



Contraceptive behaviour of abortion seekers - a case control study

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OBJECTIVE(S) : To determine the risk factors of induced abortion in relation to contraceptive behaviour

METHOD(S) : A matched case control study was undertaken to investigate the possible association of induced abortion (MTP) and contraceptive behavior. Data were collected from 80 married abortion seekers attending family welfare clinic attached to Medical College, 80 pregnant controls who wanted to continue pregnancy, and 80 nonpregnant controls receiving service at the study hospital. Conditional logistic regression analysis was done for predicting risk factors.

RESULTS : Bivariate analysis showed a strong association between induced abortion and contraceptive use. Using only natural methods of contraception is found to be a significant predictor for induced abortion (OR 5.2; $P = 0.0002$). Mean frequency of intercourse per month was higher in subjects than in pregnant controls (3.7 vs 2.8; $P = 0.018$) and in nonpregnant controls (3.7 vs 2.2, $P = 0.005$). Women who communicate rarely with their partners about contraception have a high risk of induced abortion (OR; 2.57, $P = 0.028$). Attitude towards induced abortion was also found to be significant (OR 30; $P < 0.001$) for pregnant controls and (OR 10.33; $P < 0.001$) for nonpregnant controls. Multivariate analysis showed three statistically significant variables ($P < 0.05$) – using only natural methods of contraception, rare discussion about contraception with partners, and frequent intercourse.

CONCLUSION(S) : Natural methods of contraception, increased frequency of sexual intercourse, and rare communication with partners about contraception were found to be significant predictors for seeking abortion.

Key words: induced abortion, contraceptive behavior, natural methods of contraception

Introduction

In Kerala, the number of induced abortion is increasing every year. Despite a very high female literacy rate and contraceptive prevalence of more than 60%¹, many married women opt for abortion to limit their family size and/or for spacing. Observational evidence suggests that there is an increased acceptance of natural methods of contraception and absence of effective contraceptive use. In India, no analytical study has been conducted to document the causal association between contraceptive

behavior and abortion. Hence this study was planned to find out the causal association between contraceptive behavior and induced abortion.

Method

The study was designed as a matched case control study. With the smallest acceptable odds ratio as 2.5, α error 0.5 and β error 0.2 and power of study 80%, two controls for a case, 80 cases and 160 controls were needed for the study.

Married women between the age group of 15-44 seeking first and second trimester voluntary termination of pregnancy (MTP) at the Family Welfare Clinic attached to the Medical College Hospital were included in the study. Women needing therapeutic abortion and unmarried women were excluded.

For each case, two groups of controls were selected from women receiving service at the study hospital.

Paper received on 11/02/2005 ; accepted on 08/08/2007

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Group I. Pregnant controls. Gestational age and parity matched women between the age group of 15-44.

Group II. Nonpregnant controls. Parity matched sexually active women between the age group of 15-44.

Data were collected from 1st September, 1998 to 30th April, 1999 using a pretested interview schedule which contained questions to elicit information on sociodemographic characteristics besides obstetric, sexual, menstrual and contraceptive history.

Natural method of contraception was defined as that which does not involve the use of any appliance or medicine e.g. safe period, withdrawal method, and lactation amenorrhea².

The data were entered in D Base and descriptive and inferential statistics were done using Epi-Info-6, SPSS, and STATA software. Statistical analysis was done by matched pair odds ratios calculated separately for both the controls and test of association was arrived at by McNemar χ^2 test. Multivariate analysis was also done.

Results

Among the study population, two cases and controls were having no babies, 43 (43.75%) cases and controls had one baby, 33 (41.35%) had two babies and two had three babies. Seventy-six cases and pregnant controls belonged to 1st trimester and four cases and controls belonged to 2nd trimester. The mean age was 26.9 years 26.7 years and 28.1 year for study group, pregnant control group and nonpregnant

control group respectively. (Table 1) Minimum age was 19 years and maximum 40 years. Majority of women in the study and control groups were Hindus (71.3%). As shown in Table 1 there was no significant difference between the study and control groups with respect to maternal socio demographic characteristics.

Sixty five percent of the cases were having at least one male child in comparison to 56.3% pregnant controls and 66.3% nonpregnant controls (Table 2). Study group had a mean frequency of intercourse of 3.7 per month in the last 6 months prior to conception in comparison to 2.8 for pregnant control. This difference was found to be statistically significant (P = 0.018). Similarly significant difference was observed in the paired analysis of study group with nonpregnant controls with an average frequency of intercourse of 3.7 and 2.2 respectively (P=0.005) (Table 2).

As seen from Table 3 the study group had rare discussion about contraceptives with their partners giving a statistically significant difference (P = 0.028) between study group and nonpregnant controls.

When contraceptive use after last childbirth was studied, 71 (88.5%) of the MTP acceptors 65 (81.25%) pregnant controls and 70 (87.5) nonpregnant controls were using contraception. There was no statistically significant difference regarding the contraceptive use after last childbirth among the three groups.

Out of the contraceptive users among abortion seekers, 77.46% (55/71) relied on natural method, in comparison to

Table 1. Sociodemographic characteristics.

Variables	Study group (n=80)	Control group I (n=80) (Pregnant)	Control group II (n=80) (Nonpregnant)	Odds Ratio	P Value
Age	26.9 ± 5.2 ^a	26.7 ± 3.9 ^a			0.752
Education of husband (years)	10.7 ± 2.5 ^a	9.7 ± 3.3 ^a	28.1 ± 4.6 ^a		0.266
Education of wife (years)	10.5 ± 2.9 ^a	9.9 ± 2.6 ^a	9.3 ± 3.6 ^a		0.080
			10.37 ± 3.4 ^a		0.195
Income (Rupees.)	2862 ± 211.6 ^a	2092 + 1732 ^a			.071
			3340 ± 3635 ^a		0.476
Hindu religion	57 (71.3)	58 (78.5)		0.65	0.298
			64 (80)	0.92	1.00
Husband office worker / professional	32 (39.2)	18 (22.5)		2.22	0.241
			21 (26)	0.56	0.16
Wife unemployed	71 (88.75)	80 (100)			
			73 (91.3)	0.50	0.420

^a Mean ± SD Values in parenthesis indicate percentages

Table 2. Reproductive and sexual history

Variable	Case	Control group I (Pregnant) (n=80)	Control group II (Non Pregnant) (n=80)	Odds Ratio	P Value
At least one male child	52 (65)	45 (56.3)	53 (66.3)	1.88 1	0.14 1.000
Staying together	70 (87.5)	72 (90)	62 (77.5)	0.57 2.5	0.366 0.257
Postnatal check up	47 (58.75)	45 (56.2)	59 (73.75)	0.95 0.77	1.00 0.53
Average frequency of intercourse in a month	3.7±2.8 ^a	2.8±1.3 ^a	2.2 + 1.2 ^a		0.005

^a Mean + SD Values in parenthesis indicate percentages

Table 3. Contraceptive characteristics

Variable	Study group (n=80)	Control group I (Pregnant)(n=80)	Control group II (non pregnant)(n=80)	Odd Ratio	P Value
Rare communication between partners about contraception	39 (48.75)	48(60)	59 (73.75)	1.60 2.57	0.239 0.028
Contraceptive use after last child birth	71 (88.75)	65 (81.2)	70 (87.5)	2 0.833	0.24 1.00
Use of natural contraception	55/71 (77.46)	43 (66.20)	21 (30)	1.13 5.2	0.80 0.0002
Contraception initiated before 1 st delivery	18/71 (22.5)	22(27.5)	13 (16.30)	1.83 0.86	0.225 0.780
Favorable attitude towards induced abortion	60/80 (75)	16(20)	17 (21.25)	30 10.33	<0.0001 <0.001

Values in parenthesis indicate percentage

Table 4. Variables found significant in multivariate analysis for study group and nonpregnant control group

Variable	Odd Ratio	P Value
Use of natural method of contraception	25	0.008
Rare communication with husband about contraception	100	0.039
Frequency of intercourse	3.12	0.027

66.2% (43/65) pregnant controls and 30% (21/70) non-pregnant controls. Results of bivariate matched analysis is shown in Table 3. It indicates that chance of MTP is 5.2 times more among natural methods of contraceptive users when compared to non-pregnant controls. (Odds Ratio 5.2, P value 0.0002).

Out of the contraceptive users, 36,6% (26/71) in the study

group was using it irregularly as compared to 7.69% (5/65) in the pregnant controls and 5.88% (4/68) in the nonpregnant controls. Bivariate analysis could not be done due to less number of matched pairs.

Attitude towards MTP was found to be a significant variable. Bivariate analysis showed that MTP seekers had a favorable attitude towards MTP in comparison to pregnant controls

with Odds Ratio of 30 and nonpregnant controls with Odds Ratio of 10.33 (Table 3).

Multivariate modeling. Conditional logistic regression was used to analyze the multivariate data. The model was constructed based on P value <0.25 in the bivariate analysis and clinically important variables. In the final model, natural methods of contraceptive use, rare discussion about contraception between partners and frequency of intercourse in the last 6 months were found to be significant predictors of MTP (Table 4).

Even though the variable attitude towards induced abortion was found to be significant in bivariate analysis, this could not be included for the final model building due to less number of pairs.

Discussion

Even though very few studies are available in the literature to know about the contraceptive behavior of abortion seekers, both married and unmarried, these studies and consequently their findings are not really comparable for several reasons as they were poorly designed and no acceptable sampling techniques were employed.

In the present study 88.5% of the MTP seekers were using any one method of contraception. The observations made in this study are consistent with those of Vestermark et al³ and Wang et al⁴ both of whom did a cross sectional study on abortion acceptors.

Indian study conducted by the Operation Research Group, Baroda on MTP cases in three urban centers namely Patna, Bhubaneswar and Baroda showed that contraceptive use at the time of becoming pregnant was 13.3%, 26.0% and 17.1% respectively and eight out of ten seeking MTP were not using any family planning method when they got pregnant⁵. We find that 68.75% of MTP seekers, 53.75% of pregnant controls and 26.25% of nonpregnant controls were using natural methods of contraception mainly withdrawal and safe period.

The percentage of natural methods of contraceptive use is much higher in our study when compared to that reported by Sparrow⁶. Our multivariate analysis (Table 4) shows that there is a significant association between use of natural methods of contraception and MTP. Those who are using natural methods of contraception are at 25 times higher risk than those who use modern methods of contraception with a statistically significant P value of 0.008. But the difference between MTP seekers and pregnant controls is not statistically significant.

Moreover it has been observed from the study that contraceptive behavior of MTP seekers and pregnant controls is more or less the same. An important difference noted between the two groups is that the MTP acceptors are strongly motivated for spacing or limiting their family size where as the pregnant controls opt to continue their pregnancy. It is also observed that 13.75% of the MTP seekers are desirous of having only one child. Infrequent discussion about contraception by partners is a risk factor for MTP.

Of the scientific contraceptive users in MTP seekers (16/71), condom was the preferred method (56.25%) followed by IUCD (31.25) in contrast to pregnant controls who preferred IUCD (59.09%) followed by condom (36.4). Pill was accepted by only 2% of MTP acceptors and not at all used by pregnant and nonpregnant controls. Nonpregnant controls rely mainly on permanent sterilization (57.14%) followed by IUCD (26.5%) and condom (12.24%).

The important reason for non-use of scientific contraception was worry about side effects and lack of knowledge regarding modern contraception.

Thirty nine percent of MTP acceptors and 42% of pregnant controls did not go for postnatal checkup; the reasons for not attending postnatal clinic being 'not advised check up' and 'no particular reason'.

Conclusion

Natural methods of contraception, increased frequency of sexual intercourse and rare communication with partner about contraception are significant predictors of MTP. The number of MTP can be reduced only by consistent use of effective contraceptives.

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