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An In-depth Analysis of Women with Post-Abortal Bleeding

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Introduction

Medical termination of pregnancy or MTP is a well-utilized procedure today especially in the urban areas of India. As such, therefore, a large number of women would be involved if post-MTP complications were to occur frequently. The immediate complications are usually managed as the patient is still in the hospital at the time. We therefore decided to focus our attention on the delayed complications of MTP, which a woman is likely to suffer from after she goes home. Post-abortal bleeding along with pelvic infection and incomplete abortion were observed to be the commonest delayed complications in a multicentric study conducted by the Indian Council of Medical Research [1]. The present study was conducted to identify the possible factors associated with PAB and to suggest measures to prevent them.

Sample and Methodology

One hundred and fifty consecutive women coming for first trimester medical termination of pregnancy by vacuum aspiration 'at a teaching hospital in New Delhi formed the sample for the study. Details about their socio-demographic features, post-MTP complications, if any, and contraceptive use were noted in a pretested and precoded schedule. The women were followed up for 28 days post-abortion to note any delayed complications. However, only 126 women could be followed up (the remaining being untraceable) and details about their bleeding pattern in the presence or absence of pelvic infection, incomplete abortion and type of contraceptive use were noted.

Bleeding lasting longer than seven days post-abortion, more profuse than the normal period, or starting between 7 to 15 days post-abortion was called PAB or post-abortal bleeding [1].

The statistical technique involved the determination of the regression of bleeding on age, gravida and the gestation period of the MTP seekers, and was obtained by using a multiple regression model –

$Y = a + b_1X_1 + b_2X_2 + b_3X_3$, where

Y = duration of bleeding after termination;

X_1 = age; X_2 = gravida; and X_3 = gestation period of the abortees.

The regression coefficients b_1, b_2 and b_3 determine the role of X_1, X_2, X_3 respectively. The covariance matrix required for this calculation was obtained and was inverted to yield the following values for the regression coefficients:

$b_1 = 3.73$; $b_2 = 0.74$; $b_3 = 0.51$

The regression model was tested by the F-test based on the analysis of variance and the multiple regression was found to be highly significant ($P < 001$). The multiple correlation coefficient between Y and (X_1, X_2, X_3 was found to be 0.57). The partial correlation between Y and X_1, X_2 and X_3 were tested in turn holding two of the variables constant each time.

The observations are based on the 126 women who were available for follow up during the study period of 48 days.

Results

Of the 126 women who participated in the study, four were Muslim and the remaining were Hindu. All of them were married. Eighty eight per cent had come for a MTP within eight weeks of gestation. They were by and large educated (66 per cent) up to high school and above, including 34 per cent who were graduates. Over a third of the women (35 per cent) came from families with a monthly income of Rs. 500-700, followed by a fifth (24 per cent) with a monthly family income of over Rs. 1000; only five per cent had a family income below Rs.300. Post-abortal bleeding (PAB) by the above definition (of duration over 7 days) was observed in 73 or 58 per cent of the MTP cases; the mean duration was 12.5 days (SD ± 4.5).

Age, number of conceptions a PAB.

A distribution of the women who under went MTP by occurrence of post-abortal bleeding as also by age and number of conceptions is given in Table 1. Except for three women who were below 19 years of age, the majority (86 or 68 per cent) were between 20-29 years; 29 per cent were over 35 years of age. Further, the highest proportion of MTP seekers (28 per cent) were those who had conceived for the third time followed by those who had conceived for the second or fifth time (24 per cent).

Table 1: Distribution of women with post-abortal bleeding by age and number of conceptions

	Yes	No	Total
A. Age (years)			
15 - 19	2 (66.6)	1 (33.34)	3 (100.0)
20 - 24	18 (36.7)	31 (63.3)	49 (100.0)
25 - 29	26 (70.2)	11 (29.8)	37 (100.0)
30 - 34	16 (72.7)	6 (27.3)	22 (100.0)
35 +	11 (73.3)	4 (26.7)	15 (100.0)
Total	**73 (57.9)**	**53 (42.1)**	**126 (100.0)**

X2 = 13.80; df = 3; P < 0.005

B. No. of conceptions			
One	2 (50.0)	2 (50.0)	4 (100.0)
Two	11 (36.7)	19 (63.3)	30 (100.0)
Three	21 (60.0)	14 (40.0)	35 (100.0)
Four	17 (68.0)	8 (32.0)	25 (100.0)
Five +	22 (68.7)	10 (31.3)	32 (100.0)
Total	**73 (57.9)**	**53 (42.1)**	**126 (100.0)**

X2 = 7.99; df = 3; P < 0.05

Table 1 also indicates that the incidence of post-abortal bleeding was the lowest (36.7 per cent) in the age group 20-24 years, and rose sharply to 70 per cent among those over 25 years of age. The association between age and the occurrence of post-abortal bleeding was found to be highly significant X2 13.80, P < 0.005. Post-abortal bleeding was also found to increase with the number of conceptions - 37 per cent of the women who had had two conceptions developed post-abortal bleeding as compared to 60-68 per cent who had had two, and rose gradually with an increase in the number of conceptions (Table 1). The association between the number of conceptions and post-abortal bleeding was observed to be significant (X2 = 7.79, P < 0.05).

When related period of gestation at the time of MTP, 80 per cent of those with a gestation period between 9-12 weeks developed post-abortal bleeding as compared to 55 per cent with a shorter gestation period. The variables were not significantly associated X2=3.41, P < 0.05.

Duration/Extent of PAB

When the duration of post-abortal bleeding was studied, it was observed that almost half (49.3 per cent) of the women with PAB, had bleeding of less than seven days' duration and the remaining (50.7 per cent), for over seven days, with 15 per cent of the latter having bleeding of more than 30 days' duration. Further, among the group with 7-15 days' bleeding, only four had profuse bleeding and the remaining, moderate to scanty; of the total then, 17 per cent had profuse bleeding (Table 2). Pelvic infection was diagnosed in 21 cases with post-abortal bleeding; 13 cases required recurretage.

Table 2: Distribution of women with post-abortal bleeding by extent and duration of bleeding

	Duration of bleeding in days			
	7-15	**15-30**	**30 +**	**Total**
Profuse	4 (21.1)	6 (31.6)	9 (47.3)	19 (100.0)
Moderate/scant	32 (59.3)	12 (22.2)	10 (18.5)	54 (100.0)

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Total	**36 (49.3)**	**18 (24.7)**	**19 (26.0)**	**73 (100.0)**

The regression curve of bleeding on age, gravida and the period of gestation at the time of MIP was fitted and tested. The multiple regression was found to be highly significant $P < 0.001$, and the multiple correlation coefficient value was + 0.57 The partial correlation value between bleeding and gravida, with age and gestation period held constant was found to be + 0.769. However, the partial correlation values obtained in regard to age and gestation period were insignificant.

Post-Abortion Contraception and PAB

The acceptance rate of reliable contraceptives following MTP was 52 per cent. Of this, the oral pill accounted for 10 per cent; sterilization 9.5 per cent, and the IUD 32.5 per cent (Table 3).

Table 3: Distribution of women with post-abortal bleeding by method of and duration of bleeding

Method used	**Post-abortal bleeding**		
	Yes	**No**	**Total**
IUD	26 (63.4)	15 (36.6)	41 (32.5)
Oral pill	6 (46.2)	7 (53.8)	13 (10.3)
Sterilization	7 (58.3)	5 (41.7)	12 (9.5)
Others/ none	34 (56.7)	26 (43.3)	60 (47.7)
Total	73 (57.9)	53 (42.1)	126 (100.0)

$X2 = 1.29$; $df = 3$; $P = > 0.05$

The incidence of post-abortal bleeding was highest among women who had an IUD insertion (63A per cent), followed by 58.3 per cent who had undergone sterilization. It was lowest (46.2 per cent) in the case of those using the oral pill. However, no

significant association was observed between contraception and post-abortal bleeding ($X2 = 1.29$, $P > 0.05$) nor between bleeding and the use of the IUD ($X2 = 4.5$, $df = 3$ $p > 0.05$).

Discussion

Medical termination of pregnancy is becoming known more widely and an increasing number of urban women are utilizing MTP services. In the urban sample in our study, the majority of the MIP seekers were married, between 20-30 years of age, and with one to two children, a profile common to that observed in most cities in India [1], [2], [3].

Women with five or more previous pregnancies were also commonly observed by us, as also in New Delhi and Patna but rarely in Bombay, Calcutta and Poona [1]. Teenagers formed only 2 per cent of the abortees in our study as compared to 10.2 per cent in Calcutta, 8.8 per cent in Baroda [1], and ranging from 7.2 to 24.2 per cent in Western countries as reported by WHO [4]. The MTP acceptors in our study were predominantly from the higher education group (high school and above), which is a reflection of the urban background of the abortees; this has also reported by the ICMR [1] and others [2], [6]. Further, very few belonged to the lower income group, the majority reported a family income of Rs.1000-1500 per month. Similar observations have been reported by the ICMR [A] and others [5].

Almost two-fifths of the MTP acceptors reported post-abortal bleeding indicating the highest rate for our center, since women who have a complication are more likely to come for follow up than those who do not.

The mean duration of bleeding was 12.5 days suggesting that on an average nearly everyone developed post-abortal bleeding. Since post-abortal bleeding is supposed to be a complication, the definition of post-abortal bleeding needs some rethinking. Our rate of post-abortal bleeding including infection and incomplete evacuation was much higher than the range of 15-20 per cent in the ICMR study [1] and other studies [6], [7], [8].

Women between the age of 20-24 years, who have had at least two deliveries, and have come for a MTP within eight weeks of gestation, were least likely to develop post-abortal bleeding. Post-abortal bleeding was significantly associated with age and parity but not with the period of gestation; the ICMR study [A] however, observe a significant positive relationship between post-abortal bleeding and all the three variables. The multiple regression value for PAB with age, gravida and gestation period was highly significant (P .001) and the multiple correlation coefficient value was 0.57. Hence, the three physical variables together appear to play a definite role in the occurrence post-

abortal bleeding. The partial correlation values were inconclusive and need further study.

The rate of acceptance of contraception following MTP was almost in agreement with that observed by the ICMR [A] though another study [9] has reported higher (50 per cent) IUD use. Our observation that post-abortal bleeding is not associate abortion contraceptive use, that women accepting an IUD after MTP are more likely and pill users are least likely to post-abortal bleeding, have also been reported by others [1], [9], [10].

To sum up, though MTP appears to be a safe procedure it should not be used as an alternative to effective contraception. Women below the age of 25 years and with one or two conceptions are least likely to develop complications especially post-abortal bleeding if the procedure is performed within eight weeks of pregnancy. The adoption of a reliable contraceptive like the pill or IUD after MTP will see them through to the age when they are ready sterilization.

Summary

Post-abortal bleeding being common phenomenon, 150 women who had undergone MTP were followed up to study the pattern of bleeding in relation to some important variables namely age, gestation period, parity and contraceptive use. The majority of the women were between the age of 20-30 years and belonged to the lower middle income group. Age, gestation period and gravida together played a significant role on the pattern of post-abortal bleeding. Women below the age of 25 years with three or fewer previous pregnancies, and who underwent MTP within 8-9 weeks of gestation were least likely to develop the complications of post-abortal bleeding. No significant association was observed between post-abortal bleeding and contraceptive use except that the incidence was slightly higher in the case of women who used the IUD post MTP.

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