

The Return of Fertility after Discontinuation of Oral Contraception in Malaysian Women

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Summary

The return of fertility after discontinuation of oral contraception was studied in a cross-sectional survey of 61 patients who were desirous of a further pregnancy. For controls, 380 women who did not take any oral contraception were used. Cumulative conception rates in the pill users were reduced but not significantly during the first three ($p=0.15$) and six months ($p=0.20$). By 12 months this difference was negligible ($p=0.28$). We conclude that there is no significant delay in return of fertility following cessation of oral contraception in our group of Malaysian women.

Key Words: Fertility, Contraception

Introduction

Oral contraceptives are used worldwide. Most formulations contain an estrogen and progestin in various combinations. These are effective in preventing pregnancy that some women fear that the effects will be irreversible and, having once used them, they will be infertile. Reports of 'post-pill amenorrhea'¹ and the 'over suppression syndrome'² in the 1960s reinforced these fears. However, subsequent reports showed that although conception may be delayed for 1 to 3 months, oral contraception did not have any lasting effect on fertility^{3,4,5,6}. These studies were mainly done on Caucasian women from developed countries. Data on Asian women are few⁷.

This study was done to assess the return of fertility following discontinuation of the combined oral contraceptive in a group of Malaysian women.

Materials and Methods

A cross-sectional study was done over 6 months,

commencing in May 1989. All pregnant women attending the antenatal clinic at the University Hospital, Kuala Lumpur, for their first booking were interviewed. From these women, two groups were identified.

The first included 61 patients who had taken the combined oral contraceptive pill for at least 6 months prior to the current pregnancy. The date they stopped taking the pill and attempted pregnancy was asked for. The period (in months) from this date to the first day of their last menstrual period for the current pregnancy was determined. The second group, which served as controls, included 380 women, who had not taken any form of contraception. The date on which they attempted the current pregnancy was asked for. The period (in months) from this date to the first day of the last menstrual period was determined. All women who were investigated for infertility were not included.

A Life-Table method of analysis of cumulative

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pregnancy rates, as described by Colton⁸, was used. For patients who conceived after stopping oral contraception, the duration of follow-up was the number of months from discontinuation to the first day of the last menstrual period. For the controls, duration of follow-up was the number of months from attempting conception to the first day of the last menstrual period.

Statistical analysis for comparing the cumulative pregnancy rates at 3 months, 6 months and 12 months of follow-up was done using the z test⁸ where,

$$z = \frac{P_x - P^1_x}{\sqrt{[SE(P_x)]^2 + [SE(P^1_x)]^2}}$$

where,

P_x = cumulative probability of conception for group P

P^1_x = cumulative probability of conception for group P¹

$SE(P_x)$ = standard error of cumulative probability for group P

$SE(P^1_x)$ = standard error of cumulative probability for group P¹

Results

The mean age for women on oral contraception was 28 years (range 19 to 37); that for the controls was 26 years (range 18 to 34). There were 55% Malays, 20% Chinese and 25% Indians among the oral contraceptive users. In the non users, there were 69% Malays, 13% Chinese and 18% Indians respectively. These differences in age and racial distribution were not significant.

The cumulative conception rates in both groups are summarized in Fig. 1. An initial delay in conception was seen at 3 months and 6 months for the contraceptive users. At 3 and 6 months, 56% and 70% of these patients conceived respectively as compared to the women who did not use any contraception where 66% and 78% conceived at 3 and 6 months respectively. This difference however, was not statistically significant ($p = 0.15$ at 3 months and $p = 0.20$ at 6 months). At 12 months of follow-up there was

practically no difference in the cumulative conception rates ($p = 0.28$) between the two groups. In the women attempting conception after stopping oral contraception 90% conceived as compared to 94% in the control group.

The data was also analysed to see if parity had any influence on the cumulative conception rates in those women who had taken oral contraception. After an initial delay, all nulliparous women conceived by 10 months while, in the parous women, only 80% had conceived during this period (Fig. 2). At 12 months, 14% of the parous women were still not pregnant.

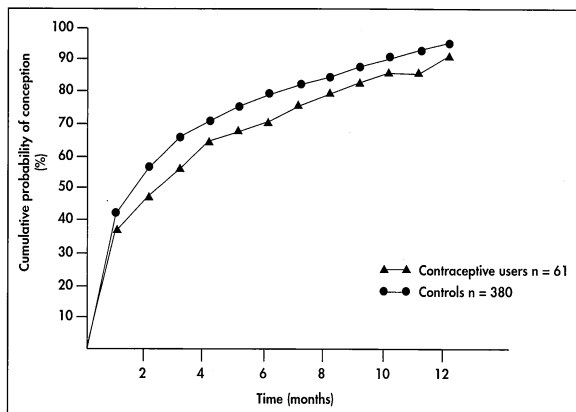


Fig. 1: Cumulative probability of conception in women after cessation of oral contraception and in controls

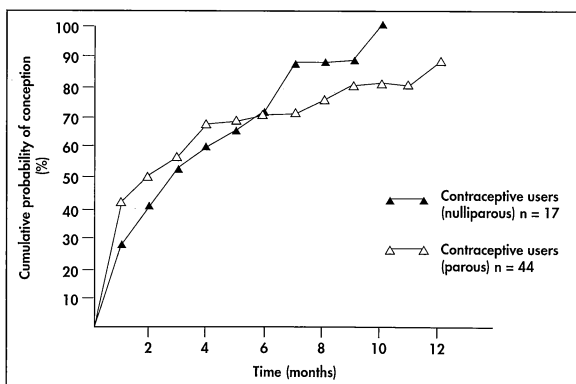


Fig. 2: Cumulative probability of conception in nulliparous and parous women after cessation of oral contraception

Discussion

In the 1980s sporadic reports described the syndrome of prolonged secondary amenorrhoea in patients who had taken oral contraceptives^{1,2}. These have been referred to as the 'post-pill amenorrhoea' or the 'oversuppression syndrome'. It was postulated that prolonged inhibition of the release of follicle stimulating hormone or luteinizing hormone by the oral contraceptives may occasionally disrupt hypothalamic cycling. This caused fears of subsequent delay in fertility. However, these findings have not been substantiated by subsequent reports⁹.

Rice-Wray *et al*³ studied the resumption of ovulation after discontinuation of long term use of oral contraception in 163 women. The authors used urinary pregnanediol excretion and appropriately timed endometrial biopsies as criteria for ovulation. More than 75% of women ovulated within the first post-treatment cycle and, by three months, 98% had ovulated.

Jacobs *et al*⁹ compared the clinical and endocrine features of patients diagnosed to have 'post-pill amenorrhoea' with a comparable group of amenorrhoeic patients who had not taken oral contraception. Of the 52 patients who had amenorrhoea soon after oral contraception, 22 had amenorrhoea before taking oral contraceptives. When these patients were excluded from the analysis, there was no significant difference in the

results to implicate oral contraception as the cause for the amenorrhoea.

Our results show that women who had discontinued the pill in order to get pregnant had a reduced probability in the first three and six months when compared to non-users. This difference however, was not statistically significant. By 12 months there was practically no difference. These findings are similar to most other reports^{4,5,6}.

Among pill-users, most reports on Caucasian women show a delay in the return of fertility in nulliparous women when compared to parous women^{4,5}. Pradthaisong and Gray⁷ showed contrary results in Thai women; among the pill-users, nulliparous women had a faster return to fertility. Our findings are similar to that of Pradthaisong and Gray⁷. Thus it appears that this may be a feature of Asian women. The reasons can only be speculative. One possible explanation is an increased frequency of intercourse in nulliparous women¹⁰.

In conclusion this study confirms the findings of most other reports in that, following cessation of oral contraception, there is no significant delay in the return to fertility. 'Post-pill amenorrhoea' or the 'oversuppression syndrome' has not been shown to be associated with oral contraceptives usage and hence, women should have no fear in using them.

References

1. Sherman RP. Amenorrhoea after treatment with oral contraceptives. *Lancet*. 1966;2 : 1110-5.
2. Horowitz BJ, Solomkin M, Edelstein SW. The oversuppression syndrome. *Obstet Gynaecol* 1968;31 : 387-92.
3. Rice-Wray E, Correns S, Gordovsky J, Esquirel J, Goldzieher JW. Return of ovulation after discontinuation of oral contraceptives. *Fertil Steril* 1967;18 : 212-7.
4. Vessey MP, Wright NH, McPherson K, Wiggins P. Fertility after stopping different methods of contraception. *BMJ* 1978;2 : 265-9.
5. Royal College of General Practitioners. Oral contraception and health. Pitman, New York. 1974 : 100-8.
6. Peterson WP. Pregnancy following oral contraception therapy. *Obstet Gynecol* 1969;34 : 363-8.
7. Pradthaisong T and Gray RH. The return of fertility after discontinuation of oral contraceptives in Thailand. *Fertil Steril* 1974;32 : 352-7.
8. Colton T. Longitudinal studies and the use of the Life table. *Statistics in medicine*. Little Brown Company, Boston. 1974 : 237-44.
9. Jacobs HS, Knuth VA, Hull MGR, Franks S. Post pill amenorrhoea - cause or coincidence? *BMJ* 1977;2 : 940-6.
10. Westoff CF, Bumpuss L, Ryder NB. Oral contraception, coital frequency and the time required to conceive. *Social Biology* 1969;16 : 1-7.