Pregnancy after removal of etonogestrel implant contraceptive (Implanon®)

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Abstrak

Penelitian ini dilakukan untuk menilai status fertilitas pada wanita Indonesia setelah pencabutan Implanon. Delapan puluh orang wanita yang Implanon®nya dicabut karena ingin hamil, diikuti sampai hamil, paling lama 2 tahun. Sebagai kontrol dipakai mereka yang Norplant®nya dicabut karena ingin hamil. Angka kumulatif kehamilan pada eks-pemakai Implanon dan eks-pemakai Norplant® setelah 1 tahun adalah 48,8% dan 37,5% sedangkan setelah 2 tahun masing-masing 60,0% dan 73,8%. Tidak ditemukan perbedaan bermakna (p>0,05). Penelitian ini, membuktikan bahwa pemakaian Implanon® tidak mengganggu kembalinya kesuburan.

Abstract

To evaluate the subsequent fertility status of the Indonesian woman after removal of Implanon (etonogestrel implant contraceptive), a prospective longitudinal study was undertaken in Klinik Raden Saleh, Jakarta. Eighty women whose Implanon were removed because of their wish to become pregnant were followed-up for a period of two years or until pregnancy occurred, whichever was earlier. A group of women who had Norplant® removed for planning a pregnancy served as control and were followed-up for an equal length of time. The cumulative conception rate for ex-Implanon® users and ex-Norplant® users at one year was 48.8 and 37.5 per 100 women and at two year was 60.0 and 73.8 per 100 women respectively. There was no significant difference between the groups (p>0.05). The present study, along with other studies, indicates that the prolonged use of Implanon do not impair the return of fertility.

Keywords: *Implanon®, return of fertility, pregnancy after contraception.*

Much concern has been expressed regarding the introduction of a new contraceptive method into the family planning program. One such concern is the return of fertility after discontinuing the method.

One requirement of an ideal contraceptive method is that ovulation and fertility should resume as soon as possible after discontinuation.[1] Resumption of ovulation and fertility is known to be delayed after the use of oral contraceptives and particularly after the use of the injectable contraceptive DMPA when ovulation may be inhibited for up to one year after the last injection.[2,3]

Some investigations of IUD use have demonstrated impaired ability to become pregnant after removal, while others have not. Recent studies indicate that IUDs are reversible and efficacious contraceptives for women at low risk for sexually transmitted diseases.[4]

There was no significant differences in cumulative conception rate at one year between ex-Norplant® users, ex-IUD users and ex-DMPA users.[5,6]

Implanon® consists of one rod containing 68 mg etonogestrel.

Etonogestrel is released from Implanon® at a rate of approximately 60-70 µg/day during week 5-6, declining to approximately 35-45 µg/day at the end of the first year, approximately 30-40 µg/day at the end of the second year, and approximately 25-30 µg/day at the end of the third year.

Following the removal of Implanon, plasma etonogestrel becomes immeasurable within one week and pregnancy can be expected at any time.[7]

This paper provides further information regarding the return of fertility in women after removal of Implanon and, in addition, its comparison with the return of fertility after removal of Norplant.

MATERIALS AND METHODS

Two groups of women were included in the study. The first was comprised 80 women who had used Implanon for more than one year and who had decided

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to have their implants removed for planning a pregnancy. The second group consisted of 80 women who had used Norplant® for more than one year and who had decided to have their Norplant® removed for planning a pregnancy, with age and parity comparable to the first group. All the subjects were recruited from Klinik Raden Saleh, Department of Obstetrics and Gynecology, University of Indonesia/Dr. Cipto Mangunkusumo General Hospital from 1 February 1993 until 31 January 1996 and followed-up for a period of two years or until pregnancy occurred, whichever was earlier.

Any suspected conception was confirmed by pelvic examination or ultrasound. The date of conception was estimated from either the gestations age or the date of the last menstrual period.

The standard ANOVA and the difference of proportions tests were used for statistical significance.

RESULTS

Age and parity of the subjects

The mean ages of ex-Implanon®, and ex-Norplant® users were 28.0 and 27.9 years respectively (Table 1); there were no significant differences between the groups (p>0.05). The mean parity of ex-Implanon®, and ex-Norplant® users were 2.3 and 2.2, respectively. There were no significant differences between the groups (p>0.05).

Table 1. Age and parity of the subjects

Categories	Ex-Implanon®		Ex-Norplant®	
All subjects	80	100.0	80	100.0
Age (years)				
20 - 24	10	12.0	13	16.3
25 - 29	45	56.3	39	48.7
30 - 34	23	28.7	26	32.0
35 -	2	3.0	2	3.0
Mean	28.0 ± 3.2		27.9 ± 3.4	
Parity				
1	20	25.0	24	30.0
2	29	36.3	27	33.8
3	22	27.5	21	26.2
4	9	11.2	8	10.0
Mean	2.3 ± 1.1		2.2 ± 1.1	

Lengths of contraceptive use

The lengths of contraceptive use are shown in Table 2. Ninety percent of the subjects had used the contraceptive methods more that 24 months. The mean lengths of Implanon® and Norplant® use were 35.3 and 55.8 months, respectively.

Table 2. Lengths of contraceptive use

Length of use (Month)	Implanon®		Norplant®	
	N	%	N	%
12 - 24	8	10.0	8	10.0
25 - 36	32	40.0	3	3.0
37 - 48	13	16.3	6	7.5
49-	27	33.7	63	78.7
Mean	35.3 ± 13.1		55.8 ± 17.7	

Cumulative pregnancy events and rates

Table 3 describes the cumulative pregnancy events and rates by four-month intervals. The mean time to conception for ex-Implanon® users and ex-Norplant® users were 8.3 and 13.9 months respectively. There were no significant differences between the groups (p>0.05).

Table 3. Cumulative pregnancy events and rates by method

Time/Group	Implanon® N=80		Norplant® N=80	
	N	%	N	%
4 months	16	20.0	6	7.5
8 months	32	40.0	15	18.8
12 months	39	48.8	30	37.5
16 months	42	52.5	37	46.3
20 months	46	57.5	43	53.8
24 months	48	60.0	59	73.8
Mean Time to Conception	8.3 ± 8.1 months		13.9 ± 8.7 months	

At 12 months, 39 ex-Implanon® users and 30 ex-Norplant® users became pregnant, giving cumulative pregnancy rates of 48.8 and 37.5 per 100 women respectively; there were no significant differences between the groups (p>0.05). At 24 months, 48 ex-Implanon® users and 59 ex-Norplant® users became pregnant, giving cumulative pregnancy rates of 60.0 and 73.8 per 100 women, respectively; again there were no significant differences between the groups (Figure1).

DISCUSSION

The cumulative pregnancy-rate of ex-Implanon® users in this study was 48.8% at 1-year and 60.0% at

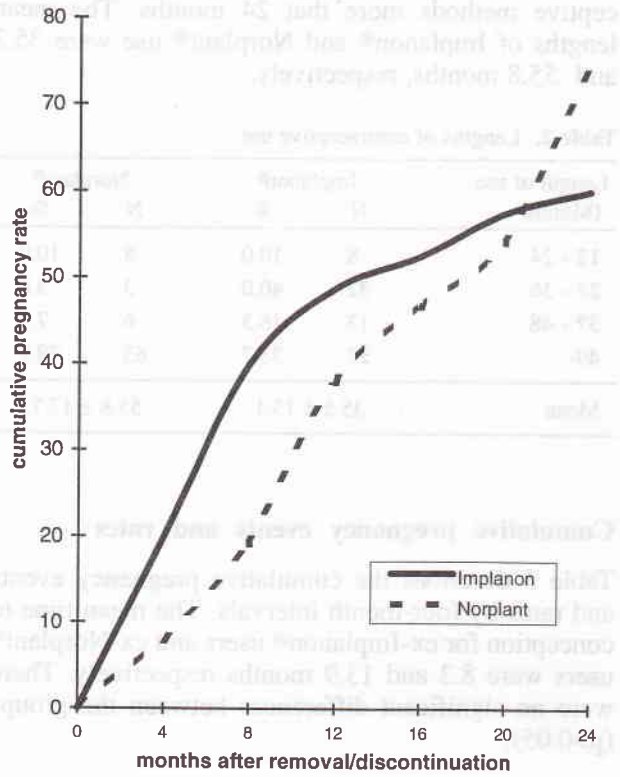

Figure 1. Cumulative pregnancy rates per 100 women after removal of Implanon® and Norplant®

2-year. While the cumulative pregnancy rate of ex-Norplant users was 37.5 at 1 year and 73.8% at 2-year which is somewhat lower than the cumulative pregnancy rate of 77% at 1 year as reported in the ICCR study a study in Chile. Although in the ICCR and Chilean studies, smaller numbers of subjects of different research design were used, the results of the 3 studies are generally consistent.[8-10]

The proportion of ex-Implanon® users who had conceived (48.8 at 1 year and 60% at 2 year) was comparable to that observed with ex-Norplant® users (37.5% at 1 year and 73.8% at 2 year). These results suggest that the return of fertility after removal of Implanon® is relatively the same as with Norplant®. In conclusion, the present study, along with other studies, indicates that the prolonged use of Implanon® does not impair the return of fertility.

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