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Contraception and Abortion in Two Vietnamese Communes

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ABSTRACT

Objectives. The authors examined factors predicting abortion use in two communes in northern Vietnam.

Methods. A survey of 504 rural and 523 urban women of childbearing age was conducted.

Results. For the 13.6% of urban and 19% of rural commune women having had an abortion in the previous year, logistic regression analyses demonstrated that use of an intrauterine device reduced the likelihood of subsequent abortion in both communes. Traditional method use in the rural commune, however, increased women's likelihood of a subsequent abortion.

Conclusions. Contraceptive use in these 2 communes affected abortion more than sociodemographic factors. Traditional method use by rural women is a risk for abortion. (*Am J Public Health.* 1998;88: 660–663)

Introduction

Pregnancy termination remains a clandestine and poorly understood behavior in many parts of the world. The Socialist Republic of Vietnam—with a population of 75 million and an average of 3.1 births and 2.5 abortions per woman in her reproductive lifetime—is one of the few developing countries in which abortion is legal and widely available and can openly be studied. This study examined how sociodemographic factors and contraceptive use affect the likelihood of abortion for women of childbearing age in an urban commune and a rural commune in northern Vietnam.

Legal since Vietnam's independence from France in 1945, abortion services are available from the basic primary health unit in the larger district and provincial hospitals and, since 1989, in private medical practices. Two abortion procedures predominate: "menstrual regulation" by manual vacuum aspiration and abortion by sharp curettage. Abortion use rose from 70 281 procedures reported in 1976 to 811 176 in 1987[1] and to 1.37 million in 1993.[2] The 1988 Vietnam Demographic and Health Survey[3] found an abortion rate of 3.1% to 3.5%, while the 1994 Intercensal Demographic Survey[4] found that 12.8% of ever-married women had experienced menstrual regulation or abortion.

A large proportion of abortions may result from high failure rates associated with traditional methods of contraception (rhythm/periodic abstinence or withdrawal), used by 21% of all married women. Intrauterine devices are used by one third of women, and use of other modern methods (pill, condom, and female sterilization) is still low, resulting in an overall contraceptive prevalence of 65%.[4] Studying the relationship between contraceptive method type and abortion use can suggest directions for improving the quality of family planning services in Vietnam.

Methods

A survey was conducted in April 1994 in an urban commune in Hai Hung province and a rural commune in Ha Bac province under the sponsorship of the government of Vietnam's National Committee for Population and Family Planning. The committee's

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TABLE 1—Sociodemographic Differentials in Use of Abortion or Menstrual Regulation (MR) in the Previous Year among Ever-Married Women 15 to 49 Years of Age in 2 Vietnamese Communes, 1994

Sociodemographic Variable	Urban		Rural	
	Distribution, % (No.)	Abortion/MR, % (No.)	Distribution, % (No.)	Abortion/MR, % (No.)
Age, y				
<25	13.2 (69)	15.9 (11)	26.0 (131)	6.9 (9)
26–35	42.3 (221)	19.0 (42)	41.2 (207)	22.2 (46)
>35	44.6 (233)	7.7 (18)	32.8 (165)	24.9 (41)
χ^2 (df=2)		12.7**		17.5**
Education[a]				
Primary or less	1.0 (5)	20.0 (1)	12.5 (63)	9.5 (6)
Middle	37.9 (198)	14.7 (29)	82.3 (415)	20.7 (86)
Secondary plus	61.2 (320)	12.8 (41)	5.2 (26)	15.4 (4)
χ^2 (df=2)		0.5		4.7
No. living children				
None	3.1 (16)	0.0 (0)	5.8 (29)	0.0 (0)
1	31.0 (162)	17.3 (28)	12.9 (65)	4.6 (3)
2	43.6 (228)	15.8 (36)	23.3 (117)	17.9 (21)
3	14.7 (77)	3.9 (3)	20.3 (102)	18.6 (19)
4	5.9 (31)	9.7 (3)	15.7 (79)	31.6 (25)
5+	1.7 (9)	11.1 (1)	22.0 (111)	25.2 (28)
χ^2 (df=5)		12.0*		26.2**
Ethnicity				
Kinh	...	...	72.6 (366)	21.9 (80)
San Diu	...	...	15.5 (78)	9.0 (7)
Other	...	...	11.9 (60)	15.0 (9)
χ^2 (df=2)		...		7.7*
Occupation				
Manual	14.9 (78)	10.3 (8)	...	...
Nonmanual	60.7 (317)	13.9 (44)	...	...
Other	24.3 (127)	15.0 (19)	...	...
χ^2 (df=3)		1.0		...
Assets				
None	4.6 (24)	12.5 (3)	17.5 (88)	19.3 (17)
1	19.7 (103)	16.5 (17)	30.8 (155)	14.8 (23)
2	35.6 (186)	16.1 (30)	25.6 (129)	20.9 (27)
3	24.9 (130)	10.8 (14)	22.4 (113)	21.2 (24)
4	15.3 (80)	8.8 (7)	3.8 (19)	26.3 (5)
χ^2 (df=4)		4.3		3.1
Contraceptive use[b]	88.5 (463)	11.0 (51)	78.4 (395)	20.0 (79)
Intrauterine device	25.2 (117)	3.4 (4)	20.5 (81)	6.2 (5)
Other modern	10.4 (48)	8.3 (4)	...	...
Traditional	45.4 (210)	15.7 (33)	37.2 (147)	36.1 (53)
Nonuse	19.0 (88)	11.4 (10)	42.3 (167)	12.6 (21)
χ^2 (df=3)		12.0**		39.1**
Total	100 (523)	13.6 (71)	100 (504)	19.0 (96)

[a]Primary or less = grades 0 through 4; middle = grades 5 through 9; secondary plus = grade 10 or higher.
[b]Contraceptive use prior to the year before the survey (i.e., in 13th month) Excluding those pregnant, aborting, or delivering in that month (March 1993). Rural modern-method users (n = 9) were too few to include.
*P<.05; ** P<.01.

statistics showed that the urban commune exhibited heavy use of intrauterine devices, menstrual regulation, and abortion and that the commune had an active family planning program. The rural commune was selected because of its population's ethnic diversity, low use of intrauterine devices, and less proactive family planning program.

On the basis of expected levels of abortion and contraceptive use, a sample of 500 ever-married women between 15 and 49 years of age in each commune was selected via systematic probability sampling procedures. All urban commune households (n = 2709) were listed; 525 were selected randomly. The rural commune's households (n = 2032) were dispersed across 34 hamlets that were ranked by household size; 13 were selected randomly. At the second stage, via household lists for hamlets, 40 households (two thirds of the average 60 households per hamlet) were selected at random from each list. The number of households selected in both urban and rural communes took into account the expected proportion of eligible women per household (0.95) and the response rate (0.99). Full response (100%) was obtained from 525 and 504 sampled women in the urban and rural communes, respectively. Female interviewers from Hanoi administered a questionnaire on fertility, contraceptive and abortion behaviors, and experience with reproductive tract infection symptoms over the previous 5 years.

The dependent variable in this analysis was women's use of abortion or menstrual regulation in the 12 months (April 1993 through March 1994) preceding the survey; rates were 13.6% for urban women and 19.0% for rural women. Contraceptive use was measured in the month (March 1993) prior to this 1-year period and categorized by method type: intrauterine device, traditional methods (including the rhythm method and withdrawal), or other modern methods (sterilization, oral contraceptives, condoms, or injection). Women pregnant, delivering, or aborting that month were excluded from calculations of family planning. Urban commune percentages for the three categories were 25.2%, 45.4%, and 10.4%, respectively; rural rates were 20.5% for intrauterine device, and 37.2% for traditional methods (only 9 women reported use of any other modern method). The balance of the women (urban, 19.0%; rural, 42.3%) did not use contraceptives. Control variables were age, years of education, number of living children, and number of household assets (0 to 4; including, for the rural score, a radio, water buffalo, cabinet, or television, and, for the urban score, a cabinet, television, motorcycle, or refrigerator), as well as ethnicity (Kinh, San Diu, or other) for the rural sample and occupation (manual, nonmanual, or other) for the urban sample. In the logistic regression, the "other" categories for ethnicity and occupation and the no-contraceptive-use category served as reference groups.

Results

The prevalence of abortion/menstrual regulation use stratified by variables is given in Table 1. Abortion/menstrual regulation use was lowest among older women in the urban commune but lowest among younger women in the rural commune. Urban commune women with 1 to 2 chil-

TABLE 2—Logistic Regression Results of Abortion/Menstrual Regulation Use in Previous 12 Months, by Contraceptive Use and Selected Sociodemographic Factors, among Ever-Married Women 15 to 49 Years of Age in 2 Vietnamese Communes, 1994

	Urban (n = 523)				Rural (n = 494)[a]			
	Model 1		Model 2		Model 1		Model 2	
	OR	95% CI	OR	95% CI	OR	95% CI	OR	95% CI
Use of intrauterine device[b]	0.18***	0.06, 0.54	0.17***	0.06, 0.52	0.30**	0.11, 0.82	0.27**	0.10, 0.74
Traditional method use[b]	0.99	0.55, 1.78	0.99	0.55, 1.80	2.85***	1.66, 4.87	2.70***	1.57, 4.65
Other modern method use[b]	0.52	0.17, 1.64	0.50	0.16, 1.56	...	...	...	...
Age	0.92***	0.88, 0.97	0.92***	0.87, 0.97	1.04	0.98, 1.09	1.02	0.97, 1.08
Years of education	0.96	0.83, 1.09	0.97	0.84, 1.11	1.18**	1.05, 1.32	1.12*	0.98, 1.27
No. living children	1.31	0.92, 1.88	1.33	0.93, 1.91	1.17*	0.97, 1.42	1.23**	1.00, 1.50
No. household assets	0.94	0.73, 1.21	0.94	0.73, 1.21	0.85	0.68, 1.08	0.85	0.67, 1.08
Kinh ethnicity	...	...	...	...	...	...	1.91	0.84, 4.37
San Diu ethnicity	...	...	...	...	...	...	0.83	0.27, 2.54
Manual occupation	...	...	0.52*	0.17, 1.10	...	...	...	...
Nonmanual occupation	...	...	0.80	0.43, 1.48	...	...	...	...
Log likelihood	−191.27		−189.54		−211.85		−209.45	
χ^2 (*df*)	32.9 (7)		36.4 (9)		57.12 (6)		61.82 (8)	
Probability > χ^2	.000		.000		.000		.000	

Note. Model 1 excludes ethnicity and occupation variables; model 2 includes these variables as available, for urban and rural women. OR = odds ratio; CI = confidence interval.
[a]Women using other modern methods (n = 9) excluded.
[b]Contraceptive use prior to the year before the survey (i.e., in 13th month).
*P<.10; ** P<.05; *** P<.01.

dren and 5 or more children used abortion/menstrual regulation with high frequency, as did rural women with 4 or more children. No significant differences were observed by education, occupation, or household assets. San Diu women in the rural commune resorted to abortions/menstrual regulation less often than did women of other ethnicities.

Results for 2 multivariate logistic regression models are given in Table 2. Model 1 excluded the ethnicity and occupation factors available selectively for rural and urban commune women. Women using other modern methods (n = 9) were dropped from the rural sample. There were negligible differences in the odds ratios (ORs) for the 2 models, indicating that the additional factors did not alter the relationship of interest. We discuss primarily model 1 odds ratios.

Use of intrauterine devices a year before the survey significantly lowered the likelihood of abortion or menstrual regulation in the subsequent 12 months by 82% for urban women and 70% for rural women. Use of traditional methods, on the other hand, significantly increased the likelihood of abortion or menstrual regulation in the subsequent year (OR = 2.85, 95% confidence interval [CI] = 1.66, 4.87) for rural women but had no significant effect for urban women. Use of other modern methods resulted in less abortion/menstrual regulation (OR = 0.52, 95% CI = 0.17, 1.64), but the effect was not statistically significant.

The probability of abortion/menstrual regulation among urban women decreased with age and was not affected by parity, assets, or education. Abortion/menstrual regulation was less likely for women working in manual labor. For rural commune women, each additional year of schooling and each additional child increased the probability of abortion/menstrual regulation by 18% and 17%, respectively, but age, ethnicity, and assets had no effect.

Discussion

The fertility regulation behaviors of women in these 2 purposively selected communes were not dissimilar to those of urban and rural women in Vietnam[4] but should be interpreted with care, given the small samples. Abortion or menstrual regulation use in the year before the survey was higher among rural than urban commune women, whereas urban women's use of all methods of family planning was lower. When intrauterine devices were used directly before this period, the chances of subsequently having an abortion or menstrual regulation were significantly lower. Use of traditional methods, those used by most of the women in both communes, substantially increased the likelihood of subsequent abortion or menstrual regulation for rural commune women. Parity affected the probability of abortion or menstrual regulation use differently in the communes: rural commune women with more children, but urban women with 1 to 2 children, were most likely to have abortions. Not surprisingly, the wide availability of abortion/menstrual regulation services in Vietnam mitigated the effects of socioeconomic status variables.

Other data from the commune surveys show that there was a steady increase in abortion/menstrual regulation use between 1989 and 1994. Together with an increase

in traditional method use (greater for the rural commune than for the urban commune), the shifts may have contributed to higher method failure levels. Net of sociodemographic factors, intrauterine device adoption clearly reduces, and traditional method use increases, the likelihood of abortion. Expanding the availability and range of modern contraceptive methods in rural areas is indicated by these results. □

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Differences in Preconceptional and Prenatal Behaviors in Women with Intended and Unintended Pregnancies

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ABSTRACT

Objectives. This study examined whether pregnancy intention was associated with cigarette smoking, alcohol drinking, use of vitamins, and consumption of caffeinated drinks prior to pregnancy and in early pregnancy.

Methods. Data from a telephone survey of 7174 pregnant women were analyzed.

Results. In comparison with women whose pregnancies were intended, women with unintended pregnancies were more likely to report cigarette smoking and less likely to report daily vitamin use. Women with unintended pregnancies were also less likely to decrease consumption of caffeinated beverages or increase daily vitamin use.

Conclusions. Pregnancy intention was associated with health behaviors, prior to pregnancy and in early pregnancy, that may influence pregnancy course and birth outcomes. (*Am J Public Health.* 1998; 88:663–666)

Introduction

Despite a national health goal to reduce the rate of unintended pregnancy to 30% by the year 2000,[1] the frequencies of unintended pregnancies and unintended births appear to be increasing in the United States, after almost 2 decades of decline.[2,3] It has been estimated that 43% of all live births in the United States in 1988 were the result of unintended pregnancies.[4]

Unintended pregnancy is usually defined as a pregnancy that is mistimed (i.e., earlier than desired) or unwanted.[3,5] Infants of unintended pregnancies may be at risk for low birthweight,[6–8] preterm delivery,[8] and neonatal mortality.[9] The mechanisms linking unintended pregnancy to poor birth outcomes are not clear, but they may be associated with maternal socioeconomic risk factors, less than adequate prenatal care, and preconceptional and prenatal maternal behavioral risk factors.[4,5,10,11] Because many births in the United States are unintended, and because it is the goal of clinicians and health educators to influence maternal behaviors in order to optimize fetal growth and reduce pregnancy complications, it is important to understand whether pregnancy intention is associated with the behavioral risks a woman brings to her pregnancy or with the likelihood of behavioral change after pregnancy confirmation. Women with unintended pregnancies may be more likely to smoke cigarettes during pregnancy than those with intended pregnancies[7,12,13] and more likely to drink alcohol during pregnancy.[7,14] Data on the association between pregnancy intention and preconceptional and prenatal behavioral changes are meager.

The purpose of this study was to examine the associations of pregnancy intention to cigarette smoking, alcohol drinking, and use of vitamins and caffeinated drinks prior to pregnancy and during early pregnancy. It was hypothesized that women with unintended pregnancies would be more likely than those with intended pregnancies to engage in behaviors, prior to and during pregnancy, that could compromise fetal growth and the pregnancy course. It was also hypothesized that women with unintended pregnancies would be less likely than those with intended pregnancies to change health-compromising behaviors.

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