants a higher (77 %) fractions of uneducated women were noted. Only 0.3 % women were having access to higher education. Similarly, 93 % of included participants were housewives (Table-II).

The six-month follow-up efficacy assessment was done via telecommunication modes of communications and physical visits of the women who had received intra-uterine contraception device either during intra-caesarian delivery or vaginal delivery. There was not a single case reported for pregnancy, infection and perforation related complication following post-contraception assessment.

About 27 (8.7%) of intra-uterine contraception cases reported expulsion following post intra-uterine contraception. Similarly, removal cases and heavy bleeding related complications were non-significant, P-value = 0.563 & 0.309 (Table-I).

Efficacy	Follow Status (Six Months)	Intra-Cesarian Deliveries n=369	Vaginal Deliveries n=579	Total n=948	Chi-Square Test	P-Value
Post Partum IUCD	YES	66	241	307	57.9936	<0.00001
	NO	303	338	641		
Pregnancy	YES	0	0	0	-	
	NO	66	241	307		
Infection	YES	0	0	0	-	-
	NO	66	241	307		
Perforation	YES	0	0	0	-	
	NO	66	241	307		
Expulsion	YES	11	16	27	6.495	0.010818
	NO	55	225	280		
Removed	YES	7	32	39	0.3335	0.56357
	NO	59	209	268		
Abdominal Pain	YES	9	14	23	4.58	0.032346
	NO	57	227	284		
Heavy Bleeding	YES	2	3	5	1.0309	0.309936
	NO	64	238	302		
Invisible Threads	YES	0	0	0	-	-
	NO	66	241	307		
In Situ X- ray Renal Ultrasound	YES	8	14	22	3.103	0.07815
	NO	58	227	285		

Table-I. Comparative efficacy assessment of post-partum intra uterine contraceptive devices.

Variable	Frequency	Percent
Age (Years)		
15-29	231	24.37
30-39	624	65.82
>40	93	9.81
Mean = 33.26 ± 5.109		
Education Status		
Uneducated	729	76.90
Primary	45	4.7
Secondary	171	18.04
Higher Education	3	0.32
Occupational Status		
House wife	882	93
Working lady	66	7
Total	948	100

Table-II. Demographic characteristics of included participants.

DISCUSSION

Our study recorded more acceptability trends of intra-uterine contraception among vaginal deliveries (41.6%) in comparison to intra-cesarian deliveries (17.88%). The follow up probability of our outcomes was maximum (approximately 100 %). Where an Indian study reported 79 % follow up rates.¹³ The reason for maximum follow-

up records in our study was six-month duration as well tele-communication follow-up mode of evaluation. In our study the expulsion rates were about 8.7 % as consistent with another study reporting 9 % respectively.¹⁴ Similarly, in our study none of the case of infection and pregnancy was recorded after intra-uterine contraception as same was reported in a previous study led by Gupta et al. in Uttar Pradesh India.¹⁵

The cases regarding removal of intra-uterine contraception devices were about 12 % in our study which are inconsistent with studies reported in past unveiling 3-8 % removal cases. The possible deviation suggests due to higher sample size in our study.¹⁶⁻¹⁷ The x-ray, ultrasound analysis was done for 22 cases to ensure the continuity of contraception device. Similar was also acknowledged in another study led by Hooda R et al., 2016.¹⁸

CONCLUSION

Current study declares post-partum intra uterine contraceptive devices an effective, safe, and valid choice to control un-intended pregnancies.





The lack of women knowledge, attitude and mal practices using contraception devices are the key factors for heightened complexity like, expulsion and removal of the contraception devices in both intra-cesarian and vaginal deliveries. Early follow up and patient counselling are essential to minimize common problems associated with contraception devices usage.

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AUTHORSHIP AND CONTRIBUTION DECLARATION

No.	Author(s) Full Name	Contribution to the paper	Author(s) Signature
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2	Ammarah Ahmed	Patient selection, Data collection, experimental work.	
3	Maham Salam	Data analysis, Guidance, Data interpretation.	
4	Momnah Ahmed	Patient selection, experiments and patient follow up, data acquisition, drafting.	
5	Naeem Bukhari	Data analysis, Drafting manuscript review and proof reading.	