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# Norplant in Zimbabwe: preliminary report

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## SUMMARY

During an ongoing study of a pre-introduction trial of Norplant in Zimbabwe, 197 women had the subdermal implant of six capsules containing levonorgestrel inserted between June and December 1991, at Parirenyatwa, Harare Hospital and Spilhaus. Acceptability and efficacy were high and no significant side effects had been observed. Three implants were removed due to local infection, Our initial experience indicates that the Norplant continuation rate is much higher than for any other reversible method of contraception and it is highly acceptable as a long term contraceptive.

## INTRODUCTION

According to a recent report of the World Bank there has been no fertility decline in most of the sub-Saharan African countries. Furthermore, although there is a significantly high demand for contraceptives among young single women, there is no enthusiasm for contraceptives in older women.<sup>1</sup>

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This difference may be due to the fact that the younger women are more literate and urban-based, whereas the older women are mostly found in rural traditional societies where mass illiteracy and poverty are prevalent.<sup>2</sup>

Historically male migrant labour and peasant subsistence economy introduced family separation in most African family formations. Men left to work in towns, mines or large-scale farms leaving women to manage as subsistence farmers. Manufacturing and industrial economies are also characterised by intra-urban and rural mobility, which has become a feature in such communities.<sup>3-6</sup>

Such separation and high mobility in response to economic pressure could reduce contraceptive adoption and compliance rates especially if available methods are not long acting.<sup>4</sup> Thus, total fertility rates are likely to remain high amongst needy communities where contraceptive options remain limited. To achieve fertility decline and reduce the rates of unplanned pregnancies in such a community a wide variety of contraceptive methods which are effective, easy to use and convenient are needed.

Norplant, a levonorgestrel subdermal implant, is a long acting reversible contraceptive (effective for five years) that has been used both in developed and developing countries for the past sixteen years.<sup>7</sup> Various investigators have reported that the cumulative pregnancy rates for Norplant are lower than have been reported in long term randomised comparative trials for other contraceptive methods, such as the intrauterine contraceptive devices (IUCD) and the combined pill (OC). Its efficacy and safety are well established but its demand and acceptability in various parts of the world have to be determined through prospective cohort pre-introductory trials.<sup>8-9</sup>

When Norplant was first introduced in Santa Domingo (1975-1978) the continuation rate was 61 pc of all women who entered the study at the end of one year compared with 91 pc reported from a clinic in Santiago, Chile.<sup>9</sup> The purpose of this communication is to report on the experience we have had in Zimbabwe during the nine months of the pre-introduction trial of Norplant.

#### MATERIALS AND METHODS

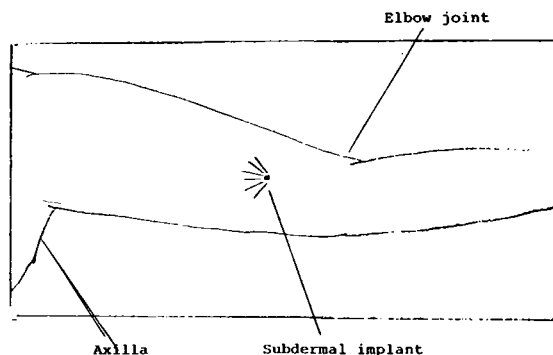
**Subjects selection:** Women aged between 17 and 40 years were recruited into the study following

informed consent. All the women had to be sexually active, previously pregnant and, if lactating, be at least more than six weeks post partum. Women with a history of liver disease, jaundice, sickle cell, severe hypertension, and undiagnosed genital bleeding were excluded.

The study was carried out at three centres in Harare, being Harare Hospital (Tuesdays), Parirenyatwa Hospital (Fridays) and Spilhaus Family Planning Clinic (Wednesdays). Before insertion of Norplant implants each patient was counselled about the method of administration, possible side effects and importance of being available for follow-up. A detailed medical history was taken and a general examination carried out.

**Insertion:** The six silastic capsules are inserted subdermally in the inner aspect of the left upper arm about seven centimetres above the elbow joint in a fan shaped fashion (see Figure I) after injecting the local site with three millimetres of lignocaine one pc. A sharp trocar and plunger are inserted into the skin (without using a scalpel), the plunger is withdrawn and the implant introduced into the trocar following which the plunger is inserted until the implant is visible at the tip of the trocar — which is then withdrawn leaving the implant in place. Care is taken not to withdraw the trocar from the site until all six implants are in place. A small compressor bandage is applied and left on for three days (Figure I).

*Figure I: Site for insertion*



**Follow-up:** This was carried out at one, three, six and nine months post insertion. All subjects will be followed up for three years. Blood samples were taken for blood glucose, serum lipids and liver function tests at recruitment and at the six months' visit.

Termination: This is done if a woman becomes pregnant or if she wishes that the implant be removed.

### RESULTS

The study was started at the end of June 1991 and by the end of November, 200 women had been recruited.

Table I lists the women's demographic characteristics of age, parity and marital status. As can be seen over 76 pc of women were aged between 21 and 35 years of age. Eleven pc were aged under 20 years. For parity over 70 pc had had between two and four children. The majority were married. Four or more years in school were reported by up to 97,5 pc of the recruited women. Distribution of clients by level of education is shown in Table II.

*Table I: Socio-demographic characteristics*

| Distribution by age<br>Variable Age | n   | pc    |
|-------------------------------------|-----|-------|
| 17-20                               | 22  | 11,16 |
| 21-25                               | 51  | 25,8  |
| 26-30                               | 48  | 24,3  |
| 31-35                               | 52  | 26,3  |
| 36-40                               | 24  | 12,1  |
| Total                               | 197 | 100,0 |
| Parity                              |     |       |
| 1                                   | 37  | 19    |
| 2                                   | 49  | 25    |
| 3                                   | 30  | 15    |
| 4                                   | 37  | 19    |
| 5                                   | 16  | 8     |
| 6+                                  | 28  | 14    |
| Total                               | 197 | 100   |
| Marital Status                      |     |       |
| Married                             | 164 | 83    |
| Widowed                             | 2   | 1     |
| Divorced                            | 2   | 1     |
| Single                              | 29  | 15    |
| Total                               | 197 | 100   |

*Table II: Distribution by level of education*

| Years in school | n   | pc    |
|-----------------|-----|-------|
| No schooling    | 2   | 1,1   |
| <4              | 3   | 1,5   |
| 4-7             | 78  | 39,5  |
| 8-12            | 97  | 49,2  |
| Higher          | 17  | 8,6   |
| Total           | 197 | 100,0 |

The menstrual pattern at one and three months is shown in Table III. Amenorrhoea cases were high because quite a number of women were lactating. From follow-up interviews spotting and prolonged periods got better with period use.

*Table III: Menstrual pattern*

| At one month follow-up    | n   | pc   |
|---------------------------|-----|------|
| Amenorrhoea               | 23  | 13,7 |
| Spotting                  | 19  | 11,3 |
| Prolonged                 | 20  | 11,9 |
| Normal                    | 106 | 63,1 |
| Total                     | 168 | 100  |
| At three months follow-up | n   | pc   |
| Amenorrhoea               | 21  | 30   |
| Spotting                  | 7   | 10   |
| Prolonged                 | 9   | 13   |
| Normal                    | 33  | 47   |
| Total                     | 70  | 100  |

Complications at site of insertion were reported by three pc of the women. Three women had the implants removed because of local infection. One had reinsertion after a course of antibiotics treatment. The reinsertion was uneventful and at the one month follow-up the site was well healed. Two women had local swelling, oedema and discomfort but these tolerated and the implants left intact. There were no pregnancies reported at any of the follow-up intervals. The demand for the method was high and no significant side effects were reported.

### DISCUSSION

In this preliminary report our initial experience attests to demand and acceptability of Norplant in the Zimbabwean population. The continuation rate so far is 98 pc which is higher than any other reversible method of contraception. The fact that over a period of nine months no implant has been removed on medical grounds or menstrual disturbance indicates that this method of contraception is acceptable.

Most women reported that the minor side effects of spotting and sometimes heavy periods, which get better with the time of usage, were tolerable. The high continuation rate is largely due to good pre-insertion counselling and the convenience the method offers. Studies in Chile and Dominican Republic where they had had a high continuation rate emphasise the role of pre-insertion counselling.<sup>8-9</sup>

The objective of the study was to determine whether the method is acceptable to Zimbabwean women and whether there is scope for incorporation in the Zimbabwe National Family Planning Council Programme. From this initial experience it appears that this contraceptive method can be incorporated. Our findings are in agreement with those of other investigators that a scalpel is not necessary for insertion.

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