

Feasibility and uptake of intrauterine contraceptive device at the time of uterine evacuation in women presenting with incomplete miscarriage at Kalafong Provincial Tertiary Hospital

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Abstract

Background

Insertion of intrauterine contraceptive device at the time of uterine evacuation decreases the incidence of subsequent unintended pregnancies and repeat abortions. It also has advantages as the patient is known not to be pregnant, the uterine cervix is still dilated and the patient still under anaesthesia or sedation resulting in less pain during insertion. However, feasibility and uptake of IUD has not been investigated in South Africa.

Materials and methods

This was a prospective, descriptive study over a period of 13 months describing the results of a cohort of 297 women presenting with first and second trimester miscarriages at the emergency gynaecological service at Kalafong Provincial Tertiary Hospital (KPTH) in Atteridgeville, Pretoria. These women were offered IUD insertion following uterine evacuation. They were reviewed after six weeks post insertion to assess the satisfaction and continuation rate.

Results

Two hundred and ninety seven women were recruited to the study. Sixteen patients were excluded from the analysis for various reasons. Of the remaining 281 women, 135 (48.0%) accepted the offer of IUD insertion immediately following uterine evacuation, and 146 (52.0%) declined the offer of IUD insertion. Seventy one patients (52.6%) who had IUD insertion followed up after six weeks. Fifty one women (71.8%) women were satisfied and 57 (80.3%) elected to continue with the IUD as a form of contraception. One patient reported expulsion for an expulsion rate of 1.4%.

Conclusion

The uptake IUD insertion at the time of uterine evacuation in women with incomplete miscarriage is high and it is feasible with a low expulsion rate. Most women are satisfied with the IUD and the continuation rate was high.

Introduction and background

Unintended pregnancies have important physical, emotional and social consequences for individuals and society, place a burden on health services and contribute to maternal and perinatal mortality.¹ Women presenting for induced abortion are at high risk for subsequent unintended pregnancy.² More than 50% of women will resume sexual intercourse within two weeks after surgical abortion and 15% resume after one week following mifepristone use for early medical abortion.³ Eighty percent of women will ovulate within the first 21 days after a miscarriage.⁴ Provision of effective contraception in the form of IUD's inserted immediately post-

abortion has been shown to decrease rates of repeat abortions, even in patients with optimal access to contraception.² The American College of Obstetricians and Gynaecologists Committee on Gynaecologic practice opinion (2009) suggested that high rates of unintended pregnancy may be a direct consequence of low use of long acting reversible contraceptives.⁵

Unplanned pregnancy is an urgent public matter. It accounts for 65% of pregnancies in countries like South Africa.⁶ Studies have shown immediate post-abortion insertion of IUD to be safe and effective following first and second trimester abortion.⁷ Insertion of IUDs immediately after spontaneous or induced abortion provide immediate contraceptive protection, and it is an effective contraceptive method. The IUD is inserted whilst the woman is still under anaesthesia or sedation, the cervix still dilated, and many women are highly motivated to use an effective contraceptive method. It also results in fewer visits to healthcare providers and acceptability of immediate post-abortion IUD placement is high.^{3,8,9,10}

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The feasibility of this strategy to offer women managed with miscarriage IUD insertion at the time of uterine evacuation as well as the acceptance of it by women in the community served by the KPTH required investigation.

Materials and methods

This was prospective, descriptive study carried out at KPTH emergency gynaecology service. The study was conducted from 01 May 2013 to 15 July 2014. In this time the study was interrupted from 01 January to 31 March 2014 due to the unavailability of IUDs. All women presenting with incomplete miscarriages in the first and second trimester were counselled on contraception and offered IUD insertion immediately after uterine evacuation. They were provided with the information sheet about the IUD and procedure in understandable English to read and understand beforehand. Those who agreed were given an informed consent form to sign for IUD insertion in addition to the consent form for the uterine evacuation. Both copper T380A and Nova T were used depending on the availability. Exclusion criteria included women with septic incomplete abortions, molar pregnancies, those not willing or able to provide consent, women under the age of 18 years, women with artificial cardiac valves, uterine leiomyoma's distorting the endometrial cavity, and patients with Wilson's disease and congenital anomalies of the uterus. The study was carried out by the clinical staff on duty in the department.

At the six weeks follow up visit ultrasound findings of the IUD, (whether in situ, expelled or perforated), patient satisfaction rate and reasons if not satisfied, continuation rate and reasons for not continuing were recorded.

Ethical consideration

All patients signed informed consent to participate in the study. This study was approved by the Research Ethics committee of the Faculty of Health Sciences of the University of Pretoria. (Approval number 98/2013).

Data analysis

Descriptive statistical analysis was used in the study. Non parametric tests was used when the variables were not following the normal distribution and Chi-Square tests were used to calculate the p value. The Student T-test was used to determine if there were differences between those who declined and those who accepted the offer of IUD insertion, and also to look at factors that might have influenced follow-up. In the case of categorical data, frequencies and percentages were used and in the case of continuous data the means and standard deviations were included.

Results

During the ten months period a total of 297 women with incomplete miscarriages were eligible for recruitment to the study. Sixteen women were excluded from the study. Of the remaining 281 women, 135 (48.0%) agreed to IUD insertion immediately after uterine , while 146 (52%) decline the offer of IUD insertion following uterine evacuation. The reasons for exclusions are shown in the Table 1.

Table 1. Reasons for exclusion from the study

	n	Percent (%)	Cumulative Percent (%)
No data in the file	7	2,4	43,8
Incomplete data forms	3	1,0	18,8
<18 years of age	6	2,0	37,5
Total	16	5,4	100

There were no statistically significant difference between those who declined and those who accepted IUD insertion at the time of uterine evacuation in terms of parity and gestational age.

Table 2 shows the differences between the group who accepted and the group who declined the offer of IUD insertion after uterine evacuation.

Table 2. Difference between the groups accepting and declining IUD insertion after uterine evacuation

		Number (n)	Mean	Std. deviation	Std. error mean	P
Age	Accepted	134	28.81	6.55	0.566	0.5629
	Declined	146	29.28	6.99	0.579	
Parity	Accepted	132	1.53	1.08	0.094	0.0051
	Declined	143	1.16	1.09	0.091	
Gestational age	Accepted	108	11.13	4.30	0.413	0.0055
	Decline	124	9.73	3.29	0.296	

Of the 251 women with data on educational status, 18 (7.2%) completed up to primary education, 175 (69.7%) completed secondary education and 58 (23%) completed tertiary level education. This was shown to be statistically not significant (p = 0.399). There were no statistically significant differences with regards to employment status, residential status and previous contraception between the two groups.

One hundred and eleven women (82.2%) had uterine size of less than 14 weeks, while in 22 women (16.3%) the uterine size was more than 14 weeks, and data was missing for 2 women (1.5%).

Manual vacuum aspiration (MVA) was performed in 111 women (82.2%). The rest of the information is shown in Table 3.

Table 3. Procedure performed before the insertion of IUD

Procedure	Frequency (n)	Percentage (%)
MVA	111	82.2
Evacuation	22	16.3
No procedure	1	0.7
Missing data	1	0.7
Total	135	100

One hundred and five procedures (77.8%) were performed by the interns rotating through the department, 22 procedures (16.3%) were performed by the registrars and there was data missing in one patient. The mean admission haemoglobin was 11.1g/dl.

Of the 135 women who accepted IUD insertion, 71 women (52.6%) came back for follow up after six weeks of insertion. In 66 (92.9%) the IUD was still in the endometrial cavity, in 4 women (5.6%) the IUD was present in the endocervical canal following ultrasound examination, 1 patient (1.4%) reported IUD expulsion in the first week following insertion, and this history was confirmed on ultrasound examination. The expulsion rate was 7.1%.

Fifty one patients (71.8%) reported they were satisfied with the IUD. Thirty seven women (52.1%) were very satisfied, 14 women (19.7%) were somewhat satisfied, ten women (14.1%) were neither satisfied nor dissatisfied, while three women (4.2%) were somewhat and seven women (9.9%) were very dissatisfied. Reasons for the dissatisfaction were reported as abnormal bleeding 2 (2.8%), pain 10 (14.1%), presumed infection 1 (1.4%) and other 7 (9.9%). Other reasons included women where their partners were not happy and myths about IUD in the community. Fifty seven women indicated they plan to continue using IUD as a form of contraception for a continuation rate of 80.3%. The continuation rate was statistically significant with ($p = 0.001$).

Discussion

This study describes the uptake of IUDs immediately after first and second trimester miscarriages. It confirms that IUD insertion at the time of uterine evacuation is safe for both first and second trimester miscarriages with a low expulsion rate. A study by Shimoni et al reported a 97% IUD uptake rate for patients undergoing medical termination of pregnancy followed by insertion of IUD¹⁰, while another prospective study of 240 women offered IUD insertion after abortion showed an uptake rate of 44% in patients offered IUD after counselling.⁸

Employment status, residential status, and educational background did not influence the uptake of IUD insertion at the time of uterine evacuation in this study. A significant number of women (43%) with miscarriages were using injectable contraceptive methods as a preferred method of contraception prior to the index pregnancy. This confirms a Cochrane systemic review that found that 80% of women in South Africa prefers injectable progestogen, especially DPMA as their method of contraception. The same study found that 49% of women will discontinue this form of contraception in the first 12 months of use and this contributes to the risk of repeated abortions.¹ A study by Ames et al. showed the rate of repeat abortions to be 16.3% for DPMA given immediately after abortion and 9.45% for IUD.¹¹

In the KPTH setting, most of the women presented with miscarriages in the first trimester, and manual vacuum aspiration (MVA) where performed in 82% of cases. This service is mainly provided by interns rotating in the department, which is the ideal group of health care providers to train in this regard. Evacuators are performed mostly by registrars in patients with complicated abortions such as haemoglobin values of less than 7g/dl or hemodynamically unstable patients.

The follow up rate in this study was 52.6% after six weeks. This was comparable to 51% follow up rate achieved in similar studies.^{6,12} Grimes et al. in 2004 reported post-abortion follow up rates varying from 35% to 60%.¹³ McNicholas et al reported a lower follow up rate of 34%.¹⁸ The reasons for the loss of follow up was not investigated in this study.

From the small number of patients who did follow up, the expulsion rate was 7.1%, which is slightly higher than what most studies reported elsewhere. In 69 Egyptian women who had IUD insertion immediately after spontaneous abortion, the expulsion rate was 4.5%.⁶ Cremer et al. in their study reported an expulsion rate of 2.8%.¹⁶ In this study, women who had their IUD expelled or where it was detected in the endocervical canal, all presented with second trimester miscarriages.

Most of the patients in the follow up group were satisfied with IUD as a form of contraception. This was lower than that reported by Drey et al. where they reported the satisfactory rate in their group to be 93.8% for the patients who had immediate post abortal IUD insertion. The continuation rate in this study was higher at 80.3%, compared to 74.2% reported by Drey et al. and 54 – 64% reported by Stanwood et al.^{12,13}

The main limitation of the study was loss to follow up of more than 47%.

Conclusions

Unintended pregnancy is still a common reproductive health issue associated with pregnancy loss. Management of women with incomplete miscarriage provides an opportunity to address the contraceptive needs of these women. IUD insertion immediately after uterine evacuation is feasible, the uptake is high, the expulsion rate is low, and this option should be provided as part of the standard of care in the management of women with incomplete miscarriage. As there is evidence suggesting

that high rates of unintended pregnancy may be a direct consequence of low use of contraception, expanding access to immediate post-abortion IUD insertion should be a priority to help decrease the incidence of unintended pregnancy. This will also reduce the burden and cost in the health system.

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