'Failed' contraception in a rural South African population

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Objective. To investigate whether the free availability of contraception affects the need for termination of pregnancy (TOP).

Design. Case-control study.

Setting. South African rural hospital.

Population. Three thousand and ninety-five TOP seekers and 439 non-pregnant controls.

Methods. Structured questionnaire followed by ultrasonography.

Main outcome measures. Current use or recent discontinuation of contraception and the reason for discontinuation.

Results. Less than one-third (28.6%) of TOP seekers claimed to be using contraception versus 85.0% of controls. Injectable contraception (IC) was preferred by the controls and oral contraception (OC) by TOP seekers ($\chi^2 = 48.5$, $p < 0.0001$, OR 0.34 (95% confidence interval 0.25, 0.46)). The percentage of discontinuation of hormonal contraception was higher in controls ($\chi^2 = 6.3$, $p = 0.012$, OR 0.51 (0.31, 0.85)). The reason for discontinuation of hormonal contraception was obtained from 31.2% of TOP seekers and 63.3% of controls; no reason for discontinuation was acknowledged by 30.1% of the former and 6.3% of the latter ($\chi^2 = 33.4$, $p < 0.0001$, OR 6.40 (3.25, 12.56)). Side-effects of hormonal contraception prompted more discontinuation in the failed-contraception group ($\chi^2 = 120.5$, $p < 0.0001$, OR 49.4 (21.6, 112.5)). Poor compliance and absence of an acknowledged reason for discontinuing hormonal contraception resulted in 173 unwanted pregnancies.

Conclusion. In South Africa two main components of women's reproductive health and rights are freely available, namely contraception and TOP. Not using contraception is one of the main causes of unwanted pregnancy. Better education of both service providers and users is needed to improve use, compliance and perseverance with contraception.

S Afr Med 2003; **93**: 858-861.

Although access (preferably free) to termination of pregnancy (TOP) is an integral component of women's reproductive health and rights, it is surely more desirable to avoid unwanted pregnancies. According to Benagiano and Pera,[1] the best ways to reduce the need for abortion are education and contraception. Putting aside the problems of education, in many developing countries reproductive health is still poorly integrated and contraception is often not affordable in rural communities. In addition there are socio-cultural obstacles. In South Africa, maternal and child health and welfare (MCHW) was made free of charge soon after the 1994 democratic elections. In many areas, however, MCHW services are still fragmented, and antenatal care is separate from 'family planning'. For many reasons, accessibility to TOP services remains far from easy, especially in rural areas.[2]

Since the enactment in 1997 of the Choice of Termination of Pregnancy Act (CTOP) of 1996, pregnancies of 12 weeks or less can be terminated on demand even in primary health care (PHC) facilities by registered midwives who have undergone the required training. After 12 weeks (up to 20 weeks), TOPs must be performed in accredited hospitals. Theoretically, therefore, two of the most important conditions to ensure reproductive rights, viz. contraception and TOP, are freely available to all women. The present survey was undertaken to determine the extent to which shortcomings of contraceptive services contribute to the occurrence of unwanted pregnancies and requests for termination.

Patients and methods

The study was conducted in a large rural hospital (Philadelphia Hospital) in the Mpumalanga highveld from February 2001 through October 2002. The hospital serves a rural population estimated at 300 000, with about 140 000 women between the ages of 15 and 45 years.

The following contraceptives are available at all the state-run health care facilities: the progestogen-only pill (POP) Microval (30 µg levonorgestrel); the combined oral contraceptives (OCs) Nordette (30 µg ethinylestradiol and 150 µg levonorgestrel), Triphasil (30-40-30 µg ethinylestradiol and 150 µg levonorgestrel), and Ovral (50 µg ethinylestradiol and 500 µg norgestrel); and the injectable contraceptives (ICs) Nur-Isterate (norethisterone oenanthate) and Depo-Provera (medroxyprogesterone acetate). Multiload is the only available intrauterine contraceptive device (IUCD). Finally, male condoms are freely available from all public health care facilities.[3]

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According to the local health subdistrict pharmacist, an estimated 23% of women of reproductive age use hormonal contraception. The subdistrict pharmacy issues OCs according to the following order of demand: Ovral, Triphasil, and Nordette. It also issues 1.2 million condoms per annum, an estimated six times less than the number needed if each male over the age of 15 years used 10 condoms per month (G Malangu — personal communication).

The hospital has been the only facility in the district to provide TOP services since 1998. For logistical reasons a weekly confirmation of pregnancy (COP) clinic is held where attendants request either confirmation or termination. On average, 50 patients are seen weekly, about 20% for confirmation and 80% for termination. A structured questionnaire was used to obtain the following information: age, parity, last menstrual period, and past or current use of contraception. The clients who had discontinued contraception were asked to indicate the reason, if any. Because it is impossible to ascertain whether a method is being used properly, those found to be pregnant or who requested a TOP while claiming current use of contraception were classified as 'failed contraception' together with those who acknowledged discontinuation. They were compared with the TOP seekers who did not claim any use of contraception. Non-pregnant women attending the gynaecological outpatient department for reasons unrelated to the use of contraception served as controls.

Statistical analysis was done using the statistical package StatMate and Prism version 2 from GraphPad (GraphPad Inc., San Diego, California). The 95% confidence intervals (CIs) of proportions were calculated. Proportions were compared using chi-square values from contingency table analysis and odds ratios (ORs). The level of statistical significance was set at $p < 0.05$.

Results

The flow of patients is illustrated in Fig. 1. Distribution by age is given in Table I. More than half of the women in each group were in the third decade of life. Table II shows the distribution by parity. With the exception of the TOP seekers, primiparous women predominated. Table III lists the relative distribution by contraceptive method. Injectable contraception predominated among controls and oral contraception among TOP seekers ($\chi^2 = 48.5$, $p < 0.0001$, OR 0.34 (95% CI 0.25, 0.46)).

The comparative extent of discontinuation by the controls for each contraceptive method and failed contraception are shown in Table IV. Analysis of the total rate of discontinuation of hormonal contraception was significantly lower in the failed-contraception group (29.2%) than in the controls (53.5%) ($\chi^2 = 6.3$; $p = 0.012$; OR 0.51 (0.31, 0.85)). The reason for discontinuation of hormonal contraception could be obtained

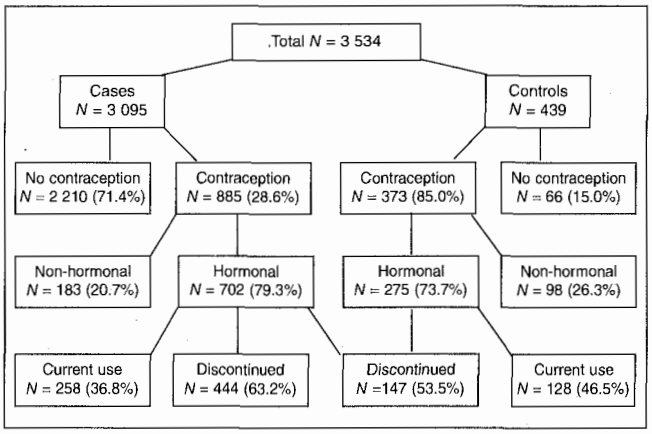

Fig. 1. Flow of patients.

Table I. Comparative distribution by age (*N* (%))

Age (years)	Failed contraception (*N* = 885)	Other TOP seekers (*N* = 2 210)	Controls (*N* = 439)
10 - 19	157 (17.7)	557 (25.6)	44 (10.0)
20 - 29	550 (62.1)	1 180 (54.0)	226 (51.5)
30 - 39	165 (18.6)	418 (19.2)	114 (26.0)
40 - 49	13 (1.6)	55 (1.2)	55 (12.5)

Table II. Comparative distribution by parity (*N* (%))

Parity	Failed contraception (*N* = 885)	Other TOP seekers (*N* = 2 210)	Controls (*N* = 439)
0	200 (22.6)	791 (35.8)	110 (25.0)
1	355 (40.1)	747 (33.8)	130 (29.6)
2	197 (22.3)	338 (15.3)	89 (20.3)
3	75 (8.5)	175 (7.9)	34 (7.7)
4	34 (3.8)	55 (2.5)	31 (7.1)
≥ 5	24 (2.7)	104 (4.7)	45 (10.3)

for 219 women (24.7%) in the failed-contraception group and for 174 controls (63.7%). There was far more discontinuation for no acknowledged reason ($\chi^2 = 33.4$, $p < 0.0001$, OR 6.40 (3.25, 12.56)) and for recognised poor compliance, and much less for breakthrough bleeding in the failed-contraception group than in the controls. Side-effects of hormonal contraception prompted discontinuation of the method in 92.1% of failed contraception cases and 19.1% of controls ($\chi^2 = 120.5$, $p < 0.0001$, OR 49.4 (21.6, 112.5) (Table V)).

Among the pregnant TOP seekers, 10 had been raped; 1 was the victim of an incestuous rape, 2 teenagers were raped by their stepfathers, and 1 by a traditional healer. Eight women requested TOP because of their HIV-positive status. Access to

Table III. Relative distribution by contraceptive method (*N* (%))

Method	Failed contraception (*N* = 885)	Controls (*N* = 373)	Total (*N* = 1 258)
Nur-Isterate	242 (27.3)	128 (34.3)	370 (29.4)
Triphasil	154 (17.4)	33 (8.8)	187 (14.9)
Condom (male)	146 (16.5)	50 (13.4)	196 (15.6)
Ovral	131 (14.8)	14 (3.8)	145 (11.5)
Depo-Provera	99 (11.2)	74 (19.8)	173 (13.8)
Nordette	50 (5.6)	19 (5.1)	69 (5.5)
Microval	26 (2.9)	7 (1.9)	33 (2.6)
Quinine	18 (2.0)	0 (0.0)	18 (1.4)
Traditional method	14 (1.6)	6 (1.6)	20 (1.6)
IUD	5 (0.6)	8 (2.1)	13 (1.0)
Tubal ligation	0 (0.0)	34 (9.1)	34 (2.7)

Table IV. Discontinuation of hormonal contraception (*N* (%))

Method	Failed contraception	Controls
Nur-Isterate	116/242 (47.9)	81/128 (63.3)
Triphasil	30/154 (19.5)	14/33 (42.4)
Ovral	31/131 (23.7)	5/14 (35.7)
Depo-Provera	68/99 (68.7)	41/74 (55.4)
Nordette	13/50 (26.0)	6/19 (31.6)
Microval	0/26 (0.0)	0/7 (0.0)
Total	258/702 (36.8)	147/275 (53.5)

contraception was denied by the clinic nurse (8), husband (2), church (2) and mother (1). Excessive distance and lack of transport money were the reasons for discontinuation in 5 cases.

Discussion

The results of the present survey should be interpreted in the light of an important caveat. A bias is likely to have been introduced in the selection of the control group since the women were selected from the gynaecological clinic. The motives for attending the clinic were not related to the use or discontinuation of contraception. This could explain the higher level of discontinuation of contraception among the controls. The use of a control group was to determine whether there was any difference in the demography, type of preferred method of contraception, and the reason for discontinuation between the groups. The demography was comparable. IC was more prevalent than OC in the control group. Among the failed contraception TOP seekers, no acknowledged reason for discontinuation and poor compliance were the main factors

Table V. Reason for discontinuation of hormonal contraception (*N* (%))

Reason	Failed contraception (*N* = 219)	Controls (*N* = 174)	Total (*N* = 393)
None	66 (30.1)	11 (6.3)	77 (19.6)
Amenorrhoea	41 (18.7)	38 (21.9)	79 (20.1)
Headaches	35 (16.0)	30 (17.2)	65 (16.5)
Poor compliance	30 (13.7)	0 (0.0)	30 (7.6)
Social*	18 (8.2)	4 (2.3)	22 (5.6)
Breakthrough bleeding	16 (7.3)	35 (20.2)	51 (12.9)
Weight gain	6 (2.7)	3 (1.7)	9 (2.3)
Nausea	5 (2.3)	4 (2.3)	9 (2.3)
Excessive discharge	2 (0.9)	5 (2.9)	7 (1.8)
Child wish	0 (0.0)	34 (19.5)	34 (8.7)
No sexual partner	0 (0.0)	7 (4.0)	7 (1.8)
Other†	0 (0.0)	3 (1.7)	3 (0.8)

*Access to contraception denied by husband (2), mother (1), church (2), clinic nurses (8), lack of money (2), excessive distance (3).
†Constipation (1), epistaxis (1), painful injection (1).

resulting in an unwanted pregnancy. The fact that no reason was acknowledged does not mean that there was no reason; it would be interesting to investigate this further.

In Africa, only two countries have legalised abortion on request, viz. South Africa and Tunisia.[1] Since the implementation of the CTOP Act in South Africa, about 50 000 'legal' abortions are performed annually.[5] A similar number of 'unsafe' abortions is still performed (this number may in fact be higher than estimated). For purely pragmatic reasons providers of unsafe abortions are not subjected to legal action. This is because the incidence of postabortion sepsis has decreased significantly since the use of misoprostol rather than instrumental induction of abortion.[6]

The question is why some women still choose the 'unsafe' rather than the safe way. Or is it a choice? Many factors contribute to lack of choice, viz. lack of knowledge of the law (mainly on the part of rural women), uneven distribution of TOP services (mainly because of conscientious objection)[7] and stigmatisation (by health care providers and/or local communities).[8]

Given that contraceptive services are freely available, the fact is that contraception is underused, and when it is used it is often discontinued. According to the South African Demographic and Health Survey (SADHS),[9] 50.1% of women use contraception. The estimate for our local situation is less than half of this figure, which might be due to the fact that the community is rural, with social factors that limit the use of contraception. It also suggests a great disparity in the use of contraception (e.g. between rural and urban populations). The SADHS[9] reports that African women prefer ICs (12.7%), and in decreasing order OCs (9.3%), condoms (1.9%), IUCDs (1.2%), and traditional methods (0.1%). A similar trend was observed in the local population; IUCDs were less popular than the traditional methods. This, again, reflects the influence of the rural environment. Finally, our survey is in line with a previous South African study which showed that between 25% and 80% of TOP seekers do not use contraception.[6]

In other sub-Saharan African countries OCs are preferred to ICs.[10-11] The South African preference for ICs is usually attributed to two factors. One is that this option is more easily concealed from relatives; the other (arguably) is that it prevents the risk of poor compliance encountered with OCs. This mindset, often entertained by female health care providers, clearly needs to change through education of the service providers themselves.

In the *National Contraception Policy Guidelines*,[12] the South African National Department of Health acknowledges that 'the work performance of many contraceptive service providers is inadequate'. Since this seems to be a fact, it is important to investigate what the problems are and how they should be addressed. In our attempt to establish the nature of the inadequacy of the service we tried to obtain information on the problems encountered by clients. The fact that more TOP seekers than controls came up with a clear reason for discontinuation might be due to the fear of stigmatisation. Of significance is the fact that 105 of 114 TOP seekers discontinued use because of the side-effects, which indicates the importance of pre-contraception counselling and the need to address side-effects when they occur.

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Accepted 24 July 2003.