Section: Community Medicine

Original Research Article

A CROSS SECTIONAL STUDY TO ASSESS THE KNOWLEDGE, ATTITUDE AND PRACTICES OF ANTARA - INJECTABLE MEDROXY PROGESTERONE ACETATE AMONG BENEFICIARIES WHO ARE USING ANTARA FOR MORE THAN 3 MONTHS IN INDORE DISTRICT

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ABSTRACT

Background: The Ministry of Health and Family Welfare in September 2017 has launched a new contraceptive, an injectable contraceptive MPA under Antara program to expand the basket of contraceptive choices to meet the emerging needs of couples. A cross sectional study was conducted in urban and rural area of Indore to assess the Knowledge, attitude and practice of injectable ANTARA (Medroxy progesterone acetate) among 120 beneficiaries from urban and 50 beneficiaries from rural health who are using ANTARA for more than 3 months using predesigned semistructered questionare. This study also analysed the incidence of side effects and drop out rate among the users of ANTARA (injectable MPA). The findings of this study suggest that most of the beneficiaries were using ANATRA as an interval contraceptive after their first child as a spacing method. Beneficiaries opined that complications (like irregular bleeding and amenorrhea) were deterrent and posed a major drawback for its long term uses.

Key Words: ANTARA, beneficiaries, health care providers, contraceptive, medroxy progesterone acetate.

INTRODUCTION

The growing size and rate of the population has been a concern for policy makers and program managers. Ever since India's independence over seven decades ago, population growth has put strain on Indian economy and agriculture and ability to feed people. They believed that a check on population growth would help to combat and overcome adverse famine, diseases and poverty.

As per NFHS-4 2015 -2016 (National Family and Health Survey) the contraceptive prevalence rate (CPR) in India 54% which varies widely among different states and unmet need for family is as high as 13% (Unmet need for spacing 7.2%). In Madhya Pradesh (According to NFHS-4) contraceptive prevalence rate 51.4% and unmet need for family planning 12.1% (Unmet need for spacing 5.7%), 49.6% female use modern methods (sterilization, condom, OCP, IUD, injectable, implant, vaginal barrier) and 69% of modern contraceptive users obtain the method from public health sector,[1] indicating a huge gap between demand and supply of family planning measures.

To have universal access to sexual and reproductive healthcare services, counseling information is provided under family planning program and it has an impact on women health with far-reaching benefits, which go beyond health, impacting all 17 SDGs. One of the cost effective solutions for achieving gender equality and equity is (goal 5) by empowering women with knowledge and agency to control reproduction by accessing suitable contraceptive method under family planning.[2]

Injectable Contraceptive (MPA) is an aqueous suspension of microcrystal for depo injection of pregnane 17alfa–hydroxyprogesterone– derivative progestine medroxyprogesterone acetate. In the i/m formulation, one dose of MPA is 150 mg/100 ml and in the s/c formulation one dose of MPA is 104 mg/0.65ml suspension.[3] This is administered intramuscularly in upper arm, hip or outer side of thigh. Most preferred site is upper arm.

It is a new program and is available free of cost at various health facilities. Till date, no study on ANTARA (KAP) has been done in Indore district.

MATERIALS AND METHODS

A Cross- sectional study was conducted to evaluate knowledge, attitude and practices of ANTARA-injectable medroxy progesterone acetate among beneficiaries who are using ANATRA (inj.MPA) for more than 3 months in Indore district at MGMMC Indore for a period of 1 year. This study was conducted at all levels of health care delivery system, where it was available in rural and urban center. A total of 170 women willing to take the >=2 dose of ANTARA injection were included in the study. Data was collected and entered in MS Word and was analyzed using SPSS software.

Study Design – Simple Random Sampling

Study Period-One year from the date of approval from concerned authority (15th February 2019 to 15th February 2020)

Study Population- All the levels of health care delivery centers of Indore were enlisted. At the **tertiary level,** MGM Medical College & MY Hospital, Indore was the only government center. So it was selected for study.

At the **secondary level**, District Hospital Indore(urban) and all four community health centers (Rural) were selected where ANTARA (inj.MPA) was provided.

At the **primary level**, Urban Indore has been divided into 4 zones under the office of CMHO. Randomly, 2 health care facilities were selected from each zone, using a lottery system. ANTARA Program was run as a fixed day service at all the government health facilities. So the participants included in the study were selected from beneficiaries who visited the health care facility on the day of fixed day service.

Study Tool - Questionnaire was prepared which was Pre-designed, Pre –tested and Semi –structured for the assessment of knowledge, attitude and practices of ANTARA (Inj. MPA) among beneficiaries who were using Antara for more than 3 months.

Inclusion Criteria: All Beneficiaries who were using ANTARA for more than 3 months. All the beneficiaries, who gave consent.

Exclusion Criteria: Beneficiaries who were using ANTARA for less than 3 months. All beneficiaries, who did not give consent for the study.

Study sample – Initially when synopsis of present study was planned, it considered the prevalence of contraceptive users among married women as 50%, according to NFHS –IV[1], data with a margin of 10%. Applying the formula. minimum sample size for beneficiaries came out to be 100. However, as the data was collected on field, it was found that, acceptance of ANTARA (inj. MPA) WAS better than the original anticipation. Hence a **total 120 beneficiaries from urban and 50 beneficiaries from rural** were included in the present study, considering the written informed consent and ethical issues.

Sample size calculation formula [31]

$$SS=Z^2(p)(1-q)/d^2$$

P=Prevalence

d=Allowable Error

(In this study, assuming knowledge of 50% and margin of error 10%).

	Urban	Rural
No of Beneficiaries	**120**	**50**

Statistical Analysis plan

- Data was collected and entered in MS Word and was analyzed using SPSS software.
- The tests of significance applied: chi square test, fisher exact test, Mann Whitney test. p value less than 0.05(p value)
- The graphical representation of data was done using figure and tables.
- The descriptive representation of data was done in the form of frequency and percentage, calculated in MS Excel.

Ethical Consideration

- The study was approved by institution review board & scientific review committee, M.G.M. Medical college, Indore with letter no Ec/MGM/feb-19
- Each woman was informed about the objective of study and research.
- Each woman was assured of the confidentiality of her responses & all measures would be taken to protect her identity.

Informed consent was taken from each participant

RESULTS

Most beneficiaries were aged 21-30 years, with minimal usage among those over 36 years. Urban beneficiaries had higher education levels, but only one postgraduate in both areas.

In urban areas, 48.3% had one child and 36.7% had two, while in rural areas, 44% had two children and 42% had one. A small percentage (urban: 1.7%, rural: 1%) had four or more children.

In both areas, 51.7% in urban and 54% in rural had a youngest child under one year, 41.7% in urban and 36% in rural reported a history of abortion. [Table 1]

Husbands of beneficiaries in urban areas are more educated as compared to rural areas. [Table 2]

In urban areas, ASHAs were the primary source of information, while in rural areas; ANMs/AWWs were the main sources, followed by ASHAs.

All urban and rural beneficiaries knew ANTARA is administered via injection, the purpose of ANTARA as a spacing method was known by 85.8% of urban and 70% of rural beneficiaries.

Follow-up after 3-4 months was understood by 80.5% in urban and 68% in rural areas.

Awareness of ANTARA's 3-month effectiveness was reported by 77.5% of urban and 74% of rural beneficiaries, while 1.7% in urban and 2% in rural areas were unaware. [Table 3]

Condoms and OCPs were used by majority urban beneficiaries whereas 42% beneficiaries of rural area did not use any contraceptive methods. Natural methods of contraception were used by 4.2% urban beneficiaries and 2% rural beneficiaries. [Table 4]

Reasons for using ANTARA as a spacing method were acknowledged by 85.8% of urban beneficiaries and 70% of rural beneficiaries.

A positive attitude toward follow-up after 3-4 months was observed in 80.5% of urban beneficiaries and 68% of rural beneficiaries.

Belief in ANTARA's effectiveness for up to three months was noted among 77.5% of urban beneficiaries and 74% of rural beneficiaries. [Table 5]

74.2% urban beneficiaries and 70% rural beneficiaries had faced problems while using ANTARA. 44.9% urban beneficiaries and 60% beneficiaries had discontinued ANTARA usage. [Table 6]

Irregular bleeding was the major complaint by 53.3% urban beneficiaries and 56% rural beneficiaries. One urban beneficiary conceived pregnancy while ANTARA usage whereas no rural beneficiary conceived pregnancy while on ANTARA. [Table 7]

Both urban and rural beneficiaries experienced moderate pain which is assessed on verbal descriptive scale. [Table 8]

Both urban and rural beneficiaries had average experience towards ANTARA. [Table 9]

92.5% urban and 92% rural beneficiaries experienced increased expenditure whereas 73.3% urban and 60% rural beneficiaries had increased hospital visit because of ANTARA. [Table 10]

Table 1: Demographic profiles of beneficiaries

S. No	Age group	Urban (%)	Rural (%)	
1	<20	5(4.2%)	7(14%)	Fisher Exact test applied P value -0.02
2	21-25	46(38.3%)	26(52%)	
3	26-30	56(46.7%)	12(24%)	
4	31-35	10(8.3%)	4(8%)	
5	>36	3(2.5%)	1(2%)	
Qualification				
1	Illiterate	7(5.8%)	11(22%)	Mann-whitney test applied P value - 0.14
2	Primary	19(15.8%)	9(18%)	
3	Middle school	32(26.7%)	9(18%)	
4	High school	25(20.8%)	9(18%)	
5	Higher secondary	26(21.7%)	8(16%)	
6	Graduate	10(8.3%)	3(6%)	
7	Post graduate	1(.8%)	1(2%)	
Number of living children				
1	1 child	58(48.3%)	21(42%)	Chi-square test -0.79
2	2 children	44(36.7%)	22(44%)	
3	3 & children	16(13.3%)	6(12%)	
4	>4 children	2(1.7%)	1(2%)	
Age of youngest living child				
1	<1 year	62(51.7%)	27(54%)	Chi-square test -0.58
2	1-3 year	46(32.7%)	16(32%)	
3	>3year	12(10%)	7(14%)	
History of Abortion				
1	Yes	50(41.7%)	18(36%)	Chi-square test -0.49
2	No	70(64.7%)	32(64%)	

Table 2: Education of Husband of Beneficiaries

S. No	Status		Urban (%)	Rural (%)	Total
1	**Education of Husband**	Illiterate	6(5%)	4(8%)	10(17%)
		Primary	12(10%)	8(16%)	20(20%)
		Metric	32(26.7%)	11(22%)	43(25.3%)
		High school	39(32.5%)	18(36%)	57(33.5%)
		Higher secondary	21(17.5%)	7(14%)	28(16.5%)
		Graduate	6(5%)	2(4%)	8(4.8%)
		Post graduate	4(3.3%)	2(4%)	6(3.5%)

Table 3: Assessment of knowledge about ANTARA

S. No	Source of information	Urban	Rural	P value
1	Doctor	22(18.3%)	11(22%)	Chi –square test- 0.629
2	ASHA workers	39(32.5%)	14(28%)	
3	ANM/AWW	34(28.3%)	16(32%)	
4	TV radio	9(7.5%)	1(2%)	
5	Others	16(13.3%)	8(16.8%)	
Route for ANTARA				
1.	Injection	120 (100%)	50(100%)	-
2.	Tablet	0	0	
3.	Bottle	0	0	
4.	Veginal Pessary /other	0	0	
Reason for using of ANTARA				
1	Spacing b/w two children	103(85.8%)	35(70%)	Fisher exact test- 0.05
2	Emergency contraceptive	0	0%	
3	During lactation	8(6.7%)	7(14%)	
4	Did not find further children	9(7.4%)	8(16%)	
Knowledge about follow up after ANTARA				
1	Within 1 month	2(1.7%)	0(0%)	Fisher –exact test- 0.132
2	Within 1-2 months	9(7.5%)	5(10%)	
3	b/w 3-4 months	97(80.5%%)	34(68%)	
4	Any menstrual irregularities	12(10%)	11(22%)	
Knowledge about effectiveness of ANTARA				
1	Up to 2 months	0	0	Fisher –exact test- 0.83
2	Up to 3 months	93(77.5%)	37(74%)	
3	Up to 6months	21(17.5%)	11(22%)	
4	> 6 months	4(3.3%)	1(2%)	
5	Don't know	2(1.7%)	1(2%)	

Table 4: Beneficiaries according to previous contraceptive methods used before adopting ANTARA bar diagram

	Contraceptive Method	Urban	Rural	Total	P-value
1	Natural method	5(4.2%)	1(2%)	6(3.5%)	Chi square test 0.84
2	OCPs	35(29.2%)	13(26%)	48(28.23%)	
3	IUCD/CU-T	11(9.2%)	6(12%)	17(10%)	
4	Condoms	35(29.2%)	9(18%)	43(25.3%)	
Jj 5	No contraceptive methods used	34(28.3%)	21(42%)	55(32.3%)	

Table 5: Assessment of Attitude about ANTARA among beneficiaries

SN	Reasons for using ANTARA	Urban No. (%)	Rural No. (%)	Total	p-value
1.	Spacing method b/w two children	103 (85.8%)	35(70%)	138(81.2%)	Fisher exact test - 0.05
2.	Emergency contraceptives	0(0%)	0(0%)	0(0%)	
3.	During Lactation	8(6.7%)	7(14%)	15(8.8%)	
4..	Did not want further children	9 (7.4%)	8(16%)	17(10%)	
	Follow up after ANTARA				Fisher exact test- 0.132
1	Within 1 month	2(1-7%)	0	2(01.1%)	
2	Between 1-2 months	9(7.5%)	5(10%)	14(8.2%)	
3	b/w 3-4 months	97(80.5%)	34(68%)	13(77%)	
4	When you have any problem	12(10%)	11(22%)	23(13.5%)	
	Effectiveness of ANTARA				Fisher exact test-0.83
1	Up to 2 months	0	0	0	
2	Up to 3 months	93(77.5%	37(74%)	130(76.5%)	
3	Up to 6 months	21(17.5%)	11(22%)	32(18.8%)	
4	More than 6 months	4(3.3%)	1(2%)	5(2.9%)	
5	Don't know	2(1.7%)	1(2%)	3(1.8%)	
	Total	120	50	170	

Table 6: Assessment of Practice about ANTARA among beneficiaries

S. No	Problems faced	Urban no	Rural no	Total	P value
1	Yes	89(74.2%)	35(70%)	124(72.9%)	0.57
2	No	31(28.8%)	15(30%)	46(27.1%)	
	Discontinuation		S		
1	Yes	40(44.9%)	21(60%)	61(49.2%)	0.13
2	No	49(55.05%)	14(40%)	63(50.8%)	
3					

Chi –square test applied

Table 7: Types of Problems faced after the use of ANTARA (inj.MPA)

S. No	Problems	Urban	Rural	Total	P value
1	Abdominal pain	8(6%)	3(6%)	11(6.5%)	Fisher exact test
2	Irregular bleeding	64(53.3%)	28(56%)	92(54.1%)	
3	Amenorrhea	28(23.3%)	14(28%)	42(24.7%)	
4	Pregnancy	1(.8%)	0	1(.6%)	
5	Inj. Site swelling	2(1.6%)	1(2%)	3(1.8%)	
6	Weight loss	7(5.8%)	5(10%)	12(7.1%)	
7	Weight gain	17(14.1%)	4(8%)	21(12.4%)	
8	Not have any complained	31(25.8%)	15(30%)	46(27.1%)	
	Total	120	50	170	

Table 8: Assessment of Pain using VDS (Verbal descriptive scale)

	Beneficiaries	No Pain	Mild Pain	Moderate pain	Severe pain
1	Urban n=120	12(10%)	47(39.1%)	55(45.8%)	6(5%)
2	Rural no =50	5(10%)	19(38%)	23(46%)	3(6%)
	Total	17(10%)	66(38.8%)	78(45.9%)	9(5.2%)

Table 9: Assessment of experience towards ANTARA (inj MPA)

S. No	Beneficiaries	Good	Average	Poor	P value
1	Urban	38(31.6%)	53(44.1%)	29(24.1%)	Chi-square test applied -0.40
2	Rural	17(34%)	20(40%)	13(26%)	
	Total	55(32.3%)	73(42.94%)	42(24.70%)	

Table 10: Effect of ANTARA on out of pocket expenditure and hospital visit

S. No	Beneficiaries	Yes	No	Total	P value
1.	**Increased expenditure**				0.91
	Urban	9(7.5%)	111(92.5%)	120(70.6%)	
	Rural	4(8%)	46(92%)	50 (24.1%)	
	Total	13(7.6%)	157	170	
2	**Increased your hospital visit**				
	Urban	32(26.6%)	88(73.3%)		0.08
	Rural	20(40%)	30(60%)		
	Total	52(30.5%)	118		

Chi-square test applied

DISCUSSION

This study was conducted to assess the Knowledge, Attitude and Practices of beneficiaries of ANTARA (inj.MPA) who were using it for more than 3 months in Indore district. A total of 120 beneficiaries in urban and 50 beneficiaries in rural areas of Indore were included in the study.

In this study, mean age of beneficiaries was 25.8 years and median age of beneficiaries was 24.8 years, A study done by USAID,[4] et al, Haryana and Odisha, median age of injectable users was 28 years, while in another study done by Khan,[5] et al, Uttar Pradesh and Rajasthan mean age of DMPA users was 27 years.

In this study, 72.9% beneficiaries were educated up to middle school and high school. These findings are in compliance with NFHS-3 study, which suggest that spacing methods like ANTARA are more popular among women with at least middle school education than uneducated women [NFHS - 3(2007). A study done by Dr. Ruchira Nautiyal,[6] et al in 2016, in which it was found that this method was accepted better with women who were educated beyond high school (52%) yet lesser educated ones were also equally open to receive DMPA as a contraceptive.

In the present study, 65.2% beneficiaries (50% beneficiaries from urban and 58% beneficiaries from rural) were home makers. A study by USAID,[4] et al, Haryana and Odisha found that, 94% respondents were home makers.

In this study, 46.47% beneficiaries (48.3% beneficiaries from urban and 42% beneficiaries from rural) had 1 child, while another study conducted by Ruchira Nautiyal6et al (2016) found that, 51% clients with one child had opted this

method. A similar study conducted by Khan,[5] et al (2015) in Uttar Pradesh and Rajasthan also found that 21% women had adopted DMPA after their first child

In the present study, 77.9% beneficiaries (51.7% from urban and 54% from rural) had their youngest child ageing less than 1 year. Most of the beneficiaries were lactating mothers. According to a study done in Dehradun by Ruchira Nautiyal,[6] et al (2016) it was found that 42% were lactating when opted for DMPA which invariably stated that DMPA is a better contraceptive for women in lactating stage when their youngest child is less than 1 year of age.

In the present study, all beneficiaries (both from urban and rural Indore) were aware that ANTARA (inj.MPA) is an injectable contraceptive method. 59.7%beneficiaries got the information from front line workers (ASHAs and ANMs). As compared to review article of Jejeebhoy, Shireen j et al,[7] (2012), it was mentioned that 62% women had heard about injectable contraceptives from health care providers or facilities.

In this study, 64.1% beneficiaries (64.2% urban and 64% rural) had received ANTARA (inj. MPA) 2 times while 18.8% beneficiaries (18.3% urban and 20% rural) had received 3-4 times and only 5% had received it more than 6 times. This shows that the percentage of beneficiaries was significantly reduced on receiving more number of doses. As per study done in Delhi by Rekha Jain and Manisha Sharma et al,[8] 92(51.1%) came for their scheduled 2nd dose while 88(48.8%) patients got dropped out after their 1st dose and the dropout rate had increased to 85% at the time of 4th dose. Another study done by Khan et al,[5] analysis revealed that discontinuation after second dose was more than 50% both in UP and Rajsamand.

In this study, 32.3% beneficiaries (28.3% urban and 42% rural) had not used any other contraceptives before ANTARA. Beneficiaries were using other methods-28.23% OCPs, 25.3% Condoms, 10% IUCDs and 3.5% had used rhythm method before they switched to ANTARA(inj.MPA). In a study done by Rekha Jain and Manisha Sharma et al8 (2019) in Delhi it was found that before accepting MPA, 75.5% were not using any formal contraceptives while 11.1% were using IUCDs.

In the present study, 81.2% beneficiaries (85.8%urban and 70% rural) accepted ANTARA (inj.MPA) as a spacing method and 8.8% beneficiaries accepted it during lactational period i.e postpartum period. Even 10% beneficiaries were not willing for any more children. Another study done by Dr. Shivani Aggarwal et al,[9] (2019) concluded that, out of 100 women in the study, all of them used DMPA as an interval contraceptive method. This was in sharp contrast with the findings of USAID4 (2018) in which, more than three – quarters of beneficiaries responded that they do not want any more children in future and they had used it as terminal method. Only 19% used it as a spacing method and 4% were undecided.

In this study out of 170 beneficiaries, 78.8% (76.6% from urban and 84 % from rural) developed menstrual disturbances followed by irregular bleeding in 54.1% and amenorrhea in 24.7%. Similarly a study done by Dr. Shivani Aggarwal et al,[9] (2019) also found that the most common side effect was irregular bleeding (61%) followed by amenorrhea. In the review article of Jejeebhoy, Shireen j et al,[7] (2012) it was mentioned that, overall half (52%) of all women had side effects. 40% experienced some menstrual disturbances while 65% experienced some other side effects. Other than menstrual disturbances, women also experienced other side effects including abdominal pain (6.5%), injection site swelling (1.8%), weight loss (7.1%) and weight gain(12.4%)..

In the present study done on 170 beneficiaries (both from urban and rural) who had accepted ANTARA (inj.MPA), there were one case. In the review article of Jejeebhoy, Shireen j,[7] et al (2012) it was mentioned that in one case, the woman reported that she was late for her re –injection and she became pregnant during this period. Thus a typical failure rate of 0.3% was noted. Another study done by Danli etal10 found that, only one accidental pregnancy had occurred.

In this study, 49.2% beneficiaries discontinued ANTARA (inj.MPA) due to various side effects. According to a study done in Dehradun by Ruchira Nautiyal et al6 (2016) found a discontinuation rate of 32%. Similar to our study, another study done by Dr. Shivani Aggarwal et al (2019) also found that, 48.4% women discontinued injection DMPA due to various side effects.

42.9% Beneficiaries (44%from urban and 40% from rural) experienced ANTARA (inj.MPA) as an average contraceptive only, the reason being, mainly irregular bleeding. So, most of the women were not fully satisfied. Similarly study done by Khan et al,[5] (2015) revealed that 80% women believed DMPA to be a safe and effective (90%) contraceptive method.

CONCLUSION

The findings of this study suggest that most of the beneficiaries were using ANATRA as an interval contraceptive after their first child as a spacing method. Some beneficiaries chose it after their second or third child as a terminal method. Most of the beneficiaries got information from front line workers (ASHAs/ANMs) and received their injection by Nurses. Beneficiaries opined that complications (like irregular bleeding and amenorrhea) were deterrent and posed a major drawback for its long term uses. Lack of supply in rural Indore was a major issue.

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