



# ETONOGESTREL IMPLANT (IMPLANON); FREQUENCY OF ADVERSE EFFECTS CAUSED BY IMPLANTATION OF SINGLE- ROD ETONOGESTREL IMPLANT (IMPLANON) IN FEMALES SEEKING BIRTH SPACING AFTER DELIVERY OF PREVIOUS PREGNANCY

Dr. Abida Sajid<sup>1</sup>, Dr. Tooba Mehmood<sup>2</sup>

1. MBBS, DGO, MCPS, FCPS  
King Edward Medical University,  
Lady Aitcheson Hospital, Lahore
2. 4<sup>th</sup> Year Post Graduate Resident,  
Gynae and Obstetrics,  
Lady Aitcheson Hospital, Lahore

**Correspondence Address:**  
Dr. Abida Sajid  
503 F2, Johar Town, Lahore  
drsajidrafi@gmail.com

**Article received on:**  
20/01/2017

**Accepted for publication:**  
28/04/2017

**Received after proof reading:**  
06/05/2017

**ABSTRACT... Objective:** To assess the frequency of adverse effects caused by implantation of single-rod Etonogestrel implant (Implanon) in females seeking birth spacing after delivery of previous pregnancy. **Study Design:** Descriptive case series. **Setting:** Unit V, Department of Obstetrics & Gynecology, and Lady Aitcheson Hospital Lahore. **Period:** One year from 01/04/2015 to 31/03/2016. **Materials & methods:** A total of 130 women fulfilling our selection criteria were selected. The ENG implant is a single (coaxial) rod made up of an ethylene vinyl acetate (EVA) copolymer core (40% EVA) containing 68mg ENG, surrounded by a 60mm skin of EVA copolymer (100% EVA). The implant was inserted during days 1 to 5 of spontaneous menses and left in place and adverse effects (abnormal vaginal bleeding or pregnancy) was measured (as per operational definition) for a period of 3 months. All this information was recorded in proforma (attached). Data was entered and analyzed in SPSS version 17.0. **Results:** The mean age of females was  $29.08 \pm 4.027$  years with minimum and maximum age of 20 and 40 years. Adverse events were seen in 36(27.7%) of the females while other 94(72.3%) did not have any adverse effect of implantation of single-rod Etonogestrel implant (Implanon) in females seeking birth spacing after delivery of previous pregnancy. Abnormal vaginal bleeding was reported by 19(14.6%) and pregnancy was occurred in 17(13.1%) of the females. **Conclusion:** According to the findings of this study we found less adverse effects like abnormal vaginal bleeding in 19(14.6%) females and pregnancy was occurred in 17(13.1%) of the females. Hence we conclude Implanon is an effective mode of contraception in females seeking birth spacing and can be adopted in females seeking family planning.

**Keywords:** Family planning, inter pregnancy interval, Implanon, side effects, abnormal vaginal bleeding and pregnancy

**Article Citation:** Sajid A, Mehmood T. Etonogestrel Implant (Implanon); Frequency of adverse effects caused by implantation of single-rod etonogestrel implant (implanon) in females seeking birth spacing after delivery of previous pregnancy. Professional Med J 2017;24(5):685-689. DOI: 10.17957/TPMJ/17.3935

## INTRODUCTION

Short birth interims can have adverse results for maternal and baby health conditions. Ideal birth spacing is regularly presumed to be accomplished through the act of family planning and utilization of contraceptives, yet a large portion of the accessible research does not address unequivocally the commitment of prophylactic technique or contraceptive method use to birth spacing or maternal and newborn child survival. For quite a long time, family planning programs have focused on women in developing countries.<sup>1</sup> Pakistan was among the main nations in South Asia which began the family planning program in late 50s, anticipating the need to control the populace. Regardless of this early mediation,

fertility rate has declined however slower in Pakistan when contrasted with most other Asian nations. Pakistan has right around a dormant preventative prevalence rate for over 10 years now, maybe attributable to the deficient execution of the family planning programs. The planning and utilization of long haul contraceptives has dependably been low (around 2%) and related with various issues. Married ladies who need to hold up before having another child, or end childbearing, are not utilizing any long term technique for contraception.<sup>2</sup>

More data on current research is expected to decide the effect of preventative technique use or contraceptive method on birth-interim length

keeping in mind the end goal to illuminate the advancement of family planning, lessening maternal and newborn child morbidity and mortality through birth spacing.<sup>3</sup> Implanon® is a single-rod type, progestogen-only formula contraceptive/prophylactic containing 68 mg of the active compound, etonogestrel. As far as hormonal strategies, joined estrogen-progestin oral contraceptives have been appeared to disable milk secretions, while contraception with progestin alone, regardless of whether conveyed/delivered by oral, sub dermal or intrauterine courses to the body, seems to have no pernicious impacts on milk creation or newborn child development when utilized by breastfeeding women.<sup>4</sup>

One research review detailed that the recurrence of unfavorable impacts or adverse effects with implanon was just 9.3% and it was inferred that Implanon represents to be a very viable preventative alternative for contraception for women.<sup>5</sup> Another review additionally announced that the recurrence of adverse impacts with implanon was just 13.9% and it was presumed that Implanon is an all-around endured and safe strategy for long-acting hormonal contraception for women.<sup>6</sup> But Darney et al., revealed that the recurrence of adverse occasions (as far as reproductive issue) with implanon was 40.1% which was significantly higher than announced earlier.<sup>7</sup>

Method of reasoning of this was to evaluate the recurrence of adverse occasions created by implantation of single-rod Etonogestrel embed (Implanon) in females looking for birth spacing after conveyance of past pregnancy. Implanon is a viable method of contraception in females looking for birth spacing and adverse reactions are likewise low. However, questionable proofs has been seen in writing which make perplexity whether to actualize Implanon in future or not because of high recurrence of adverse reactions as said in study above.<sup>7</sup> So through this study we want to confirm the magnitude of problem, so that in future, we can update guidelines and can have other contraceptive method if complication rate is high with implanon otherwise use this method as this is most effective and safe method of contraception.

## MATERIALS & METHODS

This descriptive case series was done at Unit V, Department of Obstetrics & Gynecology, Lady Aitchison Hospital Lahore. Sample size of 130 cases was calculated with 95% Confidence level, 5% margin of error and taking expected percentage of adverse events i.e. 9.3% after implantation of Implanon in females seeking birth spacing after delivery of previous pregnancy. Non-probability, purposive sampling was used. Non-pregnant females of age 20-40 years of any parity seeking birth spacing were included in this study.

While females having ovarian, endometrial or cervical malignancy, with h/o of use of an injectable hormonal method of contraception within the preceding 6 months or other hormonal contraceptives within the preceding 2 months, with history of use of implantable contraception within the preceding 2 months, Obese females BMI >30kg/m<sup>2</sup>, hypertensive (BP ≥140/90mmHg) or cardiac patients (medical record) were excluded from this study.

The ENG implant is a single (coaxial) rod made up of an ethylene vinyl acetate (EVA) copolymer core (40% EVA) containing 68mg ENG, surrounded by a 60mm skin of EVA copolymer (100% EVA). An implant of 40mm in length and 2mm in diameter was placed. The ENG implant was inserted sub dermally in the inner aspect of the woman's non-dominant arm. The implant was inserted during days 1 to 5 of spontaneous menses and left in place and adverse effects were labeled if female had complication of abnormal vaginal bleeding or conceive pregnancy within 3 months after implantation of Implanon.

Data was entered and analyzed in SPSS version 17.0. Quantitative data like age and weight was presented in the form of mean and standard deviation.<sup>7</sup> Qualitative data like adverse events (abnormal vaginal bleeding or pregnancy) was presented in the form of frequency and percentages. Data was stratified for parity (<2, 2-5, >5) and age of females (20-30, 30-40). Stratified data was compared by using chi-square test taking p-value ≤0.05 as significant.

## RESULTS

The mean age of females was  $29.08 \pm 4.027$  years with minimum and maximum age of 20 and 40 years. The average weight of all females was  $63.77 \pm 9.715$  kg with minimum and maximum weight of 48 and 95 kg. According parity, 31(23.8%) females had parity  $< 2$ , 59(45.4%) females had parity 2-5 and 40(30.8%) females had parity  $> 5$ . Adverse events were seen in 36(27.7%) of the females while other 94(72.3%) did not have any adverse effect of implantation of single-rod Etonogestrel implant (Implanon) in females seeking birth spacing after delivery of previous pregnancy. Abnormal vaginal bleeding was reported by 19(14.6%) and pregnancy was occurred in 17(13.1%) of the females.

	Age (years)	Weight (Kg)
Mean	29.08	63.77
Std. Deviation	4.027	9.715
Range	20	47
Minimum	20	48
Maximum	40	95

**Table-I. Descriptive Statistics of age (years)**

	Frequency	Percent
Abnormal vaginal Bleeding	19	14.6
Pregnancy	17	13.1

**Table-II. Frequency table of adverse effects**

## DISCUSSION

Birth Spacing is the act of holding up or waiting between pregnancies. A lady's body needs to rest taking after pregnancy. In the wake of having an infant, it is a smart thought to hold up no less than year and a half before getting pregnant again to keep up the best wellbeing for her body and her youngsters. This recommended 18-month rest period is called "birth spacing." When the time between pregnancies is under year and a half, her body may not be prepared to have a healthy child. Postpartum family planning (PPFP) is the counteractive action of unintended and pregnancies with short time gap through the initial twelve months taking after labor. Women with postpartum require a scope of compelling preventative strategies to have the capacity to avoid a spontaneous pregnancy, inside a short interval.<sup>8-10</sup> Although the advancement of both

prophylactic or contraceptive innovation and family planning programs has changed social and monetary develops, unintended pregnancies overall keep on occurring at pandemic levels.<sup>11</sup> Family planning can turn away almost 33% of maternal deaths and 10% of infant mortality when couples space their pregnancies over two years separated. Short interims between births are connected with higher maternal and infant mortality and morbidity.<sup>8,12</sup> The agreeableness of adverse impacts of a given prophylactic/contraceptive strategy impacts its consistence rates and this can shift in various geographic regions.<sup>13</sup>

Preventative strategies and contraceptive methods, including inserts or implants, don't counteract normal side effects and adverse health occasions that a great many people understanding. It is troublesome, along these lines, to choose whether or not the event of manifestations or adverse occasions that are regular can be ascribed to utilization of a preventative strategy or to figure out whether a given technique changes the probability of their occurrence. In this research review we found that adverse effects were seen in 36(27.7%) of the females, anomalous vaginal bleeding was accounted for by 19(14.6%) and pregnancy was happened in 17(13.1%) of the females. One research review announced that the recurrence of adverse impacts with implanon was just 9.3% and it was reasoned that Implanon speaks to an exceptionally viable preventative alternative for women.<sup>5</sup> The adverse rate was more in our review when contrast and above researches.

A Turkish review detailed that amenorrhea, prolongation of bleeding, frequent bleeding and occasional bleeding were accounted for in 20 (32%), 13 (21%), 4 (6.5%) and 2 (3.2%) patients, respectively.<sup>15</sup> Conversely we discovered vaginal bleeding by 19(14.6%) and pregnancy was happened in 17(13.1%) of the females. These measurements are practically identical with above results. Another review additionally revealed that the recurrence of adverse impacts with implanon was just 13.9% and it was reasoned that Implanon

is a very much endured and safe strategy for long-acting hormonal contraception for women.<sup>6</sup> They likewise detailed less adverse impacts when contrasted with current series. In any case, Darney et al., announced that the recurrence of adverse occasions (as far as regenerative issue) with implanon was 40.1% which was substantially higher than detailed earlier.<sup>7</sup> This information is increasing when contrasted with our review.

Another Turkish review announced that no pregnancy happened amid the review. Ninety days after start of treatment, three of the 41 patients (7.3%) had general periods, 14 (34.1%) were amenorrhea and the rest of the 24 (58.5%) had some kind of unusual bleeding. Dysmenorrhea influenced essentially less ladies (1/41, i.e. 2.4%) than before treatment (17/41, i.e. 41.5%), however mastalgia expanded altogether as it was accounted for by five beforehand unaffected participants (12.2%).<sup>13</sup> These discoveries are likewise equivalent to our review. As Implanon contains no estrogen, the most widely recognized adverse occasions related with its utilization are identified with changes in patterns of bleeding or progestin-related hormonal side effects.<sup>16</sup> Reported unpredictable bleeding incorporate amenorrhea (occurrence, 22.2%) and bleeding that is not frequent (33.6%), frequent (6.7%) as well as prolonged (17.7%). In most ladies, the patterns of bleeding experienced amid the initial 3 months anticipated future bleeding patterns. Ladies with beginning ideal draining patterns tended to proceed with these bleeding patterns amid the consequent 2 years of utilization; in any case, ladies with initial ominous bleeding patterns had no less than a half possibility of encountering enhanced and improved patterns of bleeding amid ensuing use.<sup>16</sup> When we stratify our data for age and parity no affiliation was seen among unfavorable impact with age and parity,  $p$ -esteem  $> 0.05$ . Just unusual vaginal bleeding was related with lower age assemble of participants,  $p$ -esteem  $< 0.05$  while pregnancy was not noteworthy with age and parity,  $p$ -esteem  $> 0.05$ . Also Implanon contains no estrogen, the most widely recognized adverse impacts are related with its utilization and just identified with changes in patterns of bleeding

or progestin-related hormonal reactions.

## CONCLUSION

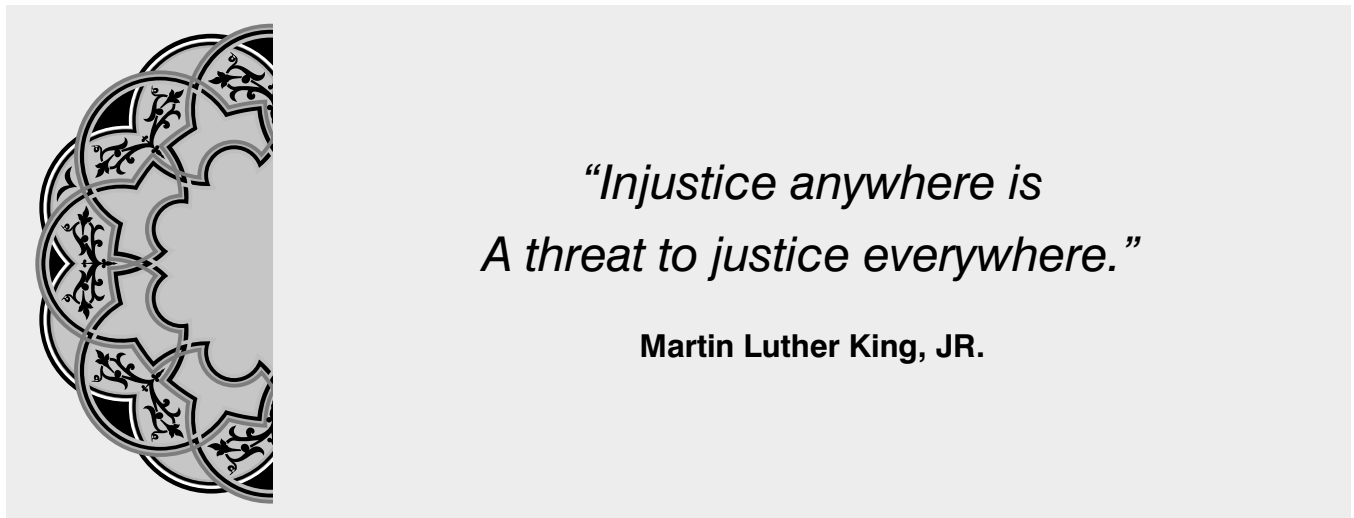
According to the findings of this study we found less adverse effects like abnormal vaginal bleeding in 19(14.6%) females and pregnancy was occurred in 17(13.1%) of the females. Hence we conclude that implanon is an effective mode of contraception in females seeking birth spacing and can be adopted in females seeking family planning.

Copyright© 28 Apr, 2017.

## REFERENCES

1. Pillai VK, Gupta R. **Child spacing and contraception among the poor in Zambia**. Open Access Journal of Contraception 2010;1:1-8.
2. Khan A, Shaikh BT. **An all time low utilization of intrauterine contraceptive device as a birth spacing method-a qualitative descriptive study in district Rawalpindi, Pakistan**. Reproductive health 2013;10(1):10.
3. Yeakey MP, Muntifering CJ, Ramachandran DV, Myint Y, Creanga AA, Tsui AO. **How contraceptive use affects birth intervals: results of a literature review**. Stud Fam Plann 2009;40(3):205-14.
4. Duvan Cİ, Gözdemir E, Kaygusuz İ, Kamalak Z, Turhan NÖ. **Etonogestrel contraceptive implant (Implanon): Analysis of patient compliance and adverse effects in the breastfeeding period**. Journal of the Turkish German Gynecological Association 2010;11(3):141.
5. Croxatto H. **Clinical profile of Implanon: a single-rod etonogestrel contraceptive implant. The European journal of contraception & reproductive health care: the official journal of the European Society of Contraception** 2000;5:21-8.
6. Blumenthal PD, Gemzell-Danielsson K, Marintcheva-Petrova M. **Tolerability and clinical safety of Implanon**. Eur J Contracept Reprod Health Care 2008;13 Suppl 1:29-36.
7. Darney P, Patel A, Rosen K, Shapiro LS, Kaunitz AM. **Safety and efficacy of a single-rod etonogestrel implant (Implanon): results from 11 international clinical trials**. Fertility and sterility 2009;91(5):1646-53.
8. Kumar S, Sethi R, Balasubramaniam S, Charurat E, Lalchandani K, Semba R, et al. **Women's experience with postpartum intrauterine contraceptive device use in India**. Reprod Health 2014;11:32.

9. Blazer C, Prata N. **Postpartum family planning: current evidence on successful interventions.** Dovepress 2016;7:53-67.
10. Dulli LS, Eichleay M, Rademacher K, Sortijas S, Nsengiyumva T. **Meeting Postpartum Women’s Family Planning Needs Through Integrated Family Planning and Immunization Services: Results of a Cluster-Randomized Controlled Trial in Rwanda.** Global Health: Sci and Pract 2016;4(1):73-86.
11. Blumenthal P, Voedisch A, Gemzell-Danielsson K. **Strategies to prevent unintended pregnancy: increasing use of long-acting reversible contraception.** Human reproduction update 2011;17(1):121-37.
12. Singh S, Malik R, Ahalawat R, Taneja BK. **Evaluation of efficacy, expulsion and safety of post-placental and intra-cesarean insertion of intrauterine contraceptive devices.** Int J Reproduc, Contracept, Obstetr Gynecol 2015;4(6):2005-9.
13. Yildizbas B, Sahin HG, Kulusari A, Zeteroglu S, Kamaci M. **Side effects and acceptability of Implanon: a pilot study conducted in eastern Turkey.** Eur J Contracept Reprod Health Care 2007;12(3):248-52.
14. Brache V, Faundes A, Alvarez F, Cochon L. **Nonmenstrual adverse events during use of implantable contraceptives for women: data from clinical trials.** Contraception 2002;65(1):63-74.
15. Millie AB. **Uterus analtomy.** [Online available from]: <http://emedicine.medscape.com/article/1949215-overview#a4>. Retrieved on Oct 2016.
16. Mansour D, Korver T, Marintcheva-Petrova M, Fraser IS. **The effects of Implanon® on menstrual bleeding patterns.** The European Journal of Contraception & Reproductive Health Care 2008;13(sup1):13-28



AUTHORSHIP AND CONTRIBUTION DECLARATION			
Sr. #	Author-s Full Name	Contribution to the paper	Author=s Signature
1	Dr. Abida Sajid	1st Author	
2	Dr. Tooba Mehmood	2nd Author	