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ORIGINAL RESEARCH

A study on inj. DMPA as contraception – acceptance, compliance and adverse event among reproductive age group women at a tertiary care centre

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ABSTRACT

Background: The aim was to study the acceptability, efficacy side effects of injection of Depot Medroxy-progesterone acetate (Injection Antara) as contraceptive in reproductive age group woman in postpartum and interval and post abortal period. **Methods:** The present study was a retrospective study conducted in department of OBG, Anantapuram, Govt Medical College, Anantapuramu, Andrapradesh. 450 women taken counselling and 155 members accepted to take injection during period of Jan 2022 to Dec 2023. At time of injection DMPA 1st dose card issued to the women where her particulars weight, blood pressure, menstrual complaints were recorded and date of next visit also mentioned. **Results:** 450 women taken proper counselling but 155 women enrolled for taking injections.Inj. DMPA as contraception acceptability rate 34.4% and continuation rate for further dose 18.75% for 4th dose maximum in postpartum period. Menstrual irregularities most common cause for discontinuation 31.6% minor side-effects weight gain 3.8% mood changes 0.6%. **Conclusion:** Breastfeeding after delivery more women think as naturally, they don't opt for contraception method and they come after 6 months after delivery. Post abortal patient not taking any contraceptive as they are waiting next conception. Educate the patient in antenatal period for contraceptives advice after delivery. There is a need to create awareness regarding the harmless side-effects. Women who are counseled about side-effects are less likely to discontinue their use, more likely satisfied users and eventually become its best promoter as reversible contraceptive.

Keywords: DMPA, Acceptance, Adverse Effects.

INTRODUCTION

DMPA is the fourth most prevalent contraceptive and widely as an effective, safe and acceptable method of contraception across the world. India was first country in the world to launch a family planning program as early as 1952. DMPA was approved by Drug controller General of India in June 1993 for marketing and usage as contraceptive method. DMPA was introduced as Antara in national family welfare program in year 2017. This was indeed step in the right direction to expand contraceptive choice and make modern contraceptives accessible and affordable to women to meet their reproductive goals. Introduction of DMPA as Antara free in program has eliminated cost effective factor. Introduction of any new contraceptive method has to meet challenges; we have tried in our study to evaluate those aspects.

The major problem with contraceptive pills and few other methods is the need for regular use. So, use of long-acting contraceptive makes people free from daily usage of contraceptive method. DMPA (Antara) is a progesterone only injectable given deep intramuscular every three months (one dose =one vial of 150mg aqueous suspension of DMPA) It is safe highly effective and reversible. The typical failure rate of DMPA is 0.3 per 100 women year.[1]

According to National Family Health Survey -3, around 30% of the fertility in India was unwanted, indicating a huge gap between the demand and supply of family planning measures.

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The unmet need for contraception in the country as a whole is about 13%. Reasons for this include:limited choice of methods, limited access to contraception, particularly among young people, poorer segments of populations, or unmarried people, fear of experiencing side effects, cultural or religious opposition, poor quality of available services, users and providers bias, gender-based barriers.[2] With unwanted pregnancy women are using MTP pills without doctor prescription and supervision. Women are landing in haemorrhagic shock and sepsis that increasing the maternal morbidity and mortality.

The desired features of an "ideal contraceptive" are as follows: Safe, effective, acceptable, inexpensive, reversible, simple to administer, independent of coitus, long lasting, requiring little or no medical supervision.[3]

However, the new contraceptive Injectable DMPA under "Antara Programme" was launched in 2017 free of cost by Ministry of Health & Family Welfare, India and have been added to the existing contraceptive basket of choice thus providing users with new options.[4,5]

AIM & OBJECTIVES

1. To assess the acceptance and compliance of Depot Medroxyprogesterone Acetate (DMPA) as a contraceptive method among women of reproductive age attending a tertiary care centre.
2. To evaluate the incidence and nature of adverse events associated with DMPA use among women of reproductive age at a tertiary care centre.
3. To study the determinants for acceptance and side effects of Inj. DMPA among women of reproductive age.

METHODS

The present study was a retrospective study conducted in department of OBG, Ananthapuramu, Govt. Medical College, Anantapuramu, Andhra Pradesh during January 2022 to December 2023. At the time of injection DMPA 1st dose card issued to the women where her particulars like weight, blood pressure, menstrual complaints were recorded and date of next visit also mentioned.

Inclusion Criteria

All reproductive age group 18 to 45 women who were willing to use DMPA (Antara) as contraceptive in post-partumperiod, post abortal period or in interval period.

Exclusion Criteria

Breast feeding women less than six week postpartum, blood pressure 160/100 mm of Hg, unexplained vaginal bleeding, and breast cancer were excluded. Informed consent taken to collect the necessary DMPA injection records. The aim and objective was to study the acceptability, compliance and adverse effects of DMPA as contraceptive in postpartum, interval and post-abortal period.

Follow up Visit Protocol

Time of Visit	Action Taken
At 3 months after last injection on the scheduled date	Give Inj. DMPA; no back up required
2wks earlier or upto4wks later from the scheduled date (within grace period)	Give Inj. DMPA; no back up required
More than 4wks from the date of last injection	Rule out pregnancy: if not pregnant, give Inj. DMPA; advise back up method (eg: condom) for next 7 days

Table 1: Follow up Visit Protocol

Statistical Analysis

The data thus collected was analyzed using proportions, contingency tables, charts and chi-square test of significance using Open Epi (Open Source Epidemiological Statistics for Public Health) version 3.01 open source calculator.[6]

RESULTS

Around 450 women received counseling for Inj. DMPA and 155(34.4%) members accepted to take injection. The mean age is 25.6yrs with standard deviation with 4.1. Majority of women have taken interval contraception with 76.8% followed by post abortal with 12.9% and least by postpartum with 10.3% (Table 2).

Group	Patients Counselled	Patients Received First Dose	Acceptability	2nd dose	3rd dose	4 or more	Continuation rate*
Postpartum	100	16	16%	9	4	3	18.75 %
Interval	275	119	43.27%	65	25	20	16.3 %
Post-abortal	75	20	26.60%	10	4	2	10 %
Total	450	155	34.4%	84	33	25	**16.1%**

Table 2. Inj.DMPA acceptability and Compliance/continuation rate in various groups

***Continuation rate = (**No. of subjects received 4 or more doses/ Patients received 1st dose) x 100

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Majority of women are in the age group of 21-25yrs with 85 subjects followed by 26-30yrs with 38 subjects, then 22 subjects in >30yrs age group and least contributed by <20yrs age group. The distribution of parity with the type of contraception taken which concludes that majority were in primi para with 70 women followed by second para with 66 women and least with >3 para with 19 women. The distribution of socioeconomic class with the type of contraception taken illustrating that majority belong to Class IV socioeconomic class with 59 women followed by Class V with 57 women, 28 women belong to Class III and least belong to Class I and Class II. (Table 3)

Parameter	Upto 3 injections	4 and above	Total	Chi-Square	P-Value
Age					
Age upto 24	56(85%)	10(15%)	66	0.08	> 0.05, Not significant
25 and above	74(83%)	15(17%)	89		
Residence					
Urban	84(86%)	14(14%)	98	0.67	> 0.05, Not significant
Rural	46(81%)	11(19%)	57		
Education					
Below Middle school(I to V)	11(69%)	5(31%)	16	3.016	> 0.05, Not significant
Middle school and above (VI & above)	119(86%)	20(14%)	139		
Socio-Economic Status					
Low SES(Class V)	51(89.5%)	6(10.5%)	57	3.016	> 0.05, Not significant
Others(Class I to IV)	79(80.6%)	19(19.4%)	98		
Prior contraception usage					
Yes	11(73%)	4(27%)	15	2.0	> 0.05, Not significant
No	119(85%)	21(15%)	140		
Parity					
Upto 2 children	114(84%)	22(16%)	136	0.08	> 0.05, Not significant
More than 2 children	16(84%)	3(16%)	19		

Table 3. Determinants of acceptance of Inj.DMPA among reproductive age women.

The side effects observed with DMPA injections- majority of women had menstrual changes contributing 87.5% followed by 10.7% with weight gain and 1.8% with mood changes. Among menstrual changes 51% had spotting followed by amenorrhea in 41%, 6% with menorrhagia and least had hypomenorrhea with 2% (Fig 1).

It was observed that the majority of the women (75%) reported side effects up to three injections of DMPA which was statistically not significant. After three injections, side effects were not reported, possibly due to the body adapting to the hormonal changes or the attenuation of initial side effects over time. This suggests that early counseling about potential side effects and their transient nature could improve acceptance and adherence to DMPA as a contraceptive method (Table 4, Fig 2).

	Upto 3 Injections	4 and above Injections	Total	Chi-Square	P-Value
Side effects observed	37(75%)	12(25%)	49	3.702	>0.05, Not significant
No side effects	93(88%)	13(12%)	106		
Total	130	25	155		

Table 4. Association between No. of Injections (DMPA) received and side effects observed among study participants

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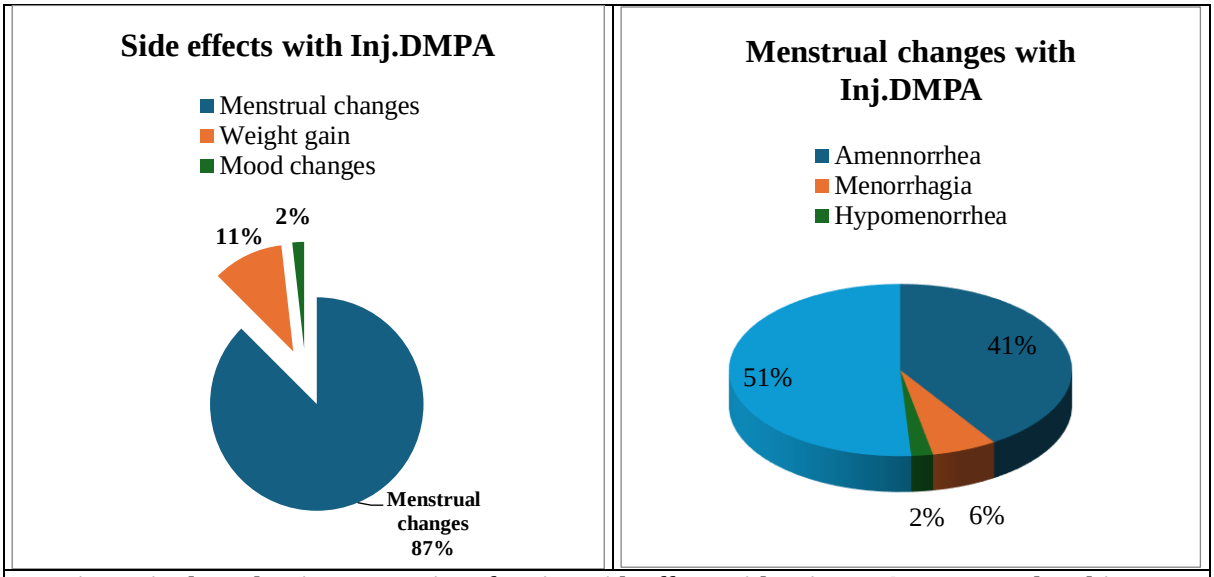

Fig 1: Pie chart showing proportion of various side effects with Inj.DMPA among study subjects

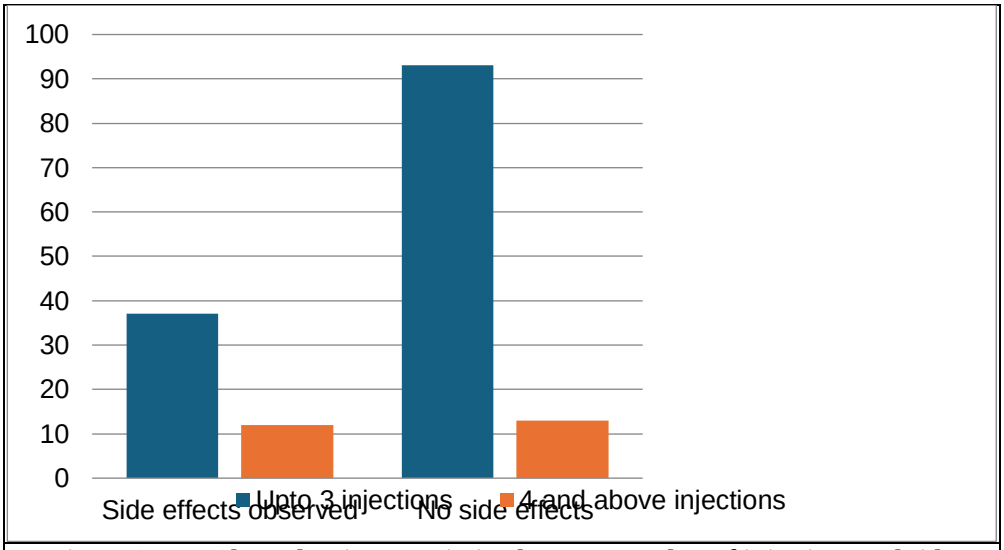

Figure 2: Bar Chart showing association between number of injections and side effectsobserved in study participants

DISCUSSION

Continuation rate in our study was 18.75% which was more than the Tunician retrospective study Kheife et al 13%.5 It was less than UNPF multicentric study 2004 41%.[7]

Maximum number of patience and ruled in interval group maximum acceptability were seen in interval group continuation up to 4th doors little higher in Postpartum than interval group. In our study, among the three groups maximum acceptability (55%) was in postpartum group. During further study up to 4th dose maximum continuation rate (36.3%) was also in the postpartum. Women were more receptive and highly motivated for contraception in the immediate postpartum period than in the interval and post-abortal group. Immediate postpartum acceptability can be increased by starting the counselling process in the antenatal period itself.[8]

In our study women had menstrual changes 31.6%. Menstrual changes contributed the most important reason for discontinuation. Among menstrual changes 51% had spotting followed by amenorrhea in 41%, 6% with menorrhagia and least had hypomenorrhea with 2%. It was more than the UND Pmulticentric study where 37% reported menstrual changes. In Khan et al 2015 among the DMPA users the key reasons for discontinuation were irregular menstruation (15%), spotting (13%), heavy bleeding (29%) and amenorrhea (28%).[9]

In contrast Purwandari et al Indonesia study demonstrated that among the 351 subjects for study the result of the research showed that almost all respondents of DMPA injection experienced changes of abnormal pattern of menstruation (85.7%) which was more than our study.[10]

In our study DMPA users had weight gain during study period 3.8%. There was significant weight gain

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in 6 members out of 155 there was no blood pressure changes observed with DMP use injection DMP work side effects observed among the study group. According to United Nations population fund, India 2005 a multicentric study reported significant weight gain in 12.5% reported leading to drop out and similarly Khan et al reported significant weight gain in 4.8% of DMPA users in UP leading to discontinuation, both more than in our study.[9]

No significant change in mean arterial BP was noted among DMPA users in our study. Similar to our study a prospective study done by Taneepanichskul et al on 50 healthy women.[11] No significant differences in BP changes were recorded among DMPA users.

None of the DMPA users in the postpartum group reported DMPA effect on lactation. None of them experienced negative impact on fertility after discontinuing the Inj. DMPA contraceptive. In the study by Patel et al 89% of primi-para women were satisfied with their lactation in case of multipara.[12]

There is need for family planning methods as there is increase in number of population per year. The methods of planning options also need family to increase to meet the demands. InjDMPA added in contraceptive basket for wide range of availability of contraceptive method so they can make free and informed choice.

In our study out of 450 people taken counselling 155 accepted DMPA as contraceptive 34.4% turned up to take the first dose. This was comparable to 2008 ICMR study 51.4% accepted injectable contraceptive as mentioned in FHI India brief.[7]

In our study among three groups maximum acceptability 43.27% was in interval group. During further for the study up to 4th those maximum continuation rate was in postpartum group it is slightly higher than interval group 16.3%. Women were more receptive and highly motivated for contraceptive in immediate postpartum.

CONCLUSION

Despite of these benefits and proper counselling, less number of patients (34.4%) opted for DMPA as contraception. Continuation rate for further doses (18.75% for 4th dose) was maximum in the postpartum period among the three groups taken in our study (postpartum, interval and postabortal). When patients were counselled immediately after delivery, many of them gave positive note, but actual time of application is after 6 weeks postpartum where less number of patients turned up for DMPA. So, inclusion of mandatory postpartum visit for health check-up and contraceptive advice or scheduling the visit for DMPA with immunization visit of infant or giving DMPA in the immediate postpartum partum period can increase acceptance of DMPA to a greater number in postpartum period. Menstrual changes were the most common reasons for discontinuation (31.6%) in all three groups. Initial doses cause spotting but with subsequent doses amenorrhea supervenes. Other minor side effects may include change in weight and mood swings.Long-acting reversible contraception is a safe, effective, and freely available, with less contraindications method of fertility control. The acceptance of the method is more as it is free and also for interval and post abortal method of contraception. It is the best method where there is contraindication for the use of progesterone with very good efficacy. The important drawbacks of DMPA constitute in termittent spotting, amenorrhea, weight gain and delayed return of fertility. These definitely have an impact on compliance and in our study the compliance went on reducing with further doses of injection. It is probably the same reason why this method did not gain much welcome. Women who are counseled about side-effects are less likely to discontinue their use, more likely satisfied users and eventually become its best promoter as reversible contraceptive.

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