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Frequency of trans caesarean insertion of intrauterine contraceptive device: A single center experience.

1. MBBS, FCPS
Assistant Professor Gynaecology
Pakistan International Medical College, Peshawar.
2. MBBS, DGO, MCPS, FCPS
Head Gynaecology and Obstetrics
Combined Military Hospital, Peshawar.
3. MBBS, FCPS
Associate Professor Gynaecology
Muhammad College of Medicine, Peshawar.
4. MBBS, FCPS
Assistant Professor Gynaecology
PNS HAFEEZ Islamabad.
5. 4th Year MBBS Student
The Agha Khan University Karachi.
6. MBBS
Resident Doctor
Lady Reading Hospital Peshawar.

Correspondence Address:
Dr. Nighat Afridi
MBBS, DGO, MCPS, FCPS
Department of Gynecology and Obstetrics
Combined Military Hospital, Peshawar.
nighatafridi@gmail.com

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Saira Nazeer[1], Night Afridi[2], Amna Fareed[3], Fatima Sharif Khan[4], Saifullah Khan[5], Shah Gul Khan[6]

ABSTRACT… Objectives: Our objective was to determine frequency Trans-caesarean insertion of intrauterine device, complications associated with IUDs and to evaluate reasons for not using IUDs. **Study Design:** A Retrospective study. **Setting:** Department of Gynecology and Obstetrics, Combined Military Hospital (CMH), Nowshera. **Period:** January 2019 to June 2019. **Material & Methods:** During these 6 months, data of 210 women from January 2017-December 2018 was reviewed and analyzed. Data regarding frequency of trans caesaearan intra uterine device insertion, its complication and reasons of not insertion was collected. SPSS (version 24) used for data analysis process. Chi-square test was applied. P value ≤0.05 was significant. **Results:** Total 210 women were included in study. Mean age was 31.2 years±4.2SD. Frequency of IUCD insertion was 91(43%). Most common reason for not insertion of IUD was urge for baby boy or girl 23.8%. Most common complication was bleeding 5.2%. A significant association between IUD insertion and age (p=0.04), education (p=0.000) and employment status (p=0.001), gravid (p=0.000) and previous use of contraceptive (p=0.05). **Conclusion:** A relatively high trans-caesarean IUD frequency was observed with limited complications in our study.

Key words: Contraception, Intrauterine Device, Trans Caesarean.

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INTRODUCTION

Intrauterine devices are most common and popular way of reversible contraception, now-a – days. An estimated 168 million women are using these devices for contraception, worldwide.[1] Moreover, IUDs utilization and implants usage is increased from year 2009- 2012 (8.5%-11.6% respectively). As a result of increased IUDs use, rate of unintended pregnancy decrease in United States during 2008 to 2012.[2] Contraception methods are the terms used for unwanted pregnancy prevention temporarily or permanently. According to World Health Organization (WHO) reports, in Pakistan unmet need for contraception was 25% which is highest in South East Asia.[3]

Contraceptive devices were considered for females initially. They were first invented in early 1900s for pregnancy prevention purpose.[4] Literature reported that initially contraceptive devices were made of different material rings that usually range from steel material to silkworm gut. After World War II, birth control contraceptive devices were banned and inventers were declared as criminal (Dr. Grafenberg and Dr Ota in Germany and Japan respectively). However, in 1960s these IUDs were reinvented in plastic forms (Lippes Loop, Margulies Spiral and Saf T Coil). Moreover, addition of copper in 1970s leads to improve IUDs efficacy.[5]

Currently, two types of IUDs are used as safe, effective and acceptable method of birth prevention. These IUDs contain copper or progestin. An estimated 150 million women are using copper IUDs as most common reversible birth control prevention, worldwide.[6] An estimated 13.6% couples are using IUDs worldwide.[7] Evidence exist that use of IUD is high in under developed countries and high in developed countries (14.5% and 7.6% respectively).[8] Variation of IUDs rate use depends upon socioeconomic

status and geographical basis. It was reported that women in Central and East Asian countries using contraceptives, 70% of them are using IUDs. In Western Europe and Africa use of IUDs is 11% and 1% respectively.[9]

Copper IUDs are frameless and T shaped devices. These copper devices are anchored to myometrium at uterine fundus in women. T 380A cooper is most common IUD with 380mm^2 surface area, used worldwide. T-380 cooper IUD had T shaped core (plastic), horizontal and vertical arms placed with copper. Copper sheath contains a silver core for copper fragmentation prevention and enhancing Copper T-380 A life span.[10]

Pakistan is a low income country with 28,000 maternal deaths as a result of preventable pregnancy related complications. Pakistan had high rate of induced abortions (1/7 pregnancies is being terminated in Pakistan). IUD was 2nd most popular contraceptive method in 2001 in Pakistan. A recent survey in 2011 reported IUDs discontinuation rate 16.3% after 6 months, 18.8% after 12 months and 22.7% after 24 months in Sindh and Punjab provinces.[11]

Insertion of IUDs after delivery (C-section or vaginal) is very appealing due to multiple reasons. Literature reported that after delivery is an ideal time for IUDs insertions, as women in not pregnant and high motivated for accepting contraception advice. There is no need for contraception post partum duration (21 days). Post partum IUDs insertion is an effective reversible birth control method (the process does not interfere with breast feeding). Patients counseling, insertion time and staff training are important risk factors for post partum IUCD insertion.[12] Curtis et al. reported that women with high level of education showed more frequency of IUCD insertion as compared to uneducated women ($p=0.001$).[13] Another similar study reported that in Pakistan frequency of IUCD is significantly associated with education, husband occupation, husband willingness, age of women, parity and financial status ($p<0.05$).[14] Limited literature is available on IUDs usage, Pakistan. Present study aims to determine frequency Trans-caesarean insertion of intrauterine device, complications associated with IUDs and to evaluate reasons for not using IUDs.

MATERIAL & METHODS

A retrospective study was conducted during January 2019 to June 2019 at department of gynecology and obstetrics, in Combined Military Hospital (CMH), Nowshera. During these 6 months, data of 210 women from January 2017-December 2018 was reviewed and analyzed. Ethical approval was taken from ethical review board of CMH. Women undergone C-section, multiparous, not willing for bilateral tubal ligation (BTL), undergone multiple C-sections and women having previous scars with short pregnancy interval were included in study. Exclusion criterion was based upon World Health Organization un-eligibility criteria for IUDs use (post partum haemorrhage, anemic women with haemoglobin <10g/dl, women with obstructed labour, pre mature rupture of membranes) primigravida and patients with distorted uterine cavity. During C-section, IUCD (CuT/Multiloaded) was inserted in uterus through applicator after giving an incision. IUCD string was directed towards cervical canal of patients. In the end uterine incision was closed and women were informed about IUCD. SPSS (version 24) was used for data analysis. Mean and standard deviation was calculated as descriptive statistics. Frequency and percentages were calculated for qualitative variables. Chi-square test was applied for measuring associations. P value ≤0.05 was considered significant.

RESULTS

Total 210 women were included in study. Mean age was 31.2 years±4.2SD. There were 89(42%) women in 20-30 years age group and 121(57.6%) women in 31-42 years age group. Educational level was primary in 53(25.2%), secondary 106(50.5%), intermediate 38(18.1%) and graduate or higher in 13(6.2%) women. Monthly income was 5000-20,000 PKR/- in 176(83.8%) and >20,000 PKR in 34(16.2%) women. Among all women 210(100%), 198(94.3%) were house wives and 12(5.7%) were working lady. Gravida was primigravida in 32(15.2%), 2-3 in 10.4(10.5%), 3-4 in 54(25.7%)

and >4 in 102(48.6%) women. No of living children were 1-3 in 108(51.4%) women and >3 in 102(48.6%). Among all the women 210(100%), 147(70%) did not use contraceptives previously while 63(30%) were using contraceptive previously. Frequency of IUCD insertion was 91(43.%) while 119(57%) were not inserted with IUCD as shown in Figure-1. Insertion time was intraceasarean in 82(39%) and immediate post partum (after 48 hours) in 9(4.3%). Reason for not using IUCD was family pressure in 23(11%), urge for baby girl/boy in 50(23.8%), primi gravid in 27(12.9%), last born not alive 14(6.7%) and husband out of country 5(2.4%). Among all the women whom IUCD was inserted, 11(5.2%) had bleeding, minor abdominal pain in 6(2.8%) and perineal infection in 6(2.8%) women.

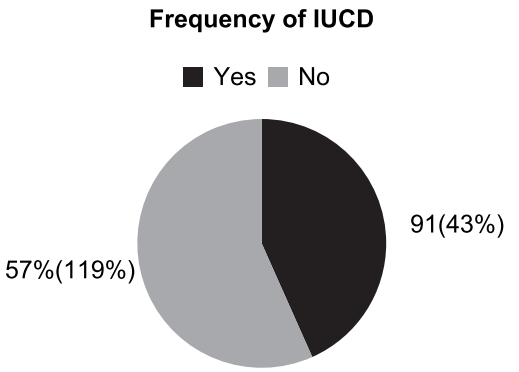

Figure-1. Frequency of IUCD

Among all the women in age group 20-30 years 89(42.4%), IUCD was inserted in 32(15.2%) women and was not inserted in 57(27.1%) women. Similarly women in age group 31-42 years 121(57.6%), IUCD was inserted in 59(28.1%) women and not inserted in 62(29.5%) women (p=0.04). among all the women with primary level of education 53(25.2%), IUCD was inserted in 8(3.8%) and not inserted in 45(21.4%). Among all women with secondary level of education 106(50.5%), IUCD was inserted in 44(21%) women and not inserted in 62(29.5%) women. Among all with intermediate level of education 38(18.1%), IUCD was inserted in 2(15.2%) and not inserted in 6(2.9%). Among all the women with graduate of higher education 13(6.2%), IUCD was inserted in 7(3.3%) and not inserted in 6(2.9%) women (p=0.000). Majority of IUCD were inserted in house wife 91(43.3%) as compare to working lady (p=0.001). as shown in Table-I.

Among all the women who underwent IUCD insertion 91(43.3%), 14(6.7%) had 2-3 gravida, 29(13.8%) had 4 gravida and 48(22.9%) had >4 gravida. Similarly among all those who did not underwent IUCD insertion 119(56.7%), 32(15.2%) had primigravida, 2-3 gravida in 8(3.8%), 4 in 25(11.9%) and >4 gravida 54(25.7%) (p=0.000). Majority of IUCDs were inserted in those women who were not using contraceptives previously as compare to those who were using contraceptive previously (28.6% versus 14.8%, p=0.05) as shown in Table-II. Monthly income, IUCD insertion time and number of living children was insignificantly associated with IUCD insertion (p>0.05).

Age	IUCD Insertion		Total	P-Value
	No	Yes		
20-30 years	57(27.1%)	32(15.2%)	89(42.4%)	0.04
31-42 years	62(29.5%)	59(28.1%)	121(57.6%)	
Education				
Primary	45(21.4%)	8(3.8%)	53(25.2%)	0.000
Secondary	62(29.5%)	44(21%)	106(50.5%)	
Intermediate	6(2.9%)	2(15.2%)	38(18.1%)	
Graduate or higher	6(2.9%)	7(3.3%)	13(6.2%)	
Employment status				
House wife	107(51%)	91(43.3%)	198(94.3%)	0.001
Working lady	12(5.7%)	0(0%)	12(5.7%)	
Total	119(56.7%)	91(43.3%)	210(100%)	

Table-I. Association between IUCD insertion and age, education, employment status

Gravida	IUCD insertion		Total	P-Value
	No	Yes		
Primigravida	32(15.2%)	0(0%)	32(15.2%)	0.000
2-3	8(3.8%)	14(6.7%)	22(10.5%)	
4	25(11.9%)	29(13.8%)	54(25.7%)	
>4	54(25.7%)	48(22.9%)	102(48.6%)	
Previous use of contraceptives	62(29.5%)	44(21%)	106(50.5%)	
No	87(41.4%)	60(28.6%)	147(70%)	0.05
Yes	32(15.2%)	31(14.8%)	63(30%)	
Total	119(56.7%)	91(43.3%)	210(100%)	

Table-III. Association between IUCD insertion and gravid, previous use of contraceptives

DISCUSSION

Pakistan lack success of national family planning program leading towards raised concerns for contraceptive, in last two decades. In present study. 210 women data was reviewed. Frequency of IUCD insertion was 43% in present study. A survey compared use of contraceptive changes from 1991-2007 in Pakistan. They reported a decline in importance of IUCD (33% to 26%) in rural area while in urban it decrease to 18%.[15] National Institute of Population studies Pakistan reported that IUD insertion after delivery is very convenient due to high motivation and the procedure did not interfere with post partum breast feeding.[16] Law et al reported that acceptability rate of TCu380A was 25% to 30%. They reported that IUCD insertion immediately post placental during C-section leads to long term contraception with low discomfort and high efficacy.[17]

In present study, most common reason of not being convinced for IUCD insertion was urge of having a baby boy/girl 23.8% following primi gravid 12.9%, family pressure 11%, last born not alive 6.7% and husband out of country 2.4%. Rose et al reported that most common reason for not using IUCD was planned pregnancy 32% and husband pressure 26%.[18] Cohen et al. reported that IUD insertion during C-section is most adequate method to prevent unplanned pregnancy. However, 1/4th participants discontinue due to spontaneous expulsion and other medical issues.[17]

In present study, among all the women whom IUCD was inserted, 11(5.2%) had bleeding, minor abdominal pain in 6(2.8%) and perineal infection in 6(2.8%) women. Abu Hashim et al reported that minor bleeding or spotting is common complication of IUCD insertion after 3 months.[19] A Cochrane analysis, reported that expulsion rate of IUDs insertion during C-section is significantly lower as compared to IUDs placement with trans vaginal insertion.[20]

In present study, majority of IUDs were inserted among women in age group 30-42 years as compare to younger age group (28.%1 vs 15.2%, p=0.04). Azmat et al reported that age of not using IUCD in Pakistan was 25-35 years that is associated with desire of pregnancy. They reported low IUCD insertion at this age as it is most fertile age group in Pakistan.[21] Education had significant association with IUCD insertion (p=0.000) in present study. Kavanaugh et al reported that women with low education level were more prone to have unplanned pregnancies as compare to educated women (p=0.05).[22] Lopez et al reported that education had significant impact on awareness regarding IUCD insertion for reversible contraception among women.[23]

LIMITATION

Retrospective study design limits the generalizability of study.

CONCLUSION

A relatively high trans-caesarean IUD frequency was observed with limited complications in our study. We recommend that trans caesarean IUD contraceptive method in combination with national program will lead to high acceptance level, create more awareness, help to decrease

population size, secure mother and child health.

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AUTHORSHIP AND CONTRIBUTION DECLARATION

Sr. #	Author(s) Full Name	Contribution to the paper	Author(s) Signature
1	Saira Nazeer	Literature, complint of study, discussion, Data analysis & Data interpretation.	
2	Night Afridi	Literature, complint of study, discussion, Data analysis & Data interpretation.	
3	Amna Fareed	Literature, complint of study, discussion, Data analysis & Data interpretation.	
4	Fatima Sharif Khan	Lit search, Data analysis, Proof reading, Data collection, Data analysis.	
5	Saifullah Khan	Lit search, Data analysis, Proof reading, Data collection, Data analysis.	
6	Shah Gul Khan	Lit search, Data analysis, Proof reading, Data collection, Data analysis.	