Vietnam's Last Frontiers of Fertility Decline: Ethnic Minorities and Abortion

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ABSTRACT

Vietnam's total fertility dropped from 5.7 in 1979 to 2.1 in 2005. Despite the overall rapid decline, fertility rates vary considerably across the country's 54 ethnic groups. While the majority Vietnamese (i.e., Kinh) and a few other ethnic minority groups have already experienced a transition to the replacement-level fertility, this is not the case for a substantial proportion of Vietnam's ethnic minority population who is disproportionately poor. The last frontiers of fertility decline in Vietnam, therefore, have much to do with addressing the needs of ethnic minorities. To explore the prospects of further fertility decline through abortion among high-fertility minority populations in Vietnam, this study analyzes unique data from the Vietnam National Health Survey to examine ethnic differentials in prevalence and determinants of abortion and contraception, using a new classification system for ethnicity. We find that abortion is high in Vietnam but not as high as previously reported. Abortion is more common among more mature and educated women with more children and among married women from the more privileged ethnic minority groups. Our findings also suggest that abortion incidence is higher among married women who practice traditional methods of contraception. Abortion is more correlated with volition and choice rather than disempowerment. Providing improved abortion service in and of itself is unlikely to reduce fertility among high-fertility minority groups. Service provision needs to be offered along with factors that promote women's education and later-age childbearing.

INTRODUCTION

Vietnam's total fertility dropped from 5.7 in 1979 to 3.8 in 1989 and 2.1 in 2005. Despite the overall rapid decline, fertility rates vary considerably across the country's 54 ethnic groups. The majority Vietnamese (i.e., Kinh) accounting for 84 percent of Vietnam's 86-million total population, have already experienced a transition to the replacement-level fertility. Like the Kinh, some ethnic minority groups such as ethnic Chinese, Tay, Thai, Muong, and Nung have also achieved low levels of fertility. However, this is not the case for ethnic minorities in the Northern Uplands and Central Highlands who tend to be poor and account for about 75 percent of Vietnam's 14-million ethnic minority population. For example, according to the 1999 census, the Dao and the Hmong –the two most populous ethnic minority groups in the Northern Uplands –had total fertility rates of 3.6 and 7.1 respectively. While recent estimates suggest declining fertility among this segment of the population, many minority groups still have fertility rates well above the replacement level and report relatively high prevalence of unmet need for family planning (UNFPA 2007; VCPFC and Macro ORC 2003). The last frontiers of fertility decline in Vietnam, therefore, have much to do with addressing the needs of ethnic minorities.

Vietnam's rapid fall in fertility is associated with not only high contraceptive prevalence but also high abortion rates (Haughton 1997). Abortion, primarily provided by the government for free of charge or with minimal fees, is available upon request of married couples at most levels of public health facilities. Official statistics show that in the mid-1990s the total abortion rate in Vietnam was 2.5 per woman (Goodkind 1994). With such a high rate, abortion is thought to have been adopted as an alternate for contraception, particularly among the Kinh and other low-fertility minority groups (Do et

al. 1993). To explore the prospects of further fertility decline through abortion among high-fertility minority populations in Vietnam, this study analyzes unique data from the 2001-2 Vietnam National Health Survey (VNHS) to examine ethnic differentials in prevalence and determinants of abortion and contraception, using a new classification system for ethnicity based on poverty indicators, location, and degree of assimilation of ethnic groups. Given that ethnic minorities in Vietnam are disproportionately poor, we assess whether ethnic differentials in abortion and contraception can be explained by their socioeconomic characteristics. Further, contributing to the timely debate on relationships between contraception and abortion (Bongaarts and Westoff 2000; Marston and Cleland 2003), this study also discusses whether Vietnamese women's choice of contraceptive methods correlates with their decision to seek abortion and the extent the correlations might vary by ethnic groups.

BACKGROUND

Vietnam's family planning policy has played an important role in the rapid decline in fertility over the last three decades. A population policy was first formulated in 1963 by the socialist government of North Vietnam. The regime planned to bring down the population growth rate from 3.5 to 2 percent by advising couples to limit their family size to 2-3 children with 5-6 years of birth spacing (Vu 1992). Due to limited resources and disruption caused by the Vietnam War (1965-1975), the success of this initial population policy was limited; yet, it did increase availability of contraceptives and abortion services in northern Vietnam. After the reunification of North and South Vietnam in 1975, the regime expanded family planning services to the South where fertility rates had been higher than in the

North and pronatalist policies were instituted prior to the 1970s. In 1988, the government implemented an antenatal population policy, which called for one or two children per family and three-to-five year birth spacing, along with free provision of contraceptives and abortion services, cash incentives for sterilization, and penalties for violations (Goodkind 1995).

Another key institutional force in Vietnam's fertility decline is the establishment of the National Council of Population and Family Planning (NCPFP) in 1984. By the late 1980s, the NCPFP had established provincial offices, commune-level branches, and networks of village-level family planning promoters. Until recently, Vietnam's family planning strategy tended to favor the IUD over other methods of contraception. Evidence indicates that teams of health workers who visited villages were expected to meet targets of IUD implantations. The strategy, borrowed from other socialist states, was driven by a lack of resources to provide inexpensive supply-based alternative contraceptive methods and by a desire to maintain centralized control over the medical establishments that provided family planning services (Goodkind 1994). According to the 2002 Vietnam DHS, virtually all Vietnamese women of reproductive age know of at least one method of contraception and the most widely known method is the IUD. Likewise, the IUD is by far the most commonly used method among currently married women. Sixty-five percent reported that they had ever used the method, whereas 38 percent reported currently using it. Despite increasing prevalence of other methods such as the pill and condom, the IUD which was first imported from Czechoslovakia and China in the 1960s, remains the most extensively used contraceptive method in Vietnam.

Abortion services were promoted vigorously in Vietnam's early family planning strategies along with the promotion of the IUD[1]. Since 1989, the regime has been committed to provide abortion free-of-charge to eligible persons who register to practice family planning. All possible grounds for abortion are permitted as long as it is conducted by health professionals. A majority of abortions is provided at public health facilities, which are available in cities, prosperous villages, and even remote rural areas from mobile teams. Fees for abortion services vary according to the administrative level of health clinics and to the economic status of provinces[2] (Do 2008). In poor, rural, and mountainous areas abortion services are available free of charge. Private abortion providers have purportedly become increasingly common after Vietnam's economic reform in the late 1980s. It is not possible to ascertain what proportion of all abortion services is offered by private providers. According to Goodkind (1994), the estimates were approximately 15 percent during the mid-1990s.

Vietnam has one of the world's highest abortion rates (Henshaw et al. 1999a; Henshaw et al. 1999b). While abortion has been available since the 1960s, it was not common it began to rise in the early 1980's-– first slowly and then rapidly from 1988 with the introduction of the one-or- two child policy. The number of abortions reported by the Ministry of Health has risen rapidly from 0.16 million in 1979 to 0.81 million in 1987 and 1.34 million in 1992. Abortion rates peaked in the early 1990s at nearly 100 per 1,000

[1] Two types of pregnancy termination are available. Menstrual regulation (*hut thai*) is performed by a suction procedure within five weeks of pregnancy, whereas abortion (*nao thai*) refers to all other pregnancy termination procedures performed after five weeks up to 12 weeks or longer. In this study, unless indicated, abortion is used as a general term referring to both menstrual regulation and abortion.

[2] The fees range from 40,000 VND (2.35 USD) for first trimester abortion to 1.5 million VND (88 USD) for the second trimester abortion. Failed family planning subscribers may also avail of abortion services free of charge.

married women of reproductive age. Recent official estimates suggested a sharp decline in abortion since the mid-1990s; yet, nationally representative surveys indicated small increases in incidence. No conclusions can, therefore, be drawn with regards to recent abortion trends in Vietnam (Sedgh et al. 2007). Government estimates in the mid-1990s suggest that menstrual regulation accounted for approximately 45-60 percent of all pregnancy terminations. According to Goodkind (1994), high prevalence of abortion in Vietnam is due to antenatal population policies interacting with a lack of contraceptive alternatives. The one-or-two child policy calls for penalties for third-and- higher parity births and for violations of a three-to-five year spacing rule. Although evidence suggests that the regime has been less stringent in enforcing the rules to populations in remote areas who tend to belong to ethnic minority groups, fines have been imposed in certain areas. Some women may have been deterred by the penalties and fear of complicated abortion procedures. Therefore, they choose to undergo menstrual regulation as a pre-emptive measure even when they are uncertain about their pregnancy (Trinh et al. 1998).

Although Vietnam has already achieved high contraceptive prevalence among nearly all segments of female population in reproductive age, recent studies question use effectiveness, quality, and accessibility of family planning services (Do and Koenig 2007; Nguyen and Dang 2002). While IUD is dominant among the modern methods, the practice of traditional methods is relatively widespread. In the context of inadequate availability and inefficient use of contraceptives, researchers argue that Vietnamese women might have used abortion to reach their desired family size. While the government of Vietnam no longer espouses abortion as a preferred family planning method, the procedure remains heavily subsidized by the state, and many published family planning campaigns still list

abortion as a method of birth control after IUD, condom, and the pill. Whether Vietnam's high-fertility minority population will achieve replacement-level fertility in the coming years remain to be seen. Understanding the roles of abortion in explaining ethnic differentials in fertility outcomes can help the prospects of further fertility decline among high-fertility minority populations in Vietnam.

DATA

Conducted in 2001-2 by the Ministry of Health and the General Statistics Office, the Vietnam National Health Survey (VNHS) is a population-based nationally representative sample data set that provides a unique resource for analyzing ethnic differentials in reproductive behaviors. Data are derived from a three-stage, stratified, cluster random probability sample of 36,000 households containing nearly 160,000 individuals from 1,200 communes nationwide. The VNHS interviewed women ages 12-49 with husband or with children under age 5 in the sample households about their reproductive history and behaviors. The survey contains detailed information regarding a respondent's birth history in the five years preceding the survey (1997-2001), current methods of contraception, unwanted pregnancy, and history of abortion and/or menstrual regulation in the five years preceding the survey. In this study, we restrict the analysis to 27,097 currently married women ages 15-49. Owing to a sampling design that produced unequal probabilities of cluster selection, we adjust for clustering and stratification effects.

The VNHS permits not only a comparison of reproductive behaviors between the Kinh and ethnic minorities but also a comparison within Vietnam's 53 minority groups. Despite ample evidence of differences in socioeconomic and cultural characteristics within

ethnic minority groups (Baulch et al. 2004), most empirical studies tend to lump ball ethnic minorities into one category[3], thus failing to distinguish diversity within the minority populations. Such crude analytic approach is in part due to survey sampling strategy which yields inadequate number of observations of specific minority groups. Unlike other surveys, data from the VNHS allow us to construct a new classification system for ethnicity that captures various nuances of Vietnam's ethnic minority populations.

DEPENDENT VARIABLES

We examine two outcome variables. First, current method of contraception is measured as a categorical variable indicating whether at the time of the survey a respondent or her spouse used any modern methods, traditional methods, or did not use any methods to space or prevent a birth. Modern methods include IUD, contraceptive pill, contraceptive injection, inplants, condom, diaphragm/gel/foaming tablet, and sterilization. Meanwhile, traditional methods include periodic abstinence and withdrawal. Approximately 59 percent of currently married women ages 15-49 in the sample reported using modern methods at the time of the survey, whereas 20 percent used traditional methods and 21 percent did not use any contraception. The second outcome variable is incidence of abortion. It is incorporated as a dummy variable indicating whether a respondent had an abortion or menstrual regulation within five years prior to the survey. Since the VNHS also asked each respondent how many times during the five years prior to survey she had abortions and menstrual regulations, we are able to calculate total abortion

[3] The only exception is ethnic Chinese who account for about one percent of the total population. Because ethnic Chinese in Vietnam usually enjoy high socioeconomic status and reside in urban areas, particularly in Ho Chi Minh City, researchers tend to combine them with the Kinh.

rates[4]. Approximately 12 percent of married women in the sample reported having at least one abortion or menstrual regulation during 1997-2001. The total abortion rate is 0.67 abortion per woman.

The VNHS offers unusual and high-quality information on deliberate pregnancy termination among married women, thus allowing us to explore abortion in details. Past studies on abortion in Vietnam rely primarily on official statistics from service providers. The accuracy of these statistics is questionable (Goodkind 1994; Haughton 1997; Trinh et al. 1998). The statistics are funneled upward to the Ministry of Health in hierarchical fashion. A set of standard forms are filled out by the provincial departments of health based on data from public providers assembled by district health departments. Not only the collection of such data is not uniform across provinces and districts, but certain districts or provinces might also over-report the number of abortions which they performed, especially in the early 1990s, in order to look good in the eyes of central administration or to receive resource provision. Although international experience suggests that the collection of data on abortion in household surveys is defective, this should not be the case for the VNHS since the practice of terminating unwanted pregnancies is legal and relatively widespread among married women in Vietnam.

DESCRIPTION OF PREDICTOR VARIABLES

Ethnicity is a key independent variable in this study. We recognize the varying levels of socioeconomic assimilation and economic development among ethnic minorities in different geographic regions. Our ethnic classification scheme attempts to address such

[4] This measure is analogous to a total fertility rate. It indicates the average number of abortions a woman would be expected to have during her reproductive lifetime, given current age-specific abortion rates.

nuances. We categorize the sample into five clusters including Kinh-ethnic Chinese; Tay, Thai, Muong, Nung (TTMN); ethnic minorities (EM) in the South; minorities in Northern Uplands; and those in the Central Highlands[5]. In this study, the Kinh-Chinese accounts for 85 percent of the sample, whereas TTMN comprises of 8 percent. Although the TTMN group resides predominantly in Vietnam's Northern Uplands, they tend to live in low mountainous areas and are more economically assimilated to the Kinh than other minority groups in the region. Ethnic groups in the South account for about 1.5 percent of the sample. Minorities in the Northern Uplands, including the Dao and Hmong, account for 3.5 percent of the VNHS sample. The minority populations in the Central Highlands are among the poorest in Vietnam consisting of 2.5 percent of the study sample.

[Table 1 about here]

Other predictor variables incorporated in this study are a respondent's age, number of living children, educational attainment, location of residence, and household wealth status. Table 1 presents the distribution of each independent variable by ethnicity of currently married women in the sample. First, the sample of married women in reproductive age is categorized into five-year age group ranging from 15-19 to 45-49 years old. According to Table 1, proportions of married women age below 25 in the VNHS sample is higher among minorities in the Northern Uplands (25 percent) and the Central Highlands (30 percent) compared to three other ethnic clusters. We expect high contraceptive use, particularly the use of modern methods, and incidence of abortion among married women

[5] Ethnic minorities in the South include Khmer, Cham, Xtieng, and Cho-ro ethnic groups. Meanwhile, ethnic minorities in the Northern Uplands include Hmong, Dao, Ngai, San Chay, San Diu, Giay, Kho-mu, Khang, Xinh-mun, Ha Nhi, Lao, La Chi, La Ha, Phu La, La Hu, Lu, Lo Lo, Mang, Pa Then, Co Lao, Cong, Bo Y, Si La, and Pu Peo. Minority groups in the Central Highlands are Gia-rai, Ede, Ba na, Xo-dang, Co ho, Mnong, Gie Trieng, Ma, Chu ru, Brau, Ro mam, Hre, Ra-glai, Bru Van Kieu, Tho, Cotu, Co, Ta-oi, Chut, and O-du.

in their peak childbearing years. Another demographic variable included in this study is the number of living children. It is measured as a categorical variable indicating whether a respondent had no child or whether she had one, two, three or more children that were alive at the time of survey. About 37 percent of the Kinh-Chinese had two children, whereas slightly over one third of them had three or more children. Proportions women with three or more children are higher among minority women, particularly those in the South, Northern Uplands, and Central Highlands. We hypothesize that married women who had reached the family size of two are more likely to practice contraception and seek abortion and menstrual regulation to space or control a birth.

Further, women's educational attainment is incorporated in this analysis as a categorical variable indicating whether a respondent was illiterate or whether she had up to 5 years of education, 6-9 years of schooling, or greater than 9 years of education. Ethnic differentials in educational attainment are very salient. The Kinh-Chinese were generally better educated than minority women in the sample. Minorities in the Northern Uplands were among the least educated. About two thirds of them were illiterate, whereas well over half of those in the Central Highlands did not know how to read or write. We expect better-educated women to demonstrate higher prevalence rates of contraceptive use, particularly the use of modern methods with high effectiveness and in turn, to experience less likelihood of resorting to abortion for birth control.

Two household characteristics are included in this analysis to estimate the effect of household accessibility and economic status on reproductive behaviors such as access to methods of contraception and abortion. Location of residence is measured as a dummy variable indicating whether a respondent's household is located in urban or rural areas.

Regardless of their ethnicity, a majority of married women in the sample resided in the countryside at the time of the survey. Compared with other minority groups, greater proportions of the Kinh-Chinese lived in the cities, followed by minorities in the South and those in the Central Highlands. While about 7 percent of the TTMN resided in urban locations, only 3 percent of minorities in the Northern Uplands did so. In addition to household location, we also consider household wealth. Household economic status is defined by per capita expenditure. In the VNHS, households were stratified into five per capita household expenditure quintiles of equal size defining relative living standards in the population (Bales 2003). In this study, households in the lowest quintile are classified as poor, while the rest are categorized as less poor. While only 13 percent of the Kinh-Chinese in the sample were poor, ethnic minorities, particularly those in the Northern Uplands and Central Highlands, disproportionately lived in poverty. The levels of poor households among the TTMN and minorities in the South were moderate, accounting for 51 and 34 percent respectively. We expect women from urban locations and from well-off households to have greater access to modern methods of contraception and abortion services. This is likely to have positive effects on contraceptive prevalence and incidence of abortion.

RESULTS

Ethnic differentials in current practice of contraception

Figure 1 describes current methods of contraception among married women ages 15-49 in the sample by their ethnicity. One of the most striking findings is the lack of variations in proportions of women across most ethnic groups who reported currently

using modern methods of contraception, with the only exception of the TTMN. While 70 percent of the TTMN women reported using modern methods, the prevalence rate of modern contraceptive use was slightly higher among the Kinh-Chinese (59 percent) than minority groups in the South (56 percent), Northern Uplands (54 percent), and Central Highlands (55 percent). Another interesting finding is the relatively widespread practice of traditional methods among the Kinh-Chinese. Over one fifth of Kinh-Chinese women in the sample resorted to traditional methods to prevent birth. Results suggest that traditional methods were much less prevalent among the TTMN (11 percent) and minorities in the Northern Uplands (8 percent) and Central Highlands (10 percent). Further, in addition to low rates of traditional methods, the non-Kinh in these two remote mountainous regions also demonstrated high prevalence of non-use of contraception. Well over two thirds of married women in these clusters reported not using any contraceptives during the time of survey.

[Figures 1 and 2 about here]

The analysis presented in Figure 2 examines ethnic differentials in types of modern methods adopted by married women of reproductive age in the sample. The IUD was by far the most dominant form of modern contraceptives across all ethnic groups. This was particularly true among minorities in northern Vietnam, including the TTMN (69 percent) and other high-fertility minority groups in the Northern Uplands (78 percent). While the non-Kinh in the Central Highlands less frequently reported using IUD than other ethnic groups, proportions respondents adopting the pill and female sterilization were far higher among women in this cluster than the rest of Vietnam. Percentages married women using the pill varied widely from 26 percent among minorities in the Central Highlands to 10

percent among the TTMN. Another interesting finding from Figure 2 is that minority women less often reported using male contraceptive methods such as condom compared to the Kinh-Chinese. While 15 percent of the majority Vietnamese adopted condom, only 2 percent of minorities in the Northern Uplands did so.

Determinants of current methods of contraception

To examine the net effects of ethnicity on methods of contraception, we estimate a maximum-likelihood multinomial logistic regression model for assessing the net effect of these covariates controlling for women's age, educational attainment, number of living children, location of residence, household economic status. The determinants of methods of contraception are assessed by estimating the odds of women adopting no methods and traditional methods – relative to the reference category, modern methods. Multivariate odds ratios and standard errors are presented in Table 2. The total number of observations is 27,097 women.

[Table 2 about here]

According to Table 2, ethnicity had independent, yet multi-faceted, effects on married women's choice of current methods of contraception. First, odds that married women from the TTMN group would not adopt any methods relative to modern methods were 33 percent less than their Kinh-Chinese counterparts. However, if they were non-Kinh from the Northern Uplands and Central Highlands, the odds of non-use were 39 percent and 51 percent higher than the majority Vietnamese respectively. Further, almost all ethnic minorities in the sample experienced less likelihood of using traditional methods relative to modern methods than did the Kinh-Chinese. The only exception is minorities in

the South who were not significantly different from the Kinh-Chinese in their choice of methods of contraception.

Results indicate that women's age and educational attainment were important determinants of women's current contraceptive use. Women age 20 and over were generally much less likely than those under age 20 to not using any methods or to using traditional methods relative to modern methods. When married women were 35 and over, age did not appear to have significant effects on odds of adopting traditional methods. In addition to age, women's education is a prominent covariate of contraceptive choice. Education did reduce the likelihood women would adopt no methods. However, results suggest that odds of seeking traditional methods relative to modern methods were higher among better-educated women compared to those who were illiterate.

Results indicate moderate effects of women's family size and household characteristics. Women with at least one child were less likely to be non-users but more likely to seek traditional methods relative to modern contraceptive methods. Further, women's urban residence increased the likelihood of non-use and use of traditional methods by 23 and 9 percent respectively. While household economic status did not have net impact on women's decision not to use any methods, we find that women from poor household were 20 percent less likely to choose traditional methods than those from less-poor background.

Ethnic differentials in incidence of abortion

Table 3 describes ethnic differentials in total abortion rates and age-specific abortion rates for the five-year period preceding the survey. Overall, we find that a

Vietnamese woman would have an average of 0.67 abortions during her reproductive years. This is comparable to the rate of 0.6 abortion based on the analysis of the 2002 Vietnam DHS data (VCPFC and Macro ORC 2003) but much lower than the rate of 2.5 abortions derived from service providers' data (Goodkind 1994). There are significant variations in total abortion rates across ethnic groups under investigation. Married women from the TTMN group, who reported the highest rate of modern contraceptive use (Figure 1), had the highest incidence of abortion (0.8 abortions per woman). The incidence of induced abortion was slightly lower for the Kind-Chinese (0.68 abortions).

[Table 3 about here]

While minorities in the South had higher rates of current contraceptive use than those in the Northern Uplands, married women from the two populations had similar total abortion rates. They could expect to experience 0.5 abortions in their lifetime. Minorities in the Central Highlands, who reported lower contraceptive use yet greater diversity of modern methods, had the lowest incidence of abortion (0.3 abortions per woman). Across all ethnic groups, induced abortion was very rare among married women under age 20 and began to rise among those ages 20-24. For most ethnic clusters, particularly low-fertility populations such as the Kinh-Chinese and the TTMN, abortion peaked among women in the late 20s and 30s before declining through the age of 40s.

Determinants of abortion incidence

In Table 4, the determinants of whether a married woman of reproductive age sought an abortion or menstrual regulation are assessed using binary logistic regression models. The analysis consists of three additive models. The first model presents abortion

incidence as a function of ethnicity; Model 2 incorporates a respondent's age; and Model 3 adds her educational attainment, birth history, location of residence, and household economic status. The exponentiated coefficients are presented in Table 4 as the ratio of the odds of having an abortion for each category, relative to the comparable odds of reference category for each covariate. Our reference categories include being Kinh-Chinese, under age 20, illiterate, having no children, living in rural areas, and coming from a less poor household.

[Table 4 about here]

Results indicate that there were significant differences in the incidence of abortion between the Kinh-Chinese and two minority groups including the TTMN and the Central Highlands. Given other characteristics equal, married women from the TTMN cluster were more likely than the Kinh-Chinese to undergo induced abortion. Meanwhile, those in the Central Highlands had lower odds of abortion compared to the majority Vietnamese. The coefficients for these two groups change modestly after the introduction of other individual and household characteristics in the analysis. Further, the multivariate results show no significant differences between the Kinh-Chinese and minorities from the South. While being minority from the Northern Uplands appears to have net negative effects on abortion likelihood in Models 1 and 2, the effects disappear in Model 3 suggesting the differences in abortion between the Kinh-Chinese and this group can be explained by background characteristics such as education and family size.

Age is perhaps the most prominent predictor of abortion incidence. Findings indicate that women in their peak reproductive years (from the mid-20s to the early 40s) were much more likely than those under age 20 to seek abortion. The independent effects

of age were modified modestly when individual and household attributes were controlled. In addition to age, women's educational attainment show linear positive effects on the odds of abortion. Women with secondary schooling or higher (6+ years) were 40-65 percent more likely than those who were illiterate to undergo abortion. Results also suggest that married women with one or two children were more likely to resort to abortion than those without one. There was no significant difference between childless women and those with three or more children. While household location and economic status are important predictors of methods of contraception, they did not have net effects on abortion incidence. This is perhaps explained by that in Vietnam abortion and menstrual regulation have been heavily subsidized and available in various levels of public health facilities.

Abortion and contraception

Prevalence of modern methods of contraception did not vary substantially from one ethnic cluster to another. Based on our analyses of trends and determinants of contraception and abortion, we observe two patterns of reproductive behaviors that may explain ethnic differentials in fertility outcomes. The first pattern was observed among low-fertility population such as the Kinh-Chinese, the TTMN, and to a certain extent, minorities in the South. In addition to high prevalence of modern contraception, the level of contraceptive non-use was low, whereas traditional methods of contraception and abortion were quite prevalent. The second pattern reflects the experience of high-fertility populations including minorities in the Northern Uplands and Central Highlands. For this segment of the populations, abortion was less common; traditional methods were not widespread and; rates of contraceptive non-use were relatively high. Net of the effects of

ethnicity, we find that background characteristics such as educational attainment and location of residence significantly accounted for differentials in women's adoption of traditional methods and abortion. For example, better-educated married women were more likely than those with less education to use abortion and methods such as rhythm and withdrawal to prevent or to space births.

[Figure 3 about here]

Figure 3 presents percent distribution of married women in the sample who had pregnancy termination in the five years preceding the survey by their current methods of contraception. Since the VNHS did not inquire respondents whether any contraception was used prior to each pregnancy termination, we are limited in our ability to draw any causal relationships in this analysis. We simply would like to see the correlations between the two variables. For each methods of contraception, percent of women with abortion/menstrual regulation experience is presented alongside proportions of women in the sample who reported using that particular method.

First, women who used any contraception reported abortion incidence more frequently than those who did not use any methods. Further, among those who practiced contraception, 18 percent of those using traditional methods experienced pregnancy termination, whereas about 12 percent of modern-method users did so. About 17 and 19 percent of women who practiced rhythm and withdrawal methods respectively had abortion. Meanwhile, less than 10 percent of women using the IUD, the most common contraception, underwent pregnancy termination. Surprisingly, nearly one fifth of those using the pill and condom reported abortion.

DISCUSSION

Our findings indicate that abortion is high in Vietnam but not as high as previously reported based on data derived from service providers. Correlates of abortion suggest that abortion is more common among older (more mature) and educated women with more children and among married women from the more privileged ethnic minority groups such as the Tay, Thai, Muong, Nung, and ethnic Chinese. Our findings also suggest that abortion incidence is higher among married women who practice traditional methods of contraception. Abortion is more correlated with volition and choice rather than disempowerment. Socioeconomic factors associated with privilege and status (e.g., high education) can explain ethnic differences in abortion among minority women in the South and in Northern Uplands. Once these factors were controlled (Table 4), there was no abortion differentials. We can conclude that providing improved abortion service in and of itself is unlikely to reduce fertility among high-fertility minority groups. Service provision may need to be offered along with factors that promote women's education and later-age childbearing.

In the context of limited choices of modern methods of contraception, the replacement-level fertility and compliance with the state's one-or-two child policy was achieved by members of certain privileged ethnic groups by combining practice of traditional methods with induced abortion. Anecdotal evidence indicates that many women, who use traditional contraceptive methods such as periodic abstinence and withdrawal, consider abortion as a backup (Johansson et al. 1996). They think that traditional and natural family planning pose less risks to their health and ability to work than the use of modern contraceptive methods such as IUDs and oral contraceptive pills.

Given that other methods of contraception have been recently available, the prevalence of abortion speaks of the gaps in providing ancillary services, especially counseling on the use of contraception. It reflects the inadequate awareness on reproductive health, including proper knowledge on the use of contraceptives among the population.

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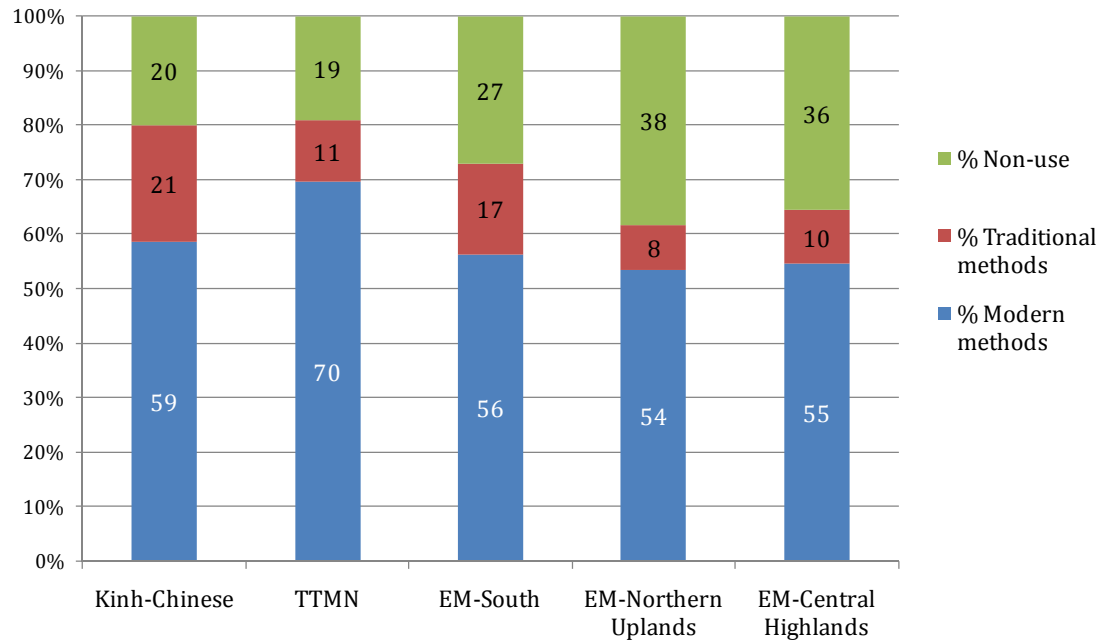
Table 1. Descriptive Statistics, Demographic and socioeconomic characteristics of currently married women ages 15-49.

Women's characteristics	Kinh-Chinese	TTMN	EM- South	EM-Northern Uplands	EM-Central Highlands
	(N=22,969)	(N=2,076)	(N=418)	(N=946)	(N=688)
Age					
Total	100%	100%	100%	100%	100%
15-19	1	4	2	7	6
20-24	12	16	12	18	23
25-29	20	20	21	21	20
30-34	20	20	20	18	17
35-39	20	19	18	18	13
40-44	16	14	15	11	13
45-49	11	8	11	6	9
Number of Living Children					
Total	100%	100%	100%	100%	100%
None	6	7	8	10	9
One	22	18	16	14	14
Two	37	34	26	23	19
Three and over	35	40	51	53	58
Educational attainment					
Total	100%	100%	100%	100%	100%
Illiterate	4	16	38	66	56
5 years or below	44	49	55	29	38
6-9 years	33	24	5	4	4
10+ years	19	11	2	1	2
Location of residence					
Total	100%	100%	100%	100%	100%
Rural	75	93	87	97	92
Urban	25	7	13	3	8
Household wealth status					
Total	100%	100%	100%	100%	100%
Poor	13	51	34	78	91
Less poor	87	49	66	22	9

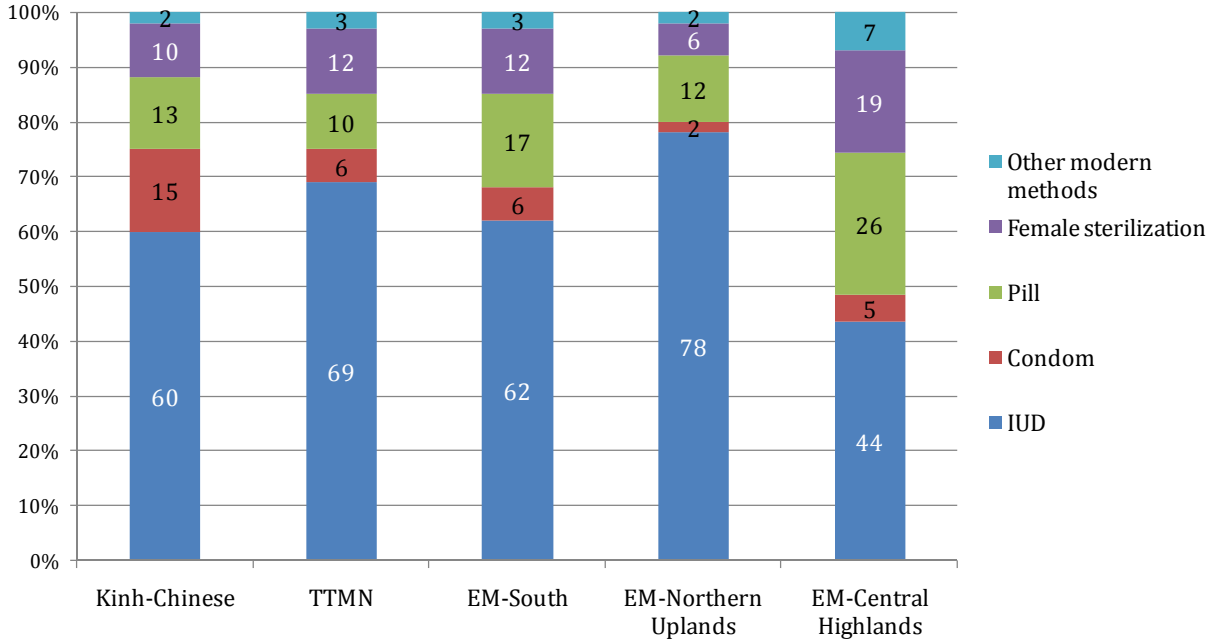
Source: VNHS 2001-2

Figure 1. Distribution of current methods of contraception among married women ages 15-49 by ethnicity



Source: VNHS 2001-2

Figure 2. Ethnic differentials in types of contrapceptive methods adopted by married women ages 15-49 who reported currently using modern methods of contractpetion



Source: VNHS 2001-2

Table 2. Maximum likelihood multinomial logistic regression, Determinants of current methods of contraception among currently married women ages 15-49.

Women's characteristics	Methods of contraception[a]			
	Non-use		Traditional method	
	Odds ratio	Std. err	Odds ratio	Std. err
Ethnicity (Kinh-Chinese=ref)				
TTMN	0.67 ***	0.05	0.54 ***	0.04
EM-South	1.23	0.15	0.93	0.13
EM-Northern Uplands	1.39 ***	0.13	0.55 ***	0.07
EM-Central Highlands	1.51 ***	0.15	0.69 *	0.10
Age (Under 20=ref)				
20-24	0.28 ***	0.03	0.54 **	0.11
25-29	0.12 ***	0.02	0.62 *	0.12
30-34	0.07 ***	0.01	0.67 *	0.13
35-39	0.04 ***	0.01	0.80	0.16
40-44	0.05 ***	0.01	1.03	0.21
45-49	0.18 ***	0.02	1.47	0.30
Educational attainment (Illiterate=ref)				
5 years or below	0.70 ***	0.05	1.29 **	0.10
6-9 years	0.62 ***	0.04	1.22 *	0.10
10+ years	0.78 **	0.06	1.26 **	0.11
Number of Living Children (None=ref)				
One	0.77 ***	0.04	1.39 ***	0.07
Two	0.39 ***	0.02	1.12 **	0.04
Three and over	1.10	0.08	1.00	0.08
Urban residence (Rural=ref)	1.23 ***	0.05	1.09 *	0.04
Poor household (Less poor = ref)	0.94	0.05	0.80 ***	0.04

Total number = 27,097

* significant at p<0.05, ** significant at p<0.01, *** significant at p<0.001

[a] The omitted category for the equation is modern contraceptive use

Source: VNHS 2001-2

Table 3. Incidence of abortion during 1997-2001 by ethnicity among currently married women ages 15-49

Age groups	Kinh-Chinese	TTMN	EM-South	EM-Northern Uplands	EM-Central Highlands
15-19	0.01	0.00	0.00	0.01	0.00
20-24	0.08	0.09	0.00	0.03	0.02
25-29	0.14	0.20	0.09	0.13	0.05
30-34	0.16	0.18	0.15	0.08	0.03
35-39	0.14	0.13	0.10	0.13	0.02
40-44	0.11	0.13	0.12	0.07	0.18
45-49	0.05	0.07	0.04	0.04	0.00
Total abortion rate	0.68	0.80	0.49	0.49	0.30

Source: VNHS 2001-2

Table 4. Binary logistic regression, Determinants of abortion/menstrual regulation among currently married women ages 15-49.

Women's characteristics	Model 1		Model 2		Model 3	
	Odds ratio	Std. err.	Odds ratio	Std. err.	Odds ratio	Std. err.
Ethnicity (Kinh-Chinese=ref)						
TTMN	1.22 **	0.08	1.23 **	0.08	1.30 ***	0.09
EM-South	0.79	0.13	0.79	0.14	1.02	0.18
EM-Northern Uplands	0.61 ***	0.08	0.64 ***	0.08	0.84	0.12
EM-Central Highlands	0.15 ***	0.04	0.16 ***	0.04	0.21 ***	0.06
Age (Under 20=ref)						
20-24			9.83 ***	4.99	8.99 ***	4.57
25-29			19.84 ***	10.00	16.18 ***	8.16
30-34			21.20 ***	10.68	16.80 ***	8.48
35-39			18.28 ***	9.21	15.05 ***	7.60
40-44			13.64 ***	6.88	11.82 ***	5.98
45-49			6.01 ***	3.05	5.65 ***	2.88
Educational attainment (Illiterate=ref)						
0-5 years					1.03	0.10
6-9 years					1.39 ***	0.14
10+ years					1.64 ***	0.17
Number of Living Children (None=ref)						
One					1.17 *	0.07
Two					1.43 ***	0.07
Three and over					0.85	0.12
Urban residence (Rural=ref)					1.08	0.05
Poor household (Less poor = ref)					1.10	0.07
df	4		10		18	
Log likelihood	-9483.82		-9257.14		-9155.37	
Number	27097		27097		27097	

* significant at p<0.05, ** significant at p<0.01, *** significant at p<0.001
Source: VNHS 2001-2

Figure 4. Percent women from high-fertility groups having pregnancy terminations (abortion/menstrual regulation) in the five years preceding the survey by current methods of contraception