

Report

"Evaluation of IUD insertions in 8 districts of Maharashtra"

BY

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Executive Summary

Background:

In 2006, GOI launched “Repositioning IUCD in National Family Welfare Program” with an objective to improve the method mix in contraceptive services and has adopted diverse strategies including advocacy of IUCD at various levels; community mobilization for IUCD; capacity building of public health system staff starting from ANMs to provide quality IUCD services and intensive IEC activities to dispel myths about IUCD. Currently, increased emphasis is given to promotion of IUCD insertion as a key spacing method under Family Planning programme.

In a given available methods, IUD is the most reliable temporary method in government Family planning program. However in spite of IUD being a most popular temporary spacing method, its acceptance depends largely on the side effects and complications which ultimately affect the retention of the IUD.

There are a few in-depth studies on the issue from India and to the best of our knowledge there is no published study from Maharashtra. Therefore to understand the status of IUD retentions, complications and side effects associated with it the study has been taken up by State health Systems Resource Centre, Pune, Maharashtra in 2012.

Objectives:

1. To study the retention proportion of IUDs inserted in the year 2011-12
2. To obtain information about reasons for removal.
3. To obtain information about complications of IUD insertion.
4. To obtain information about quality of services offered to IUD beneficiaries.

Methodology:

A cross sectional quantitative survey was conducted in 8 districts of Maharashtra during November 2012 to January 2013. One district was selected randomly from each of the eight administrative circles. From each district one reporting unit (DH, RH/MCL and PHC each) was selected randomly. Allocation of the total sample to the district as well as reporting units was proportional to the proportionate contribution of the region in which the district is located. Total

sample size covered was 2440 women beneficiaries who have inserted Cu-T during reference year 2011-12 and who were the registered beneficiaries of IUD as per R4- IUD register.

Study Findings:

1) Retention status:

- 62.6% women reported the status of Cu-t as in situ which is comparable with the retention rates mentioned in the literature which is also around 60%.
- Out of the women who have removed Cu-T (37.4%), 2.3% were expelled and 97.6% were removed voluntarily.
- Almost 50% women have removed Cu-T within a year's period (30.8% removed before 6months and 19.3% removed within 6-12months). This emphasizes the need for proper counseling and needs assessment before Cu-T insertion as 35.5% women have removed Cu-T as they wanted pregnancy.
- When univariate analysis was performed to see the factors affecting retention status it was found that previous use of contraceptive ($p=0.023$), experienced side effects ($p=0.000$) and place of Cu-T insertion (0.047) were the statistically significant factors affecting Cu-T retention status.

2) Reasons for removal:

- Most of the women reported wanted pregnancy (35.5%), pain (20.8%) and Bleeding (25.9%) as the common reasons for the Cu-T removal. This response pattern is similar across districts. However large proportion of women have reported "other" as reason for Cu-T removal but data for details of the other was not available.
- When asked about whether you received any advice/treatment for the health issue for which Cu-T was removed, high proportion (84.3%) reported as yes that they have received some treatment advice from health care provider.

3) Complications and side effects associated with it:

Though high proportion (47.7%) of women reported that they have not experienced any side effect, more than half proportion have reported being experienced some side effect after Cu-T insertion. Commonly reported side effects were pain in abdomen, bleeding, white discharge, Menorrhagia, and in few cases Dysmenorrhea.

4) Quality of services offered to IUD beneficiaries:

- As routine procedure it is important to counsel the beneficiary about the advantages, probable side effects and procedural details for Cu-T insertion. Therefore quality of services was assessed. It is found that high proportion of women (72.8%) has mentioned that yes, health care provider has discussed these issues with them.
- High proportion of women (71.1%) has mentioned that their queries/questions regarding Cu-T insertion were answered by the Health care providers. This pattern is consistent across districts.
- When women were asked whether they are satisfied with the information provided by the HCP, high proportion (65.9%) mentioned as "Yes" however for large proportion (27.4%) data for this variable is missing.
- Women were also being asked to grade the services on the scale of excellent to bad and high proportion of women (58.8%) rated services at the higher medium range i.e. good. This pattern is consistent across districts except for Parbhani and Ratnagiri districts.
- Thus overall quality of services reported by the study population was good however some key areas for improvement were reported such as medicine/instruments used, water supply, and cleanliness in health facility and attitude of the health care providers.

Recommendations:

1. It was found that 35% of Cu-T removals were due to wanted pregnancy. Secondly more than 50% of removals were within one year. This emphasizes appropriate needs assessment by Health Care Providers (HCPs) prior to Cu-T insertion. (Long-term vs. short term contraception)
2. Therefore, HCPs should provide appropriate counseling and needs assessment before Cu-T insertions in order to improve the Cu-T retention.
3. Serious consideration should be given for need-based rather than only target-oriented service provision.
4. Post Cu-T insertion follow-ups are necessary to reduce removals and address side effects and complications related to Cu-T insertion.
5. HMIS and physical data issues do exist, which need overall improvement for better execution of such studies

Chapter 1: Introduction

India launched the National Family Welfare Programme in 1951 with the objective of reducing the birth rate to the extent necessary to stabilize the population, consistent with the requirements of the national economy. It was world's first national program on the family planning fully supported by the government(Family Welfare Statistics in India-2011, Ministry of Health and Family Welfare, Gov. Of India). Since its inception, the programme has experienced significant growth in terms of financial investment, service delivery points, type of services, and the range of contraceptive methods offered.

As per Census 2011 India's population is 1.21 billion, second only to China in the world. Six most populous states (viz. Uttar Pradesh, Maharashtra, Bihar, West Bengal, Andhra Pradesh and Madhya Pradesh) together has 54.9% of India's Population (Family Welfare Statistics in India-2011, Ministry of Health and Family Welfare, Gov. Of India). Over the decades there has been substantial increase in contraceptive use in India. And as a result India has been showing a slow but steady decline in population growth. India's annual population growth rate during 2001-2011 decade is 1.64%, which is the lowest since independence.

In many states and UTs the TFR has already reach to the replacement level of fertility i.e. TFR 2.1. Notably in Maharashtra TFR has reached to 1.9 which is less than the replacement level of fertility(Sample Registration System, Statistical Report 2010).

At the initial period of the national family planning program the main emphasis was on the terminal methods such as tubectomy and vasectomy. Majority of couples were also preferred and adopted terminal methods to limit their family size. Somewhere in 1966, temporary methods such as intrauterine device and condoms were introduced in the program. But still the uptake of IUDs as compared to tubectomies till recent years was low(National Family Health Survey, NFHS-3, 2007) . Lower use and hesitations to use effective temporary methods for spacing was the important issue for unmet needs of the population. In the National Population Policy, 2000, the Government of India set as its immediate objective the task of addressing unmet need for contraception to achieve the medium-range objective of bringing the total fertility rate down to replacement level by 2010 (Sample Registration System, Statistical Report 2010).

In 2006, GOI launched “Repositioning IUCD in National Family Welfare Program” (http://mohfw.nic.in/NRHM/FP/Repositioning_IUCD.pdf)

with an objective to improve the method mix in contraceptive services and has adopted diverse strategies including advocacy of IUCD at various levels; community mobilization for IUCD; capacity building of public health system staff starting from ANMs to provide quality IUCD services and intensive IEC activities to dispel myths about IUCD. Currently, increased emphasis is given to promotion of IUCD insertion as a key spacing method under Family Planning programme (Family Welfare Statistics in India-2011, Ministry of Health and Family Welfare, Gov. Of India).

Currently IUD is the most reliable temporary method in government Family planning program.

In case of IUD which is considered as the most popular temporary method, the acceptance depends largely on the side effects and complications which ultimately affect the retention of the IUD.

There are a few in-depth studies on the issue from India and to the best of our knowledge there is no published study from Maharashtra. Therefore to understand the status of IUD retentions, complications and side effects associated with it the study has been taken up by State health Systems Resource Centre, Pune, Maharashtra in 2012.

Chapter 2: Objectives

1. To study the retention proportion of IUDs inserted in the year 2011-12
2. To obtain information about reasons for removal.
3. To obtain information about complications of IUD insertion.
4. To obtain information about quality of services offered to IUD beneficiaries.

Chapter 3: Methodology

A cross sectional quantitative survey was conducted in 8 districts of Maharashtra during November 2012 to January 2013. One district was selected randomly from each of the eight administrative circles. Allocation of the total sample to the district was proportional to the proportionate contribution of the region in which the district is located. Details of this are given in a following table I

Table I: Allocation of sample:

Regions	Total IUDS inserted in 2011-12	Proportion (%)	Selected district	Sample size for each district
Thane	38767	27%	Ratnagiri	659
Kolhapur	22492	15.6%	Kolhapur	381
Pune	12176	8.4%	Pune	205
Nashik	21425	15%	Dhule	366
Aurangabad	8898	6.4%	Parbhani	146
Latur	10734	7.5%	Beed	183
Akola	12132	8.5%	Buldhana	207
Nagpur	16818	12%	Bhandara	293
Total	1,43,442	100%		2440

From each district one reporting unit (DH, RH/MCL and PHC) each was selected randomly. Allocation of the sample size for these selected reporting units was proportionate to the performance of the reporting units in respective region.

Details are given in table II:

Table II: Sample and actual filled in forms across reporting units and districts:

District	Reporting units	Total IUDs inserted in period 2011-12	Proportion (%)	Sample size for each reporting unit	Actual data forms filled in
Ratnagiri	DH / SDH	125	4.2% (4%)	26	25
	RH (10)/ MCL (4)	75	2.5% (3%)	20	19
	PHC/SC	2800	93.3% (93%)	613	294
	Missing Information	-	-	-	7
	Total	3000	-	659	345

Kolhapur	DH / SDH	18	0.2% (0)	0	2
	RH	339	4.2% (4%)	15	13
	PHC/SC	7562	95.4% (96%)	366	131
	Missing Information	-	-	-	0
	Total	7919		381	146
Pune	DH / SDH	59	1.3% (2%)	4	4
	RH	159	3.7% (4%)	8	9
	PHC/SC	4015	94.8% (95%)	195	191
	Missing Information	-	-	-	6
	Total	4233	-	207	210
Dhule	DH / SDH	120	5.1% (5%)	18	13
	RH	143	6.1% (6%)	22	10
	PHC/SC	2073	88.7% (89%)	326	142
	Missing Information	-	-	-	5
	Total	2336	-	366	170
Parbhani	DH / SDH	290	11.3% (11%)	16	0
	RH	14	0.5% (0)	0	0
	PHC/SC	2242	88% (88%)	129	144
	Missing Information	-	-	-	0
	Total	2546	-	145	144
Beed	DH / SDH	128	3% (3%)	6	0
	RH	163	3.8% (4%)	7	0
	PHC/SC	3935	93.1% (93%)	170	0
	Missing Information	-	-	-	0
	Total	4226	-	183	0
Buldhana	DH / SDH	310	20.5% (21%)	44	41
	RH (13)/MCL (9)	97	6.4%(6%)	12	12
	PHC/SC	1108	73.1%	151	159

			(73%)		
	Missing Information	-	-	-	0
	Total	1515	-	207	212
Bhandara	DH / SDH	62	4.4% (4%)	12	12
	RH	25	1.8% (2%)	6	6
	PHC/SC	1308	93.7% (94%)	275	297
	Missing Information	-	-	-	3
	Total	1395	-	293	318

(* Data not available for Beed district as nursing tutor could not give sufficient time for the data collection.)

Selection of cases from the selected units:

Selection of PHCs and RH was done using random selection process. Similarly cases per reporting units were also selected using random selection process. (Sampling interval determined = total/required no.) Cases were selected from the IUD register (R4) maintained at respective reporting unit (DH, RH/MCL, PHCs).

Inclusion criteria for selection was

1. Woman who has IUD inserted during the year 2011-2012
2. Woman is registered beneficiary of IUD as per IUD (R4) register

Sample size:

As per HMIS, the number of IUDs inserted during 2011-12 was 1, 43,442. In order to find out retention proportion of IUD inserted in a specified period with 95% confidence and with absolute precision of 2% the sample size required was 2362 (detailed calculations are given in Annexure I). This is 1.64% of the total IUD insertions. In order to cover-up for possible loss to follow up it was rounded up to 1.65% and the needed sample calculated was 2438= 2440.

Data collection and analysis:

Information was collected on predesigned format by the trained nurses. Two senior nursing staff (tutor) per district from the Nursing school in the district was given the responsibility of data collection.

Questionnaire was divided in three sections:

a) Part A: General information: The information for this section had to be collected from the respective reporting unit and this section contains background information such as District, Taluka, Village, R4 no. and date of data collection etc.

b) Part B: Information to be filled in from R4 register: the institution where IUD insertion was done and c) from the beneficiary herself. Information so obtained was checked at SHSRC and issues regarding it were discussed with investigators for clarity. Checked and corrected data were entered in excel and then exported in SPSS software.

Data analysis was done in SPSS on cleaned dataset.

Training/meetings:

Two meetings with the sister tutors were conducted. First was the training meeting where details of the study and guidelines for data collection were discussed in detail. After completing data collection second meeting was organised for submission of the data forms. During this meeting problems faced on field were briefly discussed. Random checking of the forms was performed during this second meeting by SHSRC team.

Chapter 4: Results

Results presented in this report are district specific to have comprehensive understanding for the whole state. This will help in having specific recommendations and insights for program improvement and impact understanding. Facility specific (PHC, Sub-center, RH) results are not presented here to reduce the length of the report however further facility specific analysis can be done to have specific recommendations (if any).

The results are broadly divided in to three sections

- I) Socio-demographic profile of the study population
- II) IUD retention status and reasons for removal
- III) Complications/side effects associated with IUD
- IV) Quality of services

I) Socio-demographic profile of the study population

1) Age of women:

As seen in the table III high proportion of women (64.4%) were falling under the age category of 21 to 25years. The proportion of category wise age distribution is similar across all study districts. Next to the above category, high proportion of women was falling in the age category of 26 to 30years. This trend is also similar across districts.

2) Education of the women:

Most of the study population (63.2%) has completed secondary level education followed by higher secondary educational level (19.7%). This trend is similar for all study districts except for Parbhani district where secondary (62.5%) educational level was highest proportion followed by primary (18.8%).

3) Age husband:

Around 68% women's husband's age was falling among 26-30years age category followed by up to 25years age category (18.1%). Similar trend is found across all study districts.

4) Education of husband:

High proportion (52.4%) of women reported that the secondary is the educational level of their husbands and almost around 30% women reported higher secondary as the educational level of the husband. Similar trend is seen across study districts with little variations.

5) Monthly household income:

Monthly income up to 5000/- is the category reported by high proportion (70.6%) of women. Proportion of women decreases as the income category increases. These observations are similar across districts.

6) Remunerated activity and occupation:

High proportion of women (67.4%) was not involved in any remunerated activity and thus high proportion (67.4%) of women reported their occupation as 'Housewife'. Only 10.9% reported as having remunerated activity however 21.7% data for this variable is missing.

From those who have some remunerated activity, 45.8% reported as working in public service.

Table III: Socio-Demographic profile of the study population across districts:

Sr. No.	Variable / Indicator	Category	Total		Bhandara		Buldhana		Dhule		Kolhapur		Parbhani		Pune		Ratnagiri	
			No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
1	Age of woman	Up to 20	125	11	14	8.3	29	13.8	16	9.4	28	20.1	11	7.8	25	12.6	2	1.8
		21 to 25	717	63.1	126	75	120	57.1	112	65.9	83	59.7	81	57.4	134	67.7	61	55
		26 to 30	261	23	24	14.3	49	23.3	33	19.4	27	19.4	46	32.6	36	18.2	46	41.4
		Above 30	34	3	4	2.4	12	5.7	9	5.3	1	0.7	3	2.1	3	1.5	2	1.8
		Total	1137	100	168	100	210	100	170	100	139	100	141	100	198	100	111	100
2	Education of women	Illiterate	46	4.2	0	0	1	0.5	28	16.5	2	1.4	12	9	2	1	1	0.9
		Primary	47	4.2	1	0.6	5	2.4	10	5.9	1	0.7	26	19.4	1	0.5	3	2.8
		Secondary	701	63.3	82	52.6	141	67.8	68	40	88	63.3	89	66.4	146	74.9	87	82.1
		Higher Secondary	231	20.8	53	34	45	21.6	47	27.6	31	22.3	6	4.5	39	20	10	9.4
		Graduation	73	6.6	18	11.5	12	5.8	16	9.4	16	11.5	1	0.7	6	3.1	4	3.8
		Post Graduation	10	0.9	2	1.3	4	1.9	1	0.6	1	0.7	0	0	1	0.5	1	0.9
		Total	1108	100	156	100	208	100	170	100	139	100	134	100	195	100	106	100
3	Age of Husband	Up to 25	207	18.2	21	12.5	47	22.4	38	22.4	33	23.7	17	12.1	38	19.2	13	11.7
		26 to 30	740	65.1	118	70.2	114	54.3	102	60	94	67.6	104	73.8	131	66.2	77	69.4
		31 to 35	144	12.7	21	12.5	32	15.2	21	12.4	12	8.6	17	12.1	24	12.1	17	15.3
		36 to 40	41	3.6	8	4.8	15	7.1	9	5.3	0	0	3	2.1	3	1.5	3	2.7
		Above 40	2	0.2	0	0	1	0.5	0	0	0	0	0	0	1	0.5	0	0
		Not Specified	3	0.3	0	0	1	0.5	0	0	0	0	0	0	1	0.5	1	0.9
		Total	1137	100	168	100	210	100	170	100	139	100	141	100	198	100	111	100
4	Education of Husband	Illiterate	30	2.6	2	102	0	0	25	14.7	1	0.7	1	0.7	1	0.5	0	0
		Primary	19	1.7	1	0.6	1	0.5	4	2.4	1	0.7	8	5.7	2	1	2	1.8
		Secondary	563	49.5	66	39.3	113	53.8	62	36.5	40	28.8	103	73	93	47	86	77.5
		Higher Secondary	359	31.6	71	42.3	67	31.9	50	29.4	56	40.3	19	13.5	78	39.4	18	16.2
		Graduation	126	11.1	21	12.5	21	10	21	12.4	39	28.1	4	2.8	18	9.1	2	1.8
		Post Graduation	20	1.8	0	0	4	1.9	8	4.7	2	1.4	1	0.7	3	1.5	2	1.8
		Not Specified	20	1.8	7	4.2	4	1.9	0	0	0	0	5	3.5	3	1.5	1	0.9
		Total	1137	100	168	100	210	100	170	100	139	100	141	100	198	100	111	100
5	Monthly household income	Up to 5000	816	71.8	107	63.7	178	84.8	63	37.1	108	77.7	133	94.3	147	74.2	80	72.1
		5000 to 10000	188	16.5	26	15.5	16	7.6	67	39.4	27	19.4	6	4.3	34	17.2	12	10.8
		10000 to 20000	103	9.1	29	17.3	14	6.7	37	21.8	4	2.9	1	0.7	7	3.5	11	9.9
		20000 to 50000	29	2.6	6	3.6	2	1	3	1.8	0	0	1	0.7	10	5.1	7	6.3
		Above 50000	1	0.1	0	0	0	0	0	0	0	0	0	0	0	0	1	0.9

		Total	1137	100	168	100	210	100	170	100	139	100	141	100	198	100	111	100
6	Remuneration activity	Yes	152	13.4	41	24.4	18	8.6	40	23.5	6	4.3	12	8.5	29	14.7	6	5.4
		No	984	86.6	127	75.6	192	91.4	130	76.5	133	95.7	129	91.5	168	85.3	105	94.6
		Total	1136	100	168	100	210	100	170	100	139	100	141	100	197	100	111	100
7	Occupation	Housewife	984	86.5	127	75.6	192	91.4	130	76.5	133	95.7	129	91.5	168	84.8	105	94.6
		Public Service	75	6.6	7	4.2	4	1.9	37	21.8	5	3.6	11	7.8	7	3.5	4	3.6
		Private Service	11	1	2	1.2	5	2.4	1	0.6	0	0	1	0.7	1	0.5	1	0.9
		Daily Wages	33	2.9	19	11.3	2	1	1	0.6	0	0	0	0	11	5.6	0	0
		Self Employed	23	2	7	4.2	4	1.9	1	0.6	1	0.7	0	0	10	5.1	0	0
		Other	9	0.8	6	3.6	2	1	0	0	0	0	0	0	0	0	1	0.9
		Not Specified	2	0.2	0	0	1	0.5	0	0	0	0	0	0	1	0.5	0	0
		Total	1137	100	168	100	210	100	170	100	139	100	141	100	198	100	111	100

Pregnancy related indicators:

Sr. No	Variable	Category	Frequency	Percentage
1	No. of pregnancies	One	630	55.7
		Two	453	40
		Three and more	49	4.3
		Total	1132	100
2	When was Cu-t inserted	Post menstrual	739	67
		Post abortion	32	2.9
		Post Partum	332	30.1

		Total	1103	100
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II) IUD retention status:

Table IV shows the proportion of women for retention status of Cu-T. Sr. no.1 of the table shows data for the Cu-T status including cases reported as "not specified (i.e. missing data)". A next point gives the data for Cu-T status after removing cases for "missing information". As seen in point 2 i.e. after removing missing data, almost 62.6% women reported the status of Cu-t as in situ however this retention proportion is not consistent across districts. This variation is very high ranging from highest for Kolhapur district 95% to lowest for Bhandara district 31%. This high district specific variation is need to explore further.

High proportion (96%) women reported as Cu-T removed due to some reasons. This proportion is consistent across districts. Very few women reported (2.4%) as Cu-t expelled out. This proportion is also more or less similar across districts.

Table IV: IUD retention status across all study districts

Sr . N o.	Variab le / Indicat or	Categor y	Total		Bhanda ra		Buldha na		Dhule		Kolhap ur		Parbha ni		Pune		Ratnagi ri	
			No.	%	N o.	%	N o.	%	N o.	%	N o.	%	N o.	%	N o.	%	N o.	%
1	Present Status of Cu- T	In situ	712	46.1	52	16.4	82	38.7	11	65.3	13	90.2	10	70.1	15	74.6	78	22.6
		Not in situ	425	27.5	11	36.5	12	60.4	59	34.7	7	4.8	40	27.8	42	20	33	9.6
		Not Specifie d (Missin g)	408	26.4	15	47.0	2	0.9	0	0	7	4.8	3	2.1	12	5.7	23	67.8
		Total	1545	100	318	100	212	100	170	100	146	100	144	100	210	100	345	100
Present status of Cu-T after removing missing data																		
2	Present Status of Cu-T	In situ	712	62.6	52	31	82	39	11	65.3	13	95	10	71.6	15	78.8	78	70.3
		Not in situ	425	37.4	11	69	12	61	59	34.7	7	5	40	28.4	42	21.2	33	29.7
		Total	1137	100	168	100	210	100	170	100	139	100	141	100	198	100	111	100
3	If not in situ,	Expelle d	10	2.4	5	4.3	0	0	0	0	0	0	3	7.5	0	0	2	6.1

	reason	Remov ed	408	96	11 1	95. 7	12 8	10 0	56	94. 9	7	10 0	33	82. 5	42	10 0	31	93. 9
		Not Specifi ed	7	1.6	0	0	0	0	3	5.1	0	0	4	10	0	0	0	0
		Total	425	10 0	11 6	10 0	12 8	10 0	59	10 0	7	10 0	40	10 0	42	10 0	33	10 0

III) Reasons for removal:

Table V shows the data for reasons for Cu-T removal. Most of the women reported wanted pregnancy (26.7%), pain (15.6%) and Bleeding (19.5%) as the common reasons for the Cu-T removal. This response pattern is similar across districts. Even large proportion of women (22.2%) have also reported other reasons for Cu-T removal however details about the "other" are not available.

When asked about whether you received any advice/treatment for the health issue for which Cu-T was removed, high proportion (84.3%) reported as yes that they have received some treatment advice from health care provider. This proportion is similar across districts except for Parbhani where reported proportion of women for getting advice/help for their health concern was only 57.6%.

Table V: Reasons for CU-T removal across districts

Sr. No.	Variable / Indicator	Category	Total		Bhandara		Buldhana		Dhule		Kolhapur		Parbhani		Pune		Ratnagiri	
			No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
1	What was the reasons for removal of Cu-T	Pain	85	15.6	29	19.3	2	1.5	25	21.7	4	44.4	5	14.3	14	21.9	6	15
		Bleeding	106	19.5	45	30	3	2.3	26	22.6	2	22.2	7	20	16	25	7	17.5
		Dysmenorrhoea	48	8.8	16	10.7	5	3.8	17	14.8	0	0	0	0	8	12.5	2	5
		Menorrhagia	24	4.4	4	2.7	3	2.3	4	3.5	0	0	1	2.9	10	15.6	2	5
		Pregnancy while in situ	5	0.9	1	0.7	0	0	2	1.7	0	0	2	5.7	0	0	0	0
		Wanted Pregnancy	145	26.7	34	22.7	61	46.6	23	20	2	22.2	8	22.9	9	14.1	8	20
		Other	121	22.2	20	13.3	55	42	12	10.4	1	11.1	11	31.4	7	10.9	15	37.5
		Not Specified	10	1.8	1	0.7	2	1.5	6	5.2	0	0	1	2.9	0	0	0	0
		Total	544	100	150	100	131	100	115	100	9	100	35	100	64	100	40	100
2	Did you get any advice/treatment	Yes	344	84.3	89	80.2	121	94.5	48	85.7	5	71.4	19	57.6	39	92.9	23	74.2
		No	25	6.1	4	3.6	2	1.6	1	1.8	0	0	12	36.4	0	0	6	19.4
		Not Specified	39	9.6	18	16.2	5	3.9	7	12.5	2	28.6	2	6.1	3	7.1	2	6.5

	for the mentioned above?	Total	408	100	111	100	128	100	56	100	7	100	33	100	42	100	31	100
3	If yes from whom did you receive treatment?	Dai	5	1.5	0	0	3	2.5	2	4.2	0	0	0	0	0	0	0	0
		AWW	1	0.3	0	0	1	0.8	0	0	0	0	0	0	0	0	0	0
		ASHA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		ANM	242	70.3	59	66.3	101	83.5	42	87.5	0	0	3	15.8	21	53.8	16	69.6
		Doctor	85	24.7	27	30.3	12	9.9	3	6.3	5	100	15	78.9	17	43.6	6	26.1
		Other	9	2.6	3	3.4	3	2.5	1	2.1	0	0	0	0	1	2.6	1	4.3
		Not Specified	2	0.6	0	0	1	0.8	0	0	0	0	1	5.3	0	0	0	0
		Total	344	100	89	100	121	100	48	100	5	100	19	100	39	100	23	100
4	In which institution cu-t was removed?	SC	105	25.7	48	43.2	1	0.8	24	42.9	2	28.6	10	30.3	14	33.3	6	19.4
		PHC	200	49	48	43.2	87	68	10	17.9	2	28.6	16	48.5	24	57.1	13	41.9
		RH	37	9.1	4	3.6	13	10.2	7	12.5	2	28.6	5	15.2	0	0	6	19.4
		SDH	5	1.2	0	0	2	1.6	3	5.4	0	0	0	0	0	0	0	0
		DH	14	3.4	0	0	8	6.3	0	0	1	14.3	1	3	2	4.8	2	6.5
		Other	31	7.6	9	8.1	14	10.9	4	7.1	0	0	0	0	0	0	4	12.9
		Not Specified	16	3.9	2	1.8	3	2.3	8	14.3	0	0	1	3	2	4.8	0	0
		Total	408	100	111	100	128	100	56	100	7	100	33	100	42	100	31	100

When asked about from whom did they receive advice/treatment for side effects, high proportion (70.3%) of women reported ANM followed by Doctors (24.7%). Almost around 49% women reported PHC followed by 25.7% reported Sub-centre as a centre where they have removed Cu-T. However as seen in the table this proportion varies across each study district. For Dhule district high proportion of women (42.9%) reported sub-centre where they had removed Cu-T and only 17.9% women reported as used PHC for removing Cu-T.

IV) Complications /Side effects associated with IUD:

Table VI shows the data related to side effects that women have experienced after Cu-T insertion. Though high proportion (47.7%) of women reported that they have not experienced any side effect, more than half proportion have reported being experienced some side effect after Cu-T insertion. Commonly reported side effects were pain in abdomen, bleeding, white discharge, Menorrhagia, and in few cases Dysmenorrhoea.

Table VI: Side effects experienced after Cu-T insertion across districts:

Sr . N o.	Variable / Indicator	Category	Total		Bhanda ra		Buldha na		Dhule		Kolhap ur		Parbha ni		Pune		Ratnagi ri	
			No .	%	N o.	%	N o.	%	N o.	%	N o.	%	N o.	%	N o.	%	N o.	%
1	Side effects after IUD inserti on	None	79 7	47. 7	70	19. 5	15 9	67. 9	10 0	50. 8	12 9	84. 9	13 6	94. 4	12 3	53	80	22. 2
		Pain	19 9	11. 9	61	17	30	12. 8	14	7.1	8	5.3	3	2.1	69	29. 7	22	6.1
		Bleeding	13 1	7.8	47	13. 1	23	9.8	24	12. 2	4	2.6	1	0.7	18	7.8	14	3.9
		Menorrhag ia	26	1.6	14	3.9	4	1.7	4	2	1	0.7	0	0	2	0.9	1	0.3
		Dysmenorr hoea	15	0.9	1	0.3	7	3	0	0	0	0	0	0	6	2.6	1	0.3
		White Discharge	69	4.1	9	2.5	6	2.6	48	24. 4	1	0.7	0	0	0	0	5	1.4
		Any Other	18	1.1	4	1.1	4	1.7	4	2	2	1.3	0	0	1	0.4	3	0.8
		Not Specified	41 6	24. 9	15 3	42. 6	1	0.4	3	1.5	7	4.6	4	2.8	13	5.6	23 5	65. 1
		Total	16 71	10 0	35 9	10 0	23 4	10 0	19 7	10 0	15 2	10 0	14 4	10 0	23 2	10 0	36 1	10 0

IV) Quality of services:

Table VI gives the data regarding quality of health care services provided for the Cu-T beneficiaries.

As routine procedure it is important to counsel the beneficiary about the advantages, probable side effects and procedural details for Cu-T insertion. Therefore assessment of quality of services was initiated from this issue and high proportion of women (72.8%) has mentioned that yes, health care provider has discussed these issues with them. This high proportion for "yes" is consistent across states except for Bhandara and Ratnagiri where for around 50% or more than that proportion, information is missing. High proportion of women (71.1%) has mentioned that their queries/questions regarding Cu-T insertion were answered by the Health care providers. This pattern is consistent across districts.

When women were asked whether they are satisfied with the information provided by the HCP, high proportion (65.9%) mentioned as "Yes" however for large proportion (27.4%) data for this variable is missing. Especially for Bhandara and Ratnagiri district this missing information proportion is very high.

Table VI: Quality of services reported by respondents across districts

Sr. No	Variable / Indicator	Category	Total		Bhandara		Buldhana		Dhule		Kolhapur		Parbhani		Pune		Ratnagiri	
			No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
1	HCP discussed advantages, probable side effects and procedural details of Cu-t insertion	Yes	1124	72.8	161	50.6	207	97.6	170	100	139	95.2	140	97.2	198	94.3	109	31.6
		No	12	0.8	5	1.6	4	1.9	0	0.0	0	0.0	1	0.7	0	0.0	2	0.6
		Not Specified	409	26.5	152	47.8	1	0.5	0	0.0	7	4.8	3	2.1	12	5.7	234	67.8
		Total	1545	100	318	100	212	100	170	100	146	100	144	100	210	100	345	100
2	Queries/questions (if any) regarding Cu-t insertion was answered by HCP before Cu-t insertion	Yes	1098	71.1	158	49.7	190	89.6	168	98.8	133	91.1	143	99.3	197	93.8	109	31.6
		No	16	1.0	6	1.9	6	2.8	1	0.6	2	1.4	0	0.0	0	0.0	1	0.3
		Not having Any questions	19	1.2	1	0.3	15	7.1	1	0.6	0	0.0	0	0.0	1	0.5	1	0.3
		Not Specified	412	26.7	153	48.1	1	0.5	0	0.0	11	7.5	1	0.7	12	5.7	234	67.8
		Total	1545	100	318	100	212	100	170	100	146	100	144	100	210	100	345	100
3	Are you satisfied with the information that HCP discussed with you before or after Cu-T insertion	Yes, Completely	1018	65.9	152	47.8	175	82.5	151	88.8	136	93.2	129	89.6	189	90.0	86	24.9
		Yes, but not completely	89	5.8	5	1.6	26	12.3	14	8.2	0	0.0	13	9.0	9	4.3	22	6.4
		No, not satisfactory	11	0.7	8	2.5	0	0.0	2	1.2	0	0.0	0	0.0	0	0.0	1	0.3
		NA (HCP	3	0.2	0	0.0	1	0.5	0	0.0	0	0.0	1	0.7	0	0.0	1	0.3

		not discussed)																
		Not Specified	424	27.4	153	48.1	10	4.7	3	1.8	10	6.8	1	0.7	12	5.7	235	68.1
		Total	1545	100	318	100	212	100	170	100	146	100	144	100	210	100	345	100
4	How would you rate (rank) the service provided at the health facility?	Excellent	90	5.8	9	2.8	0	0.0	11	6.5	2	1.4	18	12.5	25	11.9	25	7.2
		Good	908	58.8	153	48.1	186	87.7	135	79.4	136	93.2	43	29.9	173	82.4	82	23.8
		Average	123	8.0	5	1.6	18	8.5	16	9.4	0	0.0	82	56.9	0	0.0	2	0.6
		Bad	3	0.2	0	0.0	0	0.0	3	1.8	0	0.0	0	0.0	0	0.0	0	0.0
		Not Specified	421	27.2	151	47.5	8	3.8	5	2.9	8	5.5	1	0.7	12	5.7	236	68.4
		Total	1545	100	318	100	212	100	170	100	146	100	144	100	210	100	345	100
5	Which things need to be improved in the hospital for better services?	Medicine stock / equipments used	269	14.7	14	4.1	8	2.9	34	9.9	16	10.9	139	95.2	55	24.6	3	0.8
		Timely treatment	61	3.3	28	8.2	11	4.0	9	2.6	1	0.7	3	2.1	9	4.0	0	0.0
		Electricity	92	5.0	0	0.0	3	1.1	63	18.3	0	0.0	1	0.7	23	10.3	2	0.6
		Water supply	109	5.9	17	5.0	5	1.8	18	5.2	0	0.0	0	0.0	64	28.6	5	1.4
		Cleanliness	261	14.2	56	16.5	143	51.4	21	6.1	0	0.0	2	1.4	38	17.0	1	0.3
		Cots / mattresses	83	4.5	5	1.5	57	20.5	11	3.2	0	0.0	1	0.7	8	3.6	1	0.3
		Behavior / attitude of doctor	16	0.9	0	0.0	1	0.4	15	4.4	0	0.0	0	0.0	0	0.0	0	0.0
		Behavior / attitude of health worker	31	1.7	2	0.6	0	0.0	27	7.8	0	0.0	0	0.0	1	0.4	1	0.3
		Behaviour / attitude of attendant	58	3.2	1	0.3	0	0.0	56	16.3	0	0.0	0	0.0	1	0.4	0	0.0
		Other	329	18.0	11	3.2	8	2.9	73	21.2	122	83.0	0	0.0	10	4.5	105	29.7
		Not Specified	523	28.5	206	60.6	42	15.1	17	4.9	8	5.4	0	0.0	15	6.7	235	66.6
		Total	1832	100	340	100	278	100	344	100	147	100	146	100	224	100	353	100

Women were also being asked to grade the services on the scale of excellent to bad and high proportion of women (58.8%) rated services at the higher medium range i.e. good. This pattern is consistent across districts except for Parbhani and Ratnagiri districts.

In Parbhani district high proportion of women (56.9%) rated services as average and in Ratnagiri for high proportion (68.4%) data is missing.

When asked women about what do were the things where improvement needed, most of them reported as improvement in medicine stock and equipments, cleanliness, cots/mattresses and at some health facilities water supply. Again for Bhandara and Ratnegiri districts large data is missing for this variable.

Chapter 5: Conclusion

1) Retention status:

- 62.6% women reported the status of Cu-T as in situ which is comparable with the retention rates mentioned in the literature which is also around 60%.
- Out of the women who have removed Cu-T (37.4%), 2.3% were expelled and 97.6% were removed voluntarily.
- Almost 50% women have removed Cu-T within a year's period (30.8% removed before 6 months and 19.3% removed within 6-12 months). This emphasizes the need for proper counseling and needs assessment before Cu-T insertion as 35.5% women have removed Cu-T as they wanted pregnancy.
- When univariate analysis was performed to see the factors affecting retention status it was found that previous use of contraceptive ($p=0.023$), experienced side effects ($p=0.000$) and place of Cu-T insertion (0.047) were the statistically significant factors affecting Cu-T retention status.

2) Reasons for removal:

- Most of the women reported wanted pregnancy (35.5%), pain (20.8%) and Bleeding (25.9%) as the common reasons for the Cu-T removal. This response pattern is similar across districts. However large proportion of women have reported "other" as reason for Cu-T removal but data for details of the other was not available.
- When asked about whether you received any advice/treatment for the health issue for which Cu-T was removed, high proportion (84.3%) reported as yes that they have received some treatment advice from health care provider.

3) Complications and side effects associated with it:

Though high proportion (47.7%) of women reported that they have not experienced any side effect, more than half proportion have reported being experienced some side effect after Cu-T insertion. Commonly reported side effects were pain in abdomen, bleeding, white discharge, Menorrhagia, and in few cases Dysmenorrhea.

4) Quality of services offered to IUD beneficiaries:

- As routine procedure it is important to counsel the beneficiary about the advantages, probable side effects and procedural details for Cu-T insertion. Therefore quality of services was assessed. It is found that high proportion of women (72.8%) has mentioned that yes, health care provider has discussed these issues with them.
- High proportion of women (71.1%) has mentioned that their queries/questions regarding Cu-T insertion were answered by the Health care providers. This pattern is consistent across districts.
- When women were asked whether they are satisfied with the information provided by the HCP, high proportion (65.9%) mentioned as "Yes" however for large proportion (27.4%) data for this variable is missing.
- Women were also being asked to grade the services on the scale of excellent to bad and high proportion of women (58.8%) rated services at the higher medium range i.e. good. This pattern is consistent across districts except for Parbhani and Ratnagiri districts.
- Thus overall quality of services reported by the study population was good however some key areas for improvement were reported such as medicine/instruments used, water supply, and cleanliness in health facility and attitude of the health care providers.

Chapter 6: Recommendations

1. It was found that 35% of Cu-T removals were due to wanted pregnancy. Secondly more than 50% of removals were within one year. This emphasizes appropriate needs assessment by Health Care Providers (HCPs) prior to Cu-T insertion. (Long-term vs. short term contraception)
2. Therefore, HCPs should provide appropriate counseling and needs assessment before Cu-T insertions in order to improve the Cu-T retention.
3. Serious consideration should be given for need-based rather than only target-oriented service provision.
4. Post Cu-T insertion follow-ups are necessary to reduce removals and address side effects and complications related to Cu-T insertion.
5. HMIS and physical data issues do exist, which need overall improvement for better execution of such studies

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