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Comparative Study of Expusion Rates, Removal Rates & Continuation Rates of Copper 375(Multiload) and Copper T 380 A in Interval & Post MTP Cases

KEYWORDS: Copper T 380 A, Copper 375, Multiload

Dr. Gurcharan Kaur
Head, Department of Obstetrics and Gynaecology, Kasturba Hospital, Delhi

*** Dr. Taruna Sharma**
Resident, Department of Obstetrics & Gynaecology, Kasturba Hospital, Delhi * Corresponding Author

ABSTRACT *Background: The IUD is a small, flexible apparatus that offers safe, effective and long term contraception. The objective of this study is to compare removal rates, expulsion rates & continuation rates of Copper 375 (Multiload) and Copper T 380 A in interval & post MTP cases.*
Method: 100 women were enrolled in study. Out of these,50 women were randomly selected for Copper 375 insertion & 50 women for Copper T 380 A insertion in interval and post MTP cases. These subjects were observed for removal rates, expulsion rates and continuation rates at 1& 6 months,.
Results: Removal rates and expulsion rates of Copper T 380 A were higher than Copper 375.Continuation rates of Copper 375(Multiload) were significantly higher than Copper T 380 A(p value<0.05).
Conclusion: Our study concludes that Copper 375 (Multiload) has better patient compliance as compared to Copper T 380 A due to less removal rate, expulsion rate & continuation rates.

INTRODUCTION

Utilized by more than150 million women worldwide, primarily in the form of the copper IUD, these devices are the most commonly used method of reversible contraception and are second only to female sterilization as the most common form of birth control overall [1,2]. All together, 13.6% of couples around the world have selected the IUD for birth control.IUD use is high (14.5%) in less developed countries and low (7.6%) in more developed countries [2].India at present is in late expanding phase of demographic cycle, with high birth rate i.e. 21.56/1000 population and low death rate of 7.95/1000 population in 2011.The Total Fertility Rate is 2.4 children per women (2011)[3]. Current population growth is worrisome and enough to neutralize efforts taken to conserve resources and environment. IUD has the potential to address these unmet needs, and the needs of women who have concerns about sterilization or who are not sure about their future desire.Despite its safety and effectiveness, the IUD remains an underused method of contraception in India. Various factors account for the low rate of use, including lack of trained providers, poor-quality IUD services, provider bias, and lack of awareness and misconceptions among both clients and providers. Beginning in 2006, the Ministry of Health and Family Welfare (MOHFW) started taking steps to revive and reposition the IUD in India, particularly in states with low contraceptive prevalence.In line with its strategies for repositioning the IUD, the MOHFW became interested in adding the IUD 375 to its Family Welfare Programme. The IUD 375 was already available in the private sector, where it was popular and it had the advantage over the Cu T380A of being packaged preloaded on its inserter[4] .

OBJECTIVES

To evaluate expulsion rates, removal rates and continuation rates of Copper 375(Multiload) & Copper T 380 A in interval & post MTP cases.

METHODOLOGY

This randomized control study was conducted in the department of Obstetrics and Gynecology at Kasturba Hospital,Delhi. Total 100 women attending family planning OPD, MTP clinic & Gynaecology OPD were enrolled in the study. Out of these,50 women were selected for Copper 375(Multiload) insertion & 50 women were selected for Copper T 380 A insertion randomly by computer generated random table.

A written informed consent was obtained from all enrolled patients. History was obtained from subjects & detailed general, systemic and abdominopelvic examination was done. Exclusion criteria used were pregnancy, congenital malformation of uterus, undiagnosed vaginal bleeding, any bleeding disorder & acute pelvic inflammatory disease .After preinsertion counseling, Copper 375 (Multiload) & Copper T 380 A were inserted in interval and post MTP cases. Follow up was done at the end of 1 month & end of 6 months & expulsion rates, removal rates & continuation rates were evaluated

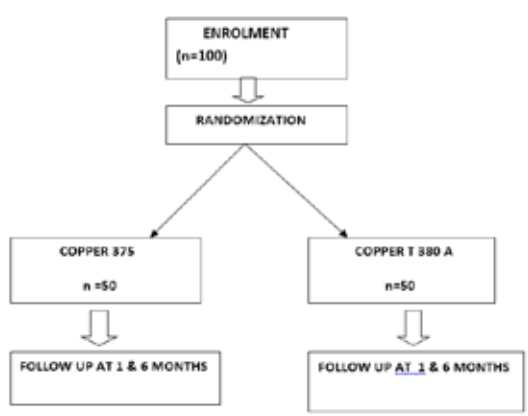

Figure 1: RCT flow chart of this study comparing between Copper T 380 A & Copper 375(Multiload).

STATISTICAL DATA EVALUATION

Statistical evaluation was done by using SPSS (Statistical package of the social sciences). Qualitative variables were expressed as numbers & percentages, while quantitative variables were expressed as means. p value less than 0.05 was considered as significant.

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RESULTS

The sociodemographic characteristics including age, parity and religion of Copper 375(Multiload) users and Copper T 380 A are represented in Table 1. There was no statistically significant difference comparing these variables between the two IUDs.

Table 1: Comparison between Copper 375(Multiload) users & Copper T 380 A according to sociodemographic data.

	Copper 375(Multiload)		Copper T 380 A	
	n	%	n	%
Age				
15-19	1	2	0	0
20-24	17	34	13	26
25-29	22	44	23	46
30-34	8	16	8	16
>35	2	4	6	12
Parity				
1	9	18	7	14
2	27	54	25	50
>3	14	28	18	36
Religion				
Hindu	29	58	27	54
Muslim	21	42	23	46

None of the patients requested for removal of Copper 375 (Multiload) as compared to 2 removals (4%) in Copper T 380 A users at the end of 1 month. Whereas at the end of 6 months, removal rate was 2% in Copper 375(Multiload) users & 8% in Copper T 380A users. Expulsion rate was slightly higher in Copper T 380 A users both at the end of one month (8%) & six months (2%) in comparison to Copper 375(Multiload) for which expulsion rate was 4% (2 out of 50) at end of one month & no expulsion occurred at end of six months. Continuation rate at the end of one month was 96% for Copper 375 (Multiload) & 88% for Copper T 380 A. Statistically significant difference in continuation rate was observed at end of 6 months which was 94% for Copper 375(Multiload) & 78% for Copper T 380 A.(p value-0.041)

Table 2: Comparison of removal rates, expulsion rates and continuation rates of Copper 375(Multiload) & Copper T 380A at end of 1 & 6 months.

	Copper 375 n =50	Copper T 380 A n =50	
	n %	n %	p value
Removal rate			
1 month	0 0	2 4	0.495
6 month	1 2	4 8	0.189
Expulsion rate			
1 month	2 4	4 8	0.678
6 month	0 0	1 2	0.478
Continuation rate			
1 month	48 96	44 88	0.269
6 month	47 94	39 78	0.041

DISCUSSION

Despite the fact that the government offers IUD services free of cost, it still remains largely underutilized. Utilization of IUD varies with demographic data of population. Majority of our subjects, 88% of Copper 375 (Multiload) users & 92% of Copper T 380 A users belonged to age group interval 25-29 years which is similar to study done by Mahnaz Shahnazi et al [5](2012) in which majority of the patients were aged 27-33 years in Copper T 380 A & Copper 375 users. This may be because this age group is the reproductive period in which women need spacing. There was no significant difference in use of Copper 375(Multiload) & Copper T 380 A on basis of religion. In present study, 54% of Copper 375(Multiload) users & 50% of Copper T 380 A users had 2 living issues. Betagly [6](2011) in his study observed that majority of the subjects (44.7%) were para 2, which matched well with our observation.

Removal rates for Copper T 380 A were slightly higher at the end of 1 month (4%) & 6 months (8%) whereas in Copper 375 (Multiload) users no removal was done at 1 month and only 1 removal (2%) was done at end of 6 months. Main reasons for Copper T 380 A removal observed in the study were abdominal pain & excessive uterine bleeding which is similar to observation made Hubacher et al [7](2006) who observed that bleeding and dysmenorrhea were the most frequent reasons for Copper T 380 A discontinuation in the first year of use between 4% and 15% of women using a Copper T 380 A. Bliss Kaneshiro [8] (2010) stated that the most common reasons for the discontinuation of Copper T 380 A were menstrual bleeding and dysmenorrhea which is comparable to this study.

At the end of one & 6 months, expulsion rate was slightly higher in Copper T 380 A users (8% & 2%) in comparison to Copper 375(Multiload) for which expulsion rate was 4% (2 out of 50) at end of one month & no expulsion occurred at end of six months. Population Reports (1979) reported spontaneous expulsion rates of copper containing IUD varied from 5 to 20 per 100 women.Highest incidence occurred in first 3 months of use, mostly during menstruation, especially the first menstrual period after insertion [9]. On the contrary, Shazia A Khan et al [10] (2010) concluded that expulsion rate was higher in Cu 375 IUD users(4.6%) as compared to 2.4% cases of Copper T 380 A .

Continuation rate at end of 1month was more for Copper

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375 (Multiload) i.e.96% as compared to 88% for Copper T 380 A. At 6 month follow up visit, continuation rate for Copper 375 (Multiload) users (94%) was significantly higher as compared to Copper T 380 A(78%).(p value-0.041). The symptoms most often responsible for IUD discontinuation are increased uterine bleeding and increased pain. Discontinuation rates of IUD are highest earlier during its use and seem to be positively correlated with the surface area of copper in the endometrial cavity (WHO 1997). Similar results were observed by Shazia Khan et al[10] (2010), who reported the net 6 months IUD continuation rate was 97% for Cu 375 IUCD copper 375 as compared to 89% in Copper-T 380.

CONCLUSION

Copper 375(Multiload) is highly effective and reversible method of contraception & good alternative to Copper T 380 A. The study concludes that patient acceptability of Copper 375(Multiload) is very good due to its low expulsion rates and high continuation rates as compared to Copper T 380 A. Removal rate of Copper T 380 A are high due to more incidence of bleeding & abdominal pain as compared to Copper 375(Multiload).

DECLARATION

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Conflict of interest: None declared
Ethical approval: was taken from ethical committee

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