

Short-Term Use of Injectable Depot Medroxyprogesterone Acetate (DMPA) for Contraception in Immediate Postpartum Women

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ABSTRACT

Objective: To study the effect of short-term use of injectable DMPA for contraception in immediate postpartum women.

Study Design: A prospective cohort study

Place and Duration of Study: This study was conducted at the Department of Obstetrics and Gynecology Lady Reading Hospital, Peshawar for duration of six months from 02-June 2022 to 02- December 2022.

Materials and Methods: A total of 100 females were enrolled by using a purposive sampling technique. Depot medroxyprogesterone acetate (DMPA) intramuscular 150 mg injections were administered from day 2 to 10 of the delivery, after their baseline assessment which was normal. All these women were followed for a period of six months with a proper gap of three months. Every three months they were properly assessed in terms of bleeding irregularities, haemoglobin level, bilirubin level, and the side effect of the DMPA. The data were analyzed by using the latest version of SPSS.

Results: There was a mild bleeding irregularity in 16 % at first assessment, 39 % after the time of three months, and 41 % after the time of six months. Moreover, 10 % of the females had a moderate irregularity in bleeding at the initial assessment, 30 % after three months of time, and 21 % after the time of six months. During the first three months, 14 % of cases had developed gain of Weight, and it was reduced to 11 % after the time of six months. Consequently, 09 % and 08% of the cases had experienced backache and headache in the first three months; however, this was reduced to 07 % and 04 % after the time of six months.

Conclusion: The study shows that DMPA is one of the easy and highly effective methods for family planning purposes and for those females who wants to delay their pregnancy. After the effect of DMPA pregnancy is completely reversible. Though there are some side effects of DMPA, it is manageable and does not put the life of females at risk.

Key Words: Short-term; Injectable; DMPA; Contraception; Immediate postpartum

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INTRODUCTION

Pregnancy prevention is described as an action that minimizes the likelihood of conception following a sexual relationship. In accordance with a 2013 report, approximately nearly ninety percent of women who ever engaged in a sexual relationship utilized a

minimum of one method of contraception at some point in their lives. Around eighty-eight percent of sexually engaged females who are not planning to become mothers claim to utilize protection at some point. Several methods of birth control demand a clinician's recommendation or commencement. Finally, females who have age between 15 to 50 years, should go for medical attention because contraception protection is a popular motive for women.^{1,2} The rapid growth of populations is a big problem globally, birth control methods are effective in the lactation period between the deliveries in order to control the population.³ Depot medroxyprogesterone acetate (DMPA) when administered through intramuscular injection is considered to be the most effective method for birth control, especially since it was considered effective during epidemics of coronavirus.⁴ DMPA serves as a highly efficient, reliable, and long-lasting method of birth control that has no adverse effects on breastfeeding. Agreement and commitment can be

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improved through adequate guidance.⁵ DMPA is easy and causes less suffering to the females, it can delay the pregnancies approximately from seven to ten months in the females, without affecting the permanent pregnancies in the females. DMPA can cause 43.8 % of bleeding irregularities, but there is no prominent effect on weight gain in females.⁶ Currently, DPMA is the most widely used method for the control of pregnancies in over thirty developing countries, as it has been considered an evidence-based practice method with 1000 research articles. DPMA has been tested on over thirty million females without any significant effect on their lives.⁷ If appropriate guidance regarding the use of medicines being followed sexually DPMA can prevent pregnancies up to 99.7% in sexually active females. It has no impact at all on a sexual relationship or satisfaction. It can be used for women who are unable to take advantage of another contraceptive method like estrogen-containing due to conditions such as hepatic diseases, diabetes, high blood pressure, or a history of heart disease. DMPA is a highly efficient technique for pregnancy control. Birth control methods such as DMPA, for the prevention of pregnancies, can be started soon after gestation, delivery, or pre-term loss of pregnancies in the second and third trimesters, moreover, DMPA is effective during the period of lactation, and every three months injection of DPMA is easy, in order to avoid regular use contraceptive pills.^{8,9}

MATERIALS AND METHODS

The presented study was a prospective cohort study conducted at the Department of Obstetrics and Gynecology Lady Reading Hospital, Peshawar for duration of six months from 02- June 2022 to 02-December 2022. A total of 100 females were enrolled by using a purposive sampling technique. Institutional review board permission was received before the commencement of the study. The age of all the women was 18 to 36 years, and they were guided regarding the purpose of the study before and then informed consent

was obtained. They were assured that privacy and confidentiality will be maintained. Women who were willing to participate will follow up every three months and have no chronic illnesses like cancer and heart disease were included in the study. Women with chronic diseases were excluded from the study. Depot medroxyprogesterone acetate (DMPA) intramuscular 150 mg injections were administered from day 2 to 10 of the delivery, after their baseline assessment which was normal. All these women were followed for a period of six months with a proper gap of three months; in addition, all the women were instructed regarding the continued breastfeeding. Every three months they were properly assessed in terms of bleeding irregularities, haemoglobin level, bilirubin level, and the side effect of the DMPA. Bleeding irregularity was graded as mild, moderate, and severe which means less than normal menses, equal to menses, and greater than normal menses like severe abnormality. The data were analyzed by using the latest version of SPSS.

RESULTS

The results of the current presented below are divided into four sections with four tables along with percentages respectively which are easy and understandable. Table # 01 shows that there was a mild bleeding irregularity in 16 % at first assessment, 39 % after the time of three months, and 41 % after the time of six months. Moreover, 10 % of the females had a moderate irregularity in bleeding at the initial assessment, 30 % after three months of time, and 21 % after the time of six months. Table # 02 shows the level of haemoglobin at periodic times. There were no females who had levels of haemoglobin below 7 mg/dl and above 11 mg/dl. There 11 % and 89 % of the females had haemoglobin between 7 to 8.9 mg/dl and 9 to 10.9 mg/dl after three months of time, these percentages were raised to 28 % and 78 % after six months of time.

Table No. 1: The effect of DMPA on bleeding patterns at various follow-ups

Bleeding irregularity	The first assessment (0 weeks)		After 3 months		After 6 months	
	Number	%	Number	%	Number	%
No bleeding	74	74 %	0	0 %	2	2 %
Mild bleeding	16	16 %	54	42 %	68	68 %
Moderate bleeding	10	10 %	34	34 %	21	21 %
Severe bleeding			12	12 %	09	09 %

Table No. 2: Variability in the level of haemoglobin due to DMPA in periodic assessment

Level of haemoglobin Mg/dl	First assessment		After 3 months		After 6 months	
	Number	%	Number	%	Number	%
Below 7	No case	0 %	No case	0 %	No case	0 %
7 to 8.9	11	11 %	16	16 %	28	28 %
9 to 10.9	89	89 %	84	84 %	78	78 %
Greater than 11	No case					

Table # 3 shows the variation in the level of haemoglobin, 91 % of the cases had bilirubin levels between 0.2 to 1.2 mg/dl and only 9 % had above 1.2 mg/dl during the first assessment, after the time of three months 96 % of the cases had bilirubin level was between 0.2 to 1.2 mg/dl, in addition, there was only 2 % of females having a level of bilirubin above 1.2 mg/dl. Table # 04 shows the various side effect of

DMPA on the body over periods of time. During the first three months, 14 % of cases had developed gain of Weight, and it Was reduced to 11 % after the time of six months. Consequently, 09 % and 08% of the cases had experienced backache and headache in the first three months, however, this Was reduced to 07 % and 04 % after the time of six months.

Table No. 3: Variability due in the level of bilirubin due to DMPA in periodic assessment

Level of bilirubin Mg/dl	First assessment		After 3 months		After 6 months	
	Number	%	Number	%	Number	%
Below 0.2	No case	0 %	No case	0 %	No case	0 %
0.2 to 1.2	91	91 %	96	96 %	98	98 %
Greater than 1.2	09	09 %	04	04 %	02	02 %
	No case	0 %				

Table No. 4: Various effects on the body (side effect) of DMPA during follow up

Effects on the body	After 3 months		After 6 months	
	Number	%	Number	%
Vomiting and Nausea	07	07 %	05	05 %
Gain of Weight	14	14 %	11	11 %
Injection site redness	11	11 %	6	06%
Backache	09	09 %	07	07%
Headache	08	08 %	04	04 %

DISCUSSION

The results of the current study were similar to other studies, like the effect on haemoglobin and bilirubin level, in addition to bleeding irregularity and the side effects of DMPA. In the current study bleeding irregularity was one of the significant problems. The results of the current show mild bleeding (16 %), (42%), and (68 %), moderate bleeding (10%), (34%) and (21%), and severe bleeding 12 % and 09 % at every six weeks gap for six months which is highly comparable to the studies conducted by Kochar S et al.⁹ The results show that almost 98 % of the females had serum bilirubin levels as normal (0.2 to 1.2) through the six months, which is significant and comparable to the other studies conducted by Bairagya A et al, Shah H et al.^{11,12} The haemoglobin level of 89%, 84 %, and 78 % of the females were between 9 to 10.9 mg/dl through the six months in the current study, a similar study conducted by others shows 85 %, 88 %, and 81% during their six months follow-up.¹³ Additionally shows the side effect like backache, headache, weight gain, redness over the injection site nausea, and vomiting, same results shown by others study that as conducted on the effect of DMPA.¹⁴

CONCLUSION

The study concludes that DMPA is one of the easy and highly effective method for family planning purposes and for those female ho ants to delay their pregnancy.

After the effect of DMPA pregnancy is completely reversible. Though there are some side effects of DMPA but it is manageable and does not put the life of the females at risk.

Author's Contribution:

Concept & Design of Study: Sara Gull
 Drafting: Shahida Sultan,
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 Revisiting Critically: Sara Gull,
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Conflict of Interest: The study has no conflict of interest to declare by any author.

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