# ETHNIC VARIATION IN SELECTION OF ORAL CONTRACEPTIVES†

by

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Since the introduction of Oral Contraceptives in 1957 (Pincus, *et al* 1958) innumerable of such preparations are available for clinical use. Naturally the Physicians may be in a fix as to which preparation should be used for a particular subject without much side effects. Since the introduction of oral contraceptives, an emphasis has been laid on the reduction of the minor side effects, as incidence of major side effects is generally accepted to be very low. Efforts should be made to ensure that each patient receive the preparation most suitable for her constitutional type (Bhattacharyya *et al* 1972). As yet no ideal criteria could be ascertained which can help in selecting suitable type of contraceptive for any particular person. For this purpose Trenhasff (1971) identified three different types of women according to their constitution and body weight.

1. Female adipose type (oestrogen predominant).

2. Female slim type (oestrogen/progestogen balanced).

3. Virile slim type (progestogen/androgen predominant).

This arbitrary classification of women for the purpose of selection of contraceptive pill is not a fool-proof one.

The present study is based on administration of two different types of pill—one predominantly oestrogenic in action namely Lyndiol containing Lynestranol + 0.075 m. Menstranol and the other being predominantly progestogenic in action—namely Ovulen 1 mg. Ethynodiol Diacetate + 0.1 mg. Menstranol. These pills were given alternately to random samples of women coming for contraceptive advice to the Family Planning Centre of Medical College, Calcutta during the period from January, 1969 to December, 1971.

No emphasis was given on any constitutional variety or menstrual performance of the acceptors just to see which type of pill—predominantly oestrogenic or predominantly progestrogenic is better tolerated by the average Indian women attending the Family Planning Centre.

Table 1 shows the distribution of cases.

TABLE I

*Distribution of Cases*

| Name of Drug | No. of cases |
|---|---|
| Lyndiol | 600 |
| Ovulen | 912 |

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Table II shows distribution of cases according to age.

TABLE II
*Distribution of Cases According to Age Group*

| Age in years | Lyndiol | Ovulen |
|---|---|---|
| 15 to 20 | 137 | 164 |
| 21 to 25 | 180 | 288 |
| 26 to 30 | 178 | 218 |
| 31 to 35 | 82 | 192 |
| 36 to 40 | 23 | 50 |
| Total | 600 | 912 |

Table III shows the distribution of cases according to parity.

TABLE III
*Distribution of Cases According to Parity*

| Age in years | Lyndiol | Ovulen |
|---|---|---|
| Nullipara | 26 | 26 |
| 1 to 3 Children | 282 | 501 |
| 4 to 6 Children | 225 | 290 |
| 7 and above | 67 | 95 |
| Total | 600 | 912 |

Table IV shows distribution of cases according to number of cycles used.

TABLE IV
*Distribution of Cases According to Number of Cycles Used*

| No. of Cycle | Lyndiol | Ovulen |
|---|---|---|
| 1 to 3 | 32 | 115 |
| 4 to 6 | 62 | 51 |
| 7 to 12 | 86 | 189 |
| 13 to 20 | 77 | 198 |
| 21 to 36 | 343 | 359 |
| Total | 600 | 912 |

*Follow-up*

Regular check up was done at each visit in each case in the Family Planning Clinic. Complaints were noted. The results of follow-up are given in the tables below. During follow up 77 cases of Lyndiol and 112 cases of Ovulen could not be followed-up because they went out of station.

TABLE V
*Changes in Weight and Blood Pressure*

| Weight | Lyndiol | Ovulen |
|---|---|---|
| Same | 392 | 580 |
| Increase 1-3 Kg. | 125 | 109 |
| Decrease 1-3 Kg. | 6 | 111 |
| Total | 523 | 800 |
| *Blood Pressure:* | | |
| Same | 410 | 600 |
| Increase | | |
| 10-20 mm. of Hg. | 54 | 98 |
| Decrease | | |
| 10-20 mm. of Hg. | 59 | 102 |
| Total | 523 | 800 |

Table VI shows the change in menstrual behaviour in two groups.

TABLE VI
*Changes in Menstrual Behaviour*

| | Lyndiol | Ovulen |
|---|---|---|
| *Length of Cycle:* | | |
| 25 to 27 days | 367 | 574 |
| 28 to 29 days | 85 | 155 |
| 30 to 35 days | 71 | 71 |
| Total | 523 | 800 |
| *Flow:* | | |
| Average | 359 | 472 |
| Scanty | 71 | 254 |
| Excess | 93 | 71 |
| Lactational amenorrhoea | — | 3 |
| Total | 523 | 800 |

Table VII shows the side-effects in two groups.

TABLE VII
*Analysis of Side-effects Out of 523 Cases of Lyndiol and 800 Cases of Ovulen*

| Name of Complaints | Lyndiol | Ovulen |
|---|---|---|
| Nausea and vomiting | 12 | 10 |
| Break through bleeding | 4 | 16 |
| Break through spotting | 10 | 21 |
| Leucorrhoea | 10 | 10 |
| Cervical erosion | 20 | 10 |
| Breast tenderness, breast engorgement and mastalgia | nil | 15 |
| Oedema of legs | 1 | 1 |
| Acne | nil | 1 |
| Insomnia | 2 | 12 |
| Varicosity of veins | nil | nil |
| Anorexia | nil | 10 |
| Pigmentation | 1 | 1 |
| Muscle cramp in leg | 1 | 8 |
| Burning sensation | 2 | 5 |
| Reduction of milk | 2 | 3 |
| Falling of hair | nil | nil |
| Increased libido | 2 | nil |
| Decreased libido | nil | 31 |
| Hot flushes | nil | 3 |
| Hirsutism | nil | 1 |
| Fatigue, exhaustion and mental depression | nil | 15 |
| Coitus difficulties due to dry vagina | nil | 11 |
| Weight gain | 125 | 109 |
| Weight loss | 6 | 111 |
| Premenstrual depression | nil | 70 |
| Premenstrual tension | 1 | nil |
| Menstrual irritability | 2 | nil |
| Head-ache | 12 | 20 |
| Hypertension | 2 | 2 |
| Diabetes | nil | nil |
| Jaundice | 1 | 1 |
| Menorrhagia | 98 | 71 |
| Oligomenorrhoea | 71 | 254 |

During follow-up upto June, 1974 we found that 26 cases of Lyndiol and 146 cases of Ovulen dropped out. Analysis of drop out is shown in Table VIII.

TABLE VIII
*Analysis of Drop Out*

| Cause of Drop Out | Lyndiol | Ovulen |
|---|---|---|
| Lack of confidence | nil | 2 |
| Excess bleeding | nil | nil |
| Oligomenorrhoea | nil | 5 |
| Erosion of cervix | 20 | 10 |
| Fatigue, exhaustion and mental depression | nil | 12 |
| Coitus difficulty due to dry vagina | nil | 11 |
| Weight loss | nil | 17 |
| Premenstrual depression | nil | 60 |
| Increased libido | nil | 25 |
| Irregular use | nil | nil |
| Pregnancy | nil | nil |
| Tubectomy | 1 | nil |
| Wanted to be pregnant | 2 | 1 |
| Hypertension | 2 | 2 |
| Jaundice | 1 | 1 |
| Total | 26 | 146 |

### *Discussion and Conclusions*

Unlike the European women, the Indian women show much greater tolerance of oestrogenic effects of oral contraceptives than that of the progestogenic effects. In a comparative study of new low dosage pills for oral contraception in Indian women, Shah (1971) pointed out that the dose of progestogen used was already too large for the small statured, low average weight of Indian women as compared to side effects such as hirsutism, acne and scanty menstruation, etc., which are more commonly associated with either progestogenic preparations or with highly potent progestogens. Because of this intolerance to progestogens it is likely that the Indian women are going to need more oestrogenic pills than their European counterparts.

It seems, therefore, logical that the various ethnic groups will react differently to oral contraceptions. The Western woman is in general far more agressive and androgenic in her outlook and personality than her Indian colleagues (Mears, 1967). Similarly, she tolerates oestrogen poorly, whereas the Indian women who are small statured and of low

average weight are equally intolerant of progestogens (Greenblatt, 1967, WHO, 1966).

The association between the use of hormonal contraceptions, particularly predominantly oestrogenic type and thromboembolic phenomenon is well established in the Western countries. According to Wassey & Coll (1969) the risk of thromboembolism is 6-7 times higher in Britain in women taking oral contraceptions. In the U.S.A. Sartwell *et al* (1969) concluded that the risk of hospital admission for thromboembolism was 4-4 times as great for users of oral contraceptions as for non-users.

This thromboembolic complication in Indian women is almost unknown even when they use predominantly oestrogenic pill.

Comparative work is urgently needed in this area to find out the acceptability of different preperations available in India so that even the minor discomforts could be reduced to more acceptable level.

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