

# The Intra-uterine Device in Soweto and Other Townships

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## SUMMARY

The complex of townships of Soweto (South-Western Townships), a few miles from Johannesburg, is inhabited solely by Blacks belonging to virtually all the tribes found in South Africa, though Zulus and Sothos predominate. The variation of adaptation to modern Western life ranges from close to tribal background, to completely Westernised and highly educated. About a quarter of a million people inhabit Soweto illegally. There are no slums, but Soweto is far from ideal. Nevertheless there is steady, rapid advancement, responsibilities are being accepted, attitudes are changing and the blessings of family spacing and limitation are generally understood. The family planning service is a great success.

The performance of the intra-uterine device (IUD) is discussed against a background of well over 25 000 insertions. A Lippes loop series and a Dalkon Shield evaluation are presented. Insertions into nulliparous young women, and post-Caesarean cases are discussed, and the importance of the IUD in a mass family planning programme emphasised.

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The Johannesburg City Council introduced a completely comprehensive contraceptive service in Soweto over 5 years ago. The contraceptive pill and other conventional methods had been used previously, but it was obvious that these methods requiring patient-responsibility were of very limited use. The pill was simply not taken consistently and correctly, as sustained motivation was lacking due to lack of education, and our experience very soon led to the conviction that a good-performance IUD was infinitely preferable to the pill in our clinic society.

## PERFORMANCE

IUD performance depends upon: (a) the IUD itself; (b) the skill and attitude of the insertor, and (c) the attitude and reaction of the patient.

With one or two exceptions, all the dozens of loops and coils are made of polyethelene. They vary in size and shape and texture and mobility. Those which are too big cause pain and haemorrhage; those which are too small are extruded easily. Those which are firm and rigid cause endometrial pressure and some degree of necrosis at the areas where pressure is exerted. Some are easier to insert and retract than others. They all have undesirable ejection, removal and failure rates. Published performance rates have very often not been confirmed in Soweto. It is clear that complication rates vary with insertors, and in different people due to different attitudes and motivation. At different ages and parity the complication

rates are vastly different. One has to decide upon a device which suits one's skill and experience, and which suits the people and the situation.

In Soweto a wide choice of devices has not been available, and there has been no necessity for this. Obviously, conflicting data would have resulted from a number of insertors using a large variety of devices. The final method evolved employs Lippes loops (which are cheap), and if they fail, the Dalkon Shield (which is expensive).

The four series of cases which follow give an idea of the results achieved by a single insertor—the author—which eliminate differences of technique and attitude.

### THE LIPPES LOOP

This series of 1 000 Lippes loops was inserted early in 1970 and the study covers a period of 2½ years. Table I

illustrates the performance in Soweto during the first year compared with the universally accepted pregnancy, expulsion and medical removal rates. In the first year the pregnancy rate was the same—2,7%, the ejection rate remarkably higher, and the medical removal rate

TABLE I. LIPPES LOOP—1 000 CASES OF INSERTION EARLY IN 1970

	Events per 100 women/ years in first year of Lippes loop use		2½ years' Lippes loop use
	Universally accepted %	Soweto %	Soweto %
Pregnancy rate	2,7	2,7	3,5
Expulsion rate	12,8	23,0	37,5
Medical removal rate	15,2	5,7	11,0

TABLE II. DALCON SHIELD — EVENTS AND CLOSURES BY TYPE OF TERMINATION AND MONTH AFTER FIRST INSERTION

Ordinal month	Type of termination							LFU	Total
	Acc. preg.	First exp.	Later exp.	Rem. med.	Rem. pers.	Rem. invest.			
A	B	C	D	E	F	G	H	I	
<b>Events</b>									
1st	—	24	3	5	1	—	1	34	
2nd	1	17	4	4	1	1	1	29	
3rd	—	16	2	5	2	—	1	26	
4th	—	8	4	6	5	1	127	151	
5th	2	8	2	1	3	1	—	17	
6th	—	5	2	5	3	—	—	15	
7th	—	6	1	3	1	—	—	11	
8th	—	7	—	5	4	1	—	17	
9th	1	—	—	5	4	—	—	10	
10th	—	1	1	1	3	—	—	6	
11th	—	—	—	2	1	—	—	3	
12th	—	6	—	5	3	—	—	14	
13th	—	—	—	—	1	—	—	1	
14th	—	2	1	—	2	—	—	5	
	4	100	20	47	34	4	130	339	
<b>Closures</b>									
1st	—	3	2	6	1	—	1	13	
2nd	1	5	2	3	1	—	1	13	
3rd	—	5	1	5	2	—	1	14	
4th	—	4	1	4	5	—	127	141	
5th	2	5	1	1	3	—	—	12	
6th	—	2	—	5	3	—	—	10	
7th	—	1	—	3	1	—	—	5	
8th	—	4	—	5	4	—	—	13	
9th	1	—	—	5	4	—	—	10	
10th	—	—	1	1	3	—	—	5	
11th	—	—	—	1	1	—	—	2	
12th	—	1	—	4	3	—	—	8	
13th	—	—	—	—	1	—	—	1	
14th	—	1	—	—	2	—	—	3	
	4	31	8	43	34	—	130	250	

remarkably lower. The difference is due to the fact that medical removals are not encouraged even in the presence of considerable initial inconvenience. Reinsertions, too, are strongly encouraged, which adds to the high ejection rate, but they are justified by the finding that eventually a device does stay in. This illustrates how the investigator's attitude affects performance, and also how this performance could be markedly changed by a docile acceptance or a hostile lack of co-operation on the part of the patient.

Table I also shows these rates after 2½ years of use, during which time the percentage of complications has naturally increased. The interesting fact is that 697 women out of the 1000 were still wearing Lippes loops after 2½ years, although quite a number of them had had reinsertions. The IUD had only been discontinued in 147 cases and there were 156 defaulters.

### DALKON SHIELD EVALUATION

This series evaluates a period of 14 months. It is unusual in that, owing to the cost, Dalkon Shields were used only after other less expensive devices had failed. They were all, therefore, cases where failure could be anticipated. Their ages varied from nulliparous girls of 13 years to multiparas of 45 years, and no difference in technique was employed except that all the very young girls had to have some dilatation. Every uterine cavity was first explored with a sound and then small and standard Dalkon Shields were inserted into 1379 patients, approximately 100 per calendar month.

Table II gives events and closures by type of termination and month after first insertion. Column B shows that only 4 pregnancies occurred out of 339 cases in the months indicated and are recorded below under closures. Column C shows first expulsions—24 in the first month and so on. It is noted that most expulsions occurred during the first 3 months. Out of the 100 first expulsions, in the lower column under closures, it is seen that 31 discontinued using Dalkon Shields. Column D details the expulsions after reinsertion, and column E shows the details of cases in which it was necessary to remove the shield for medical reasons. Out of these 47 cases, the severity of the complication contra-indicated further Dalkon Shield use in 43. Column F records removals for personal reasons—practically all wanting pregnancy.

The 4 cases in column G were removals and reinsertions due to misplacement of the shield in the uterus. Column H gives the number of cases lost to follow up (LFU)—no contact made by the end of the fourth month.

Out of 1379 cases, 1040 were uneventful and perfectly satisfactory. Of the eventful 339 cases, 250 were closed to further Dalkon Shield use, so that the difference (89) is the number of reinsertions.

TABLE III. DALKON SHIELD — NET CUMULATIVE AND CLOSURE RATES TO END OF FIRST YEAR (i.e. NOVEMBER 1971 TO OCTOBER 1972) BY TYPE OF TERMINATION

Type of termination	Rate per 100 women
<b>Events</b>	
Accidental pregnancies	0,4
First expulsions	9,4
Later expulsions	1,8
Removals for medical reasons	4,5
Removals for personal reasons	3,0
<b>Closures</b>	
Accidental pregnancies	0,4
First expulsions	2,9
Later expulsions	0,8
Removals for medical reasons	4,1
Removals for personal reasons	3,0
<b>Total closures</b>	<b>11,2</b>
<b>Active at end of first year</b>	<b>88,8</b>

Table III gives the event and closure rates per 100 women at the end of one year, excluding cases lost to follow-up. However, a continuation rate of 88,8% after the first year in this series of previous IUD failures (with some nulliparous girls) is remarkable.

TABLE IV. DALKON SHIELD EVALUATION

Months in use	No. of women	Pregnancies	Expulsions	Removals
2	241	1	48	11
3 - 6	333	2	47	30
7 - 10	395	1	16	26
11 - 14	410	—	11	14
<b>Totals</b>	<b>1379</b>	<b>4</b>	<b>122</b>	<b>81</b>

Table IV shows the number of pregnancies, expulsions and removals which occurred during different periods (in months) in the total number of 1379 women after

TABLE V. COMPARISON OF INTRA-UTERINE DEVICES (CUMULATIVE EVENT RATES)

	Lippes loop D	Saf-T-Coil	Dalkon Shield		
			H. J. Davis	Ostergard and Broen	Present study
Pregnancy	1,8	2,1	1,1	1,1	0,4
Expulsion	8,4	14,5	2,3	1,0	3,7
Removal	14,0	17,2	2,0	9,7	7,1
Continuation	75,8	66,2	94,6	88,2	88,8

first insertions, and is self-explanatory. The unbelievably low pregnancy rate is no doubt due to the fact that most of these women had had previous IUD insertions which had resisted pregnancy—the pregnancy-prone ones had been 'weeded out'.

Table V provides an interesting comparison between the event rates of the Lippes loop D, the Saf-T-Coil and the Dalkon Shield.<sup>1</sup>

### NULLIPAROUS SERIES

In a series of 400 nulliparous insertions (Table VI) the ages of patients varied from 13 to 26 years, most of them being 15 to 18 years of age. The results with Lippes loop insertions were totally unacceptable and they are no longer used in nulliparous cases. The small Dalkon Shield performed so well that it is used exclusively in these cases. Copper Ts and 7s are currently being tried in a few cases but there seems little hope of improving upon the remarkable small Dalkon Shield performance.

TABLE VI. NULLIPAROUS INSERTIONS (400)

IUD	No. of cases	Ejections	Med. rems.	Preg.	LFU
Lippes loop A	9	6	—	—	—
Lippes loop B	79	29	1	1	3
Lippes loop C	68	23	—	1	5
Lippes loop D	45	16	6	2	—
Dalkon Shield (standard)	28	1	2	—	5
Dalkon Shield (small)	171	1	3	1	21
Total	400	76	12	5	34

### POST-CAESAREAN IUD

This small series is composed of 100 women who had had Caesarean sections, and Table VII shows how they performed. The ejections and medical removals occurred with Lippes loops C and D, and out of 40 Dalkon Shield cases only one was ejected. These cases were selected very carefully owing to frequent intra-uterine distortion and unsuitability, but the series is sufficient to indicate the usefulness of standard Dalkon Shields where an IUD is indicated.

TABLE VII. POST-CAESAREAN INSERTIONS (100)

IUD	No. of cases	Ejections	Med rems.	Preg.	LFU
Lippes loop A	1	—	—	—	1
Lippes loop B	1	—	—	—	1
Lippes loop C	27	5	2	—	2
Lippes loop D	31	3	3	1	4
Dalkon Shield (standard)	40	1	—	—	—
Total	100	9	5	1	8

### CONCLUSION

IUD work in Soweto has resolved itself into the use of vast numbers of Lippes loops C and D, with the Dalkon Shield to fall back on after 2 Lippes loop expulsions or in special cases. The importance of the IUD in a mass programme cannot be over-emphasised, and no family planning programme has the faintest hope of success without vigorous IUD application. The contraceptive pill requires sustained motivation, and so, to some extent, does the injection of Depo-Provera (attendance every 3 months), which is not characteristic of the clinic society of Soweto. All the other conventional methods have even greater failure rates, and require persistent motivation and are therefore comparatively useless. Next to sterilisation, IUD demands the least patient-responsibility.

In no country in the world is population growth showing signs of becoming controlled except in those permitting abortion on request. We are not prepared to follow suit. By the energetic encouragement of IUD insertion we should be able to prevent, to a very large extent, the birth of an unwanted child to any female of any age, married or unmarried, and to keep the size of families within desirable limits.

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### REFERENCE

1. *The Dalkon Shield: Year Five*, 1973. The A. H. Robins Company.