

Annika Johansson, Nguyen The Lap, Hoang Thi Hoa, Vinod K Diwan and Bo Eriksson.: Population Policy, Son Preference and the Use of IUDs in North Vietnam. *Reproductive Health Matters*. May 1998. 6(11).p. 66-76.

Population Policy, Son Preference and the Use of IUDs in North Vietnam

Annika Johansson, Nguyen The Lap, Hoang Thi Hoa, Vinod K Diwan and Bo Eriksson

This paper discusses contraceptive use and discontinuation among women in north Vietnam, in the context of a strong culture preference for sons and a stringent two-child population policy. Among a random sample of 1432 married women aged 15-49 in a rural province in north Vietnam in 1994, nearly 60 percent used the intrauterine device (IUD) for contraception; other modern methods were hardly used at all. Overall discontinuation rates were high - nearly 45 percent after three years; the most common reason was expulsion. Women without sons reported significantly higher rates of IUD discontinuation due to expulsion and contraceptive failure than women who had a son. We interpreted this as an indication that women without sons had deliberately removed the IUD and reported this as an expulsion or contraceptive failure, in hopes of satisfying their families' wish for a son, while avoiding the criticism of deliberately exceeding the two-child limit. Assessments of medical technology usually consider only clinical and service aspects. A gender analysis of contraceptive effectiveness data that also takes into account the social, cultural and political context, can offer insights into the complexities of women's reproductive lives and the contradictory demands on their fertility.

The use of modern contraceptives in developing countries has increased dramatically among married couples, from less than 10 per cent in 1965-70 to over 50 per cent in 1985-90. In southeast Asia the average reached 57 per cent in the mid-1980s. [1] Of the 500 million married couples currently using modern contraception, over 100 million use some type of IUD, which makes it the single most popular method of reversible contraception worldwide. [2] The most commonly used IUDs today are copper bearing, T-shaped devices. As an inexpensive, provider-controlled method with a good record in clinical trials, the IUD has become particularly popular in developing countries with strict demographic targets. [3]

Modern contraception was introduced in Vietnam on a limited scale in the 1960s, but it was not until 20 years later that family planning was actively promoted to reduce rapid population growth. The highest IUD prevalence rate in the world is found in Vietnam, [2] where it became the method of choice when the country launched its two-child policy in the early 1980s. [4]

The two-child policy is promoted in Vietnam through intensive education campaigns in mass organisations and the media. The most recent government decree of 1988, reinforced in 1993, stipulates that each family should have no more than two children spaced at least 3-5 years apart (except for certain minority groups). Contraceptive services and legal abortion are provided free of charge through an extensive public health network. In some provinces, particularly in the north of the country, various incentives and fines are applied to ensure compliance with the two-child norm. [5]

In 1988, over half of Vietnamese couples practised contraception, of whom 62 per cent reported IUD use, while other modern methods were uncommon. Despite efforts in recent years to diversify contraceptive choice, the pattern of use has changed very little and the IUD remains by far the most commonly used method in the country. [5] From the 1960s to 1994, the average number of children (total fertility rate) for a Vietnamese woman decreased from over six to just over three children per woman, indicating that Vietnam is in the midst of a demographic transition. [6]

Parallel with the fertility decline, abortion rates have increased dramatically during the last decade. With an annual rate of over 100 abortions per 1000 women of reproductive age, or a total abortion rate of 2.5 per women Vietnam currently has one of the highest reported rates of induced abortion worldwide, second only to the former Soviet Union and Romania. [7], [8]

Several authors have noted an inconsistency in the demographic pattern in Vietnam. With such high contraceptive prevalence and abortion rates, fertility should be lower than it is. [9] This 'demographic puzzle' could be due to over-reporting of contraceptive use and abortion, and/or to lower use-effectiveness [10] with the copper IUD than has been demonstrated internationally and in clinical trials in Vietnam. [11], [12]

The IUD in Context

As in many Asian countries, son preference is a prominent feature of Vietnamese culture, particularly in the north of the counts where the Confucian influence has been the strongest. In the Confucian tradition, sons were responsible for taking care of their old parents, while girls were likened to 'flying ducks', lost to their parental family at marriage. To maintain the line of descent, the worship of ancestors was essential and only a man could perform the ancestral rituals and pray for the souls of the dead. If a man died without a son, his lineage was broken and all his ancestors and unborn dependants would die with him. The wife who not able to give her husband a son could expect him to take a second wife. [13]

Vietnam has undergone profound economic and social change in recent years. Since the 'open door' policy (*doi moi*) was launched in 1986 by the Party Congress, market-orientated reforms have increased production and transformed society at an unprecedented rate. In the rural areas these reforms have meant a change from a collective to a family based economy. The implications for family structure and for gender roles and a relation is a matter of great interest and debate among both Vietnamese and foreign researchers. However, the need for sons is still strongly felt in rural north Vietnamese culture, [14] and the two-child policy introduced new and potentially contradictory demands on women's fertility.

Thai Binh, an agricultural province in the Red River Delta in the north of Vietnam, has one of the highest population densities in the country and was one of the earliest provinces to implement the two-child policy, applying incentives and fines stringently, leading to some of the highest abortion rates in rural Vietnam. [15] In 1992 we explored the consequences for women in Thai Binh of the potential conflict between this policy and the culturally defined need for sons. [16] Women who had had 'only' daughters expressed much worry and distress at not having produced a male heir. At the same time they felt themselves to be under strong pressure from their local authorities to keep within the two-child limit.

Local regulations stipulated that couples having a third or higher order birth had to pay a fine of up to 250 kgs of rice, which corresponds to 3-4 months' production. They also received low priority in the allocation of land for agriculture and housing, and were not entitled to the same social benefits as couples with only one or two children.

The women had many complaints about IUDs. These may partly, but not wholly, be explained by the fact of frequent reproductive tract infections, the inadequacy of insertion techniques and the lack of contraceptive choice at service level. However, we were surprised to hear of many babies being 'born with the IUD on their heads' and a very high frequency of IUDs 'failing out'. We became aware that women had their own ways of resolving the reproductive dilemma they faced.

In order to verify whether their strategies in dealing with the conflicting demands on their fertility were manifest in patterns of IUD use and discontinuation, we did a quantitative analysis of data from a study carried out in Thai Binh province in 1994. A second aim was to test the validity of measurements of contraceptive use effectiveness from a socio-cultural and political perspective.

Subjects and Methods

The data on which this study is based emanated from a cross-sectional survey, conducted to provide baseline indicators for an intervention project which was designed and implemented in 1994 in Kien Xuong district, one of the eight agricultural districts of Thai Binh. [17] The aim of the intervention was to improve family planning and abortion services and encourage greater community participation in reproductive health, thereby reducing the high rates of abortion in the district.

Of the 40 communes in Kien Xuong, 15 were defined as the study population. Their socio-demographic composition and health and family planning services were similar to those of other communes in the district. The cross-sectional survey was based on a 10 percent random sample (n=1432) of all married women of reproductive age 15-49 in the 15 communes. The sample was drawn from lists provided by the local authorities. Women were interviewed in their homes by a team of medical and social researchers from Thai Binh and Hanoi. They were informed about the purpose of the study and confidentiality was ensured. All women contacted agreed to take part. Any women absent during the three days the team spent in the communes was replaced by the next on the list. Less than 2 percent had to be replaced.

A semistructured questionnaire was used, and included demographic and socio-economic information about the women. Using a pregnancy history calendar, each woman was asked about her pregnancies and their outcome and about contraceptive use in the interim periods. [18] Reference was made to the lunar calendar and a conversion guide was applied to translate from lunar to solar calendar dates. The consistency of these pregnancy histories was checked by the interviewer and verified daily by the supervisors. Current contraceptive use was recorded and side effects were classified as: bleeding (increased menstrual bleeding and/or inter-menstrual bleeding), uterine pain, other pain (backache, headache) or a combination of these. An IUD history was recorded for each IUD user, including calendar year of insertion, duration of use (in months) and reason for discontinuation, classified as: expulsion; contraceptive failure, (pregnancy with the IUD in situ); [10] and removal due to planned pregnancy or health problems.

Current contraceptive use (all methods) was related to the woman's age, education, occupation, religion and parity. IUD side effects were related to number and sex of previous children and socio-economic background of the woman. Discontinuation rates (cumulative proportion of users who had stopped using the method within a specified interval) after 12, 24 and 36 months were calculated according to the reasons for

discontinuation for each time the use of an IUD was initiated between 1980 and 1993, using life-table techniques. Discontinuation rates were related to number and sex of previous children and also to year of insertion, in three periods: 1980-84, 1985-89 and 1990-93. [19] Annual abortion ratios (number of abortions per 100 live births) were calculated for the period 1980-93. The reason for unwanted pregnancy was recorded for the most recent abortion.

Of the 1432 women, 85 percent were rice farmers; the rest worked in handicraft production, trading or salaried jobs. Slightly over 80 percent had completed lower secondary school (9 years of schooling) and 16 percent higher secondary school or more. Less than 1 percent of the women (11 women) described themselves as illiterate. The majority were non-religious or non-practicing Buddhists and less than 4 percent were Catholic.

Nearly all the women were married and lived with their husbands. Five percent lived with their husbands, mostly because they worked elsewhere. The mean age at marriage was 21 and most women had their first child within one to two years of marriage. Women over 40, most of whom had completed childbearing, had an average of 3.5 children. [17]

Contraceptive Use

Table 1 shows current contraceptive use among the 1432 women by age, education and parity. The IUD was used by nearly 60 percent and traditional methods (withdrawal and rhythm method) by 15 percent. Other modern methods, mostly female sterilisation and condoms, were used by only 10 percent. Seventeen percent used no contraception at all. The more highly educated women used IUDs somewhat less often, and pills and condoms somewhat more often than others. The Catholic women used traditional contraception more often. There was no difference in the pattern of contraceptive use by occupation (not shown).

Table 1 : Current contraceptive use by age, education and parity of the woman, Kien Xuong and national data (n = 1432)

	Contraceptive Method (%)		
	Modern	Traditional	None

		IUD	Other		
Survey total		58.8	8.8	15.0	17.4
National total		33.3	10.5	21.2	35.0
Woman's age (n)					
<25	(183)	48.9	3.3	11.0	36.8
25-29	(289)	56.7	6.3	14.2	22.8
30-34	(313)	58.5	12.1	15.0	24.4
35-39	(323)	64.4	11.1	19.6	4.9
40-44	(199)	70.8	8.1	13.5	7.6
45+	(125)	45.5	8.1	25.6	20.8
Years of education (n)					
0-5	(93)	57.0	7.5	17.2	18.3
6-9	(1106)	60.5	17.5	10.4	11.6
10+	(233)	52.0	10.6	18.9	18.5
Number of children (n)					
0	(56)	1.8	0	1.8	96.4
1	(342)	55.5	4.5	15.7	24.3
2	(540)	62.2	8.3	14.1	15.4

Source: Intercensus 1994

Forty percent of the women who had used an IUD reported side effects. Backache and other pain was reported by nearly 30 per cent, bleeding irregularities by 12 per cent and uterine pain by 10 per cent. Some mentioned more than one symptom. There was no clear difference in side-effects between religious, occupational or age groups. Women with no sons reported IUD related problems with irregular menstrual bleeding more often than women who had at least one son but the difference was not statistically significant. It was not possible to relate side-effects to the type of IUD used, as the women's knowledge of which type of IUD they used was incomplete. [20]

Patterns of IUD Discontinuation

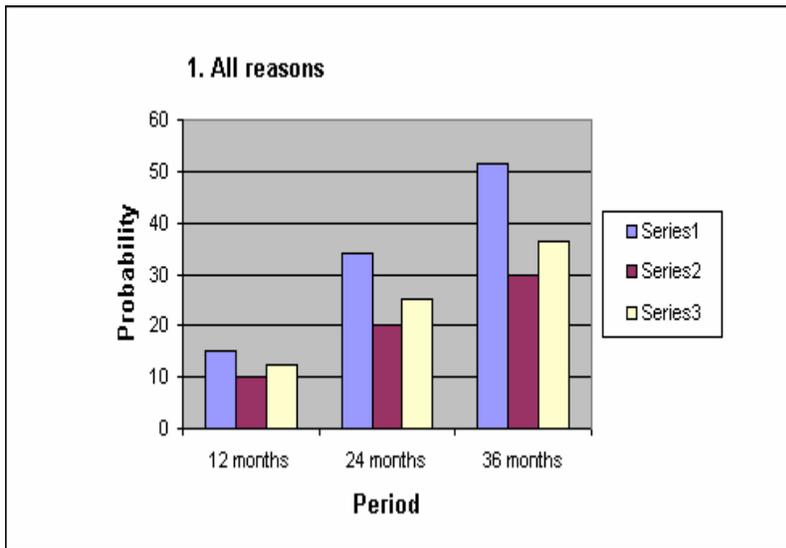
Table 2 shows IUD discontinuation rates by reason for discontinuation, at 12, 24 and 36 months of use, related to the number and sex composition of the woman's children at the time of IUD insertion. (Women with three or more children were not included as the numbers were too small.) The life-table analysis shows that the IUD discontinuation rate for all causes was 14 per cent at the end of 12 months, 30 per cent at the end of 24 months, and 44 per cent at the end of 36 months.

Table 2: Cumulative proportion of IUD discontinuation by length of use, reason for discontinuation, and sex and number of previous children of the woman

Length of use	Reason for IUD discontinuation (%)					
	Planned pregnancy	Expulsion	Contraceptive failure	Health reasons	Other reasons	Total
12 months	2.2	11.4	0.4	3.8	2.9	20.7
1 girl	2.0	5.1	2.8	3.4	3.0	16.3
1 boy	2.1	5.7	5.7	1.0	1.0	15.5
2 girls	0	4.3	4.3	0	1.2	9.9
2 boys	0.9	3.2	3.2	2.5	1.8	11.8
1 girl + 1 boy						
24 months	11.3	23.7	5.0	7.0	4.0	51.4
1 girl	6.6	13.8	8.2	5.1	4.9	38.9
1 boy	4.6	11.7	10.6	1.0	5.9	33.8
2 girls	0	6.5	8.9	2.2	2.8	20.4
2 boys	2.1	9.6	6.3	4.1	2.5	25.0
1 girl + 1 boy						
36 months	28.9	28.7	13.7	11.9	5.0	88.0
1 girl	32.8	20.4	13.8	7.3	7.4	81.6
1 boy	9.6	14.6	15.6	4.3	7.5	51.6
2 girls	3.9	10.2	10.7	3.1	2.8	30.7
2 boys						

There was considerable variation in the overall discontinuation rates, depending on the number and sex of the children. Women with two daughters had significantly higher discontinuation rates than those with two sons for each year of use. By the end of the third year, 52 per cent of women with two girls as compared to 31 per cent of women with two boys had stopped using the IUD ($P < 0.01$) (Figure 1). Having a boy and a girl was associated with slightly higher discontinuation rates than having two boys, and with lower rates than having two girls.

Figure 1



The most common reason for discontinuation after each year of use was expulsion, followed by contraceptive failure and planned pregnancy. (Table 2) Among women with one or two girls, the rates of expulsion and contraceptive failure were significantly higher than among women with at least one boy at all three years of measurement. (Figures 2 and Figure 3) After the third year, nearly one-third of women with two daughters reported IUD expulsion or failure, as compared to 21 per cent of women with two sons and an equal proportion of women with one son and one daughter ($P < 0.01$).

A certain recall error is unavoidable with regard to reasons for method discontinuation. However, as we were interested in comparing discontinuation among women with and without sons, there is no reason to suspect systematic bias in recall between the groups compared.

Figure 2

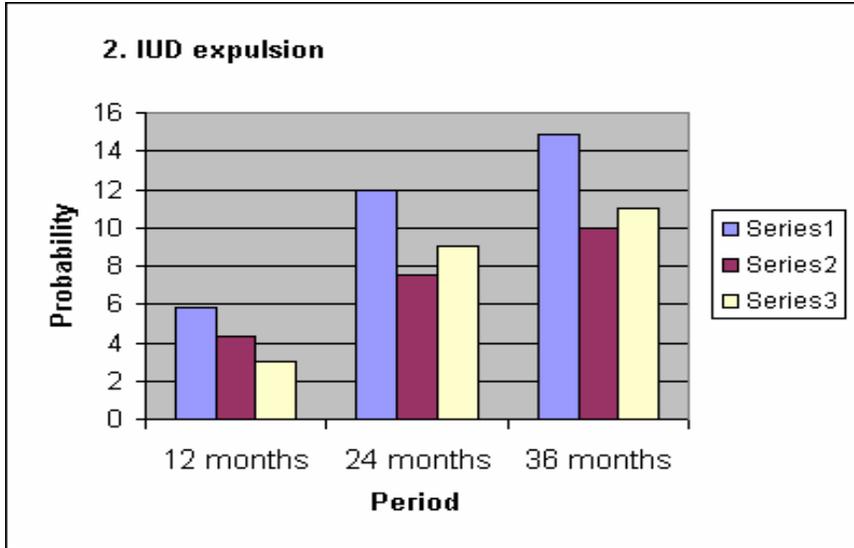
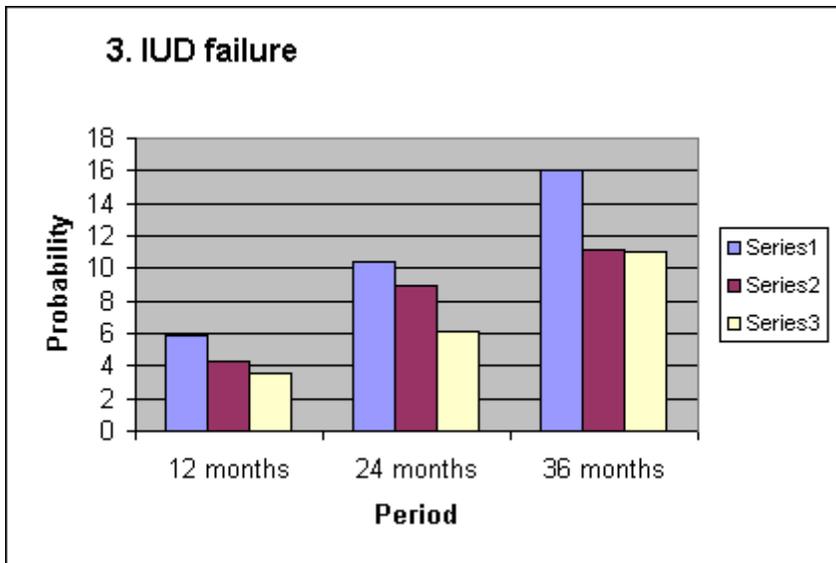


Figure 3



A consistent pattern in reasons for discontinuation emerges when analysed by year of insertion. (Table 3) Discontinuation rates were just below 15 per cent in the first year of all three periods and the rates in the third year were around 45 per cent. Although better quality IUDs were being provided by the 1990s, discontinuation for health

reasons increased considerably during the period 1990-93, compared to the two previous periods, while the differences as regards contraceptive failure and expulsion were on the whole rather small. If anything, there was a tendency to lower rates during the period 1980-84.

Table 3: Cumulative proportion of IUD discontinuation by length of use, reason for discontinuation and year of insertion

Year of insertion	Reason for IUD discontinuation (%)					
	Planned pregnancy	Expulsion	Contraceptive failure	Health reasons	Other reasons	Total
1980-84	1.3	5.6	3.4	2.1	1.2	13.7
12 months	4.1	8.7	7.5	3.0	4.0	28.0
24 months	11.4	11.0	11.4	4.0	5.7	43.5
36 months						
1985-89	1.4	7.2	2.9	1.2	2.0	14.8
12 months	4.1	13.3	6.7	2.6	3.5	30.2
24 months	9.2	15.8	10.2	3.9	3.5	43.6
36 months						
1990-93	0.9	4.6	2.0	4.3	1.9	13.7
12 months	2.3	7.6	3.5	5.0	2.4	20.9
24 months						

Abortion and IUD use

Among the 1377 women in the study who had ever been pregnant, there were a total of 3945 pregnancies. Of these, 81 per cent resulted in a live birth, 6 per cent in miscarriage and 13 per cent in induced abortion. The abortion ratio rose from about 6 per 100 births in 1983 to 58 per 100 in 1993 - a nearly 10-fold increase in 10 years. Abortion of first and second pregnancies was uncommon, but became more common for third and subsequent pregnancies.

The prevalence of induced abortions is known to be underestimated even in countries where abortion is legal. [21] Although abortions in Vietnam are legal and socially

accepted, our abortion data may also be underreported, especially repeat abortions, which women may feel embarrassed to acknowledge.

The 355 women who had had at least one abortion were asked about contraceptive use in the month preceding their latest abortion. (Table 4) Problems with IUDs played a large role in the women's unwanted pregnancies. Over one-third said that they had become pregnant with the IUD in place. Others said that they had previously used an IUD but discontinued because of side-effects and then had used no contraception at all, or used a traditional method that had failed. Lacking contraceptive choice, some women may have been obliged to accept an IUD, even though it was an inappropriate method for them.

Table 4: Reasons for unintended pregnancy among 355 women with abortions

Reasons	Number	Percent
Non-users of contraceptives	39	11
Believed breastfeeding protected or past fertile years	42	12
Previous side-effects or expulsion of IUD; lacked alternatives	9	3
Planned a pregnancy but changed for health reasons	48	14
Other reasons	138	40
Subtotal		
Contraceptive users	136	38
IUD failure (or expelled?)	16	4
Failure of other modern method (pill, condom)	65	18
Failure of traditional method (withdrawal, rhythm)	217	60
Subtotal		
TOTAL	355	100

Discussion: reasons for IUD discontinuation

IUD discontinuation rates of 14 per cent, 30 per cent and 44 per cent after the first, second and third years of use, respectively, are high compared to those in field trials of the copper IUD in other countries, [22] but very similar to rates from another study carried out in an adjacent district in Thai Binh in 1993. [23]

How might such high discontinuation rates be explained? It is well known that the IUD performs less well under real life conditions than in clinical trials, as trial participants are unlikely to be representative of the population at large. [24] Recent field data from 15 countries show an average first-year contraceptive failure rate for the IUD of 3.4 per cent, [22] which is up to 10 times higher than in clinical trials but similar to the rates in this and the 1993 Thai Binh study. [23]

It is noteworthy that expulsion was by far the most commonly reported reason for IUD discontinuation for all three years of use in both Thai Binh studies. This could be due to the conditions under which IUD provision was carried out in Thai Binh during the so-called 'IUD campaigns', introduced in the province in the early 1980s and still taking place at the time of our 1994 study. These campaigns have mobilised large numbers of women to come and have an IUD inserted. [25] Often carried out under great, time pressure, quality of care, including insertion technique may have been inadequate and health providers may have failed to identify and exclude women with reproductive tract infections, which are relatively common in Vietnam. [26] A woman we interviewed in Tien Hai district, Thai Binh, in 1992 [16] gave a vivid description of her problems with contraception in a context of limited choice, poor quality of care and heavy pressure to limit the number of children she had:

'For my first three children we did nothing to prevent conception...then they told us to use the IUD. After inserting the IUD I kept bleeding a whole month and I was unable to move around. I could do nothing, but had to rest, tired and exhausted. So after two months of use I decided to have the IUD removed... Then I got pregnant and we agreed to give birth to the fourth child. After that I worried all the time about getting pregnant and I got another IUD, but again I began bleeding and had to have it out. My husband was even more concerned than me. He was afraid of having to pay the fine and being ridiculed by his neighbours if we had a fifth child'.

(42-year-old woman, 4 children, one abortion)

Some authors have suggested that the high expulsion rates, even in recent years, could be due to the fact that some women are still using plastic devices of inferior quality. [23] If this was the reason, however, overall expulsion rates should have decreased over time, as plastic IUDs were gradually replaced. [4] Instead, our data show some increase in expulsion rates from the first half to the second half of the 1980s. (Table 2)

We suggest instead that this increase reflects the tightening political pressure in Thai Binh in this period to limit births. The fact that women without sons reported

significantly higher rates of IUD expulsion and failure than women who had at least one son is the most striking finding of this study. Our interpretation is that women without sons had - by themselves or with the help of a friend or a health worker - privately removed their IUDs and, if they got pregnant, reported it as an expulsion or contraceptive failure.

We have no direct testimony that this actually happened; for obvious reasons, such a question was not included in our questionnaire. However, anecdotal information from this study and qualitative evidence from our previous studies give ample proof of the dilemma women face and good reason to believe that they look for viable solutions.

One example was a 30-year-old woman with two daughters from Tien Hai district, who decided to disregard the two-child policy in the hopes of having a son (she later had a third daughter):

'She wants to have a son but she doesn't want to deliver again. Her husband wants her to have another child, her parents-in-law say that they must have a boy. Everyone in the village advises her to have a third child! Maybe it will be a boy, they say, don't worry, your family finances are good enough [to pay the fine].'

Other women explained that if a third child was the outcome of an 'accidental pregnancy' due to IUD expulsion or contraceptive failure, i.e. beyond the control of the couple, the family would be less criticised by the authorities than if they had deliberately broken the policy. Moreover, the fine might be lower than in the case of an intended pregnancy.

Most telling of all was the following incident, noted by one of our interviewers in the 1992 study quoted above:

'At first when we went to their homes they thought we were family planning workers and they said: "No, no, we already have IUDs". Then they admitted to us that they had removed them secretly.'

In short, some women may have blamed the removal or absence of their IUD on 'expulsion', having learned that this was a socially or politically acceptable reason for pregnancy. It is noteworthy in this regard that the total 36 month discontinuation rates do not vary much by year of insertion; the higher rates of expulsions for more recent insertions were offset by lower rates of planned pregnancies. This could reflect the transfer in reasons given by women for IUD removals from one has become a more

acceptable and the other a less acceptable reason to discontinue use. The reported increase in IUD removals due to health problems in 1990-93 might be explained in the same way.

Other studies in Asia have shown the effect of gender preferences (usually the strong impact of son preference) on contraceptive use and the 'risk' of having another child. [27], [28] In a recent study of the demographic effect of son preference in Vietnam, [29] based on national survey data, it was shown that women with three children were most likely to have another child if they did not have any sons, somewhat likely if they did not have a daughter, and least likely if they already had one child of each sex. In a cross-sectional survey in Tien Hai district in 1992, we also demonstrated that women without sons were significantly more likely to have a third child than women with at least one son. [30]

Women act in response to a multitude of competing demands and attempts to control their fertility: from their husbands and the wider kin group, and from local authorities and higher policy levels. The fact that some women are forced to 'cheat', as it were, indicates that the pressure on them to produce male progeny remains very strong. Ironically, the responsibility for keeping within the two-child limit also falls on women; the very high dependence in Vietnam on female methods of fertility regulation speaks for itself.

Navigating their way through sometimes-incompatible demands and expectations, women's ingenuity finds a variety of expressions. It is a common Vietnamese saying that women wish to have both a son and a daughter - *co nep, co te* (both ordinary rice and sticky rice). [31] In trying to balance their own wishes, the interests of their closest kin and those of the larger society, women use the IUD in more than one sense.

Conclusions

The aim of this study was to test whether women's strategies for dealing with conflicting demands on their fertility were manifested in IUD discontinuation patterns. This proved to be the case. Few other studies have made a gender analysis of IUD discontinuation patterns, apart from a study in China [32] which showed, in concordance with our own results, that in the context of a one-child policy, the highest rate of IUD expulsion was among women whose first child was a girl.

Safe, effective contraception is important not only for women's reproductive health and to prevent unwanted pregnancy, but also for a balanced population growth. [33] It is therefore vital to understand other influences on 'effectiveness of use' in addition to 'method failure and human error'. [18] It has been argued that measurements of method effectiveness inadequately reflect women's problems with contraceptive use in real life conditions and that even the broader use-effectiveness is too limited, if relevant socio-political and cultural factor are not also taken into account. [34]

The finding that women without song were more likely to report IUD expulsion and contraceptive failure than other women helps to clarify, at least to some extent, the Vietnamese 'demographic puzzle'. In our view, as long as woman are trapped in the dilemmas of conflicting and incompatible demands on their reproductive behaviour, their actions are likely to confound the statistics. We have demonstrated that, in a sociocultural context of explicit gender preferences, combined with stringent demographic targets, a gender analysis of IUD use helps to explain measurements of effectiveness, and offers insights into the complexities and contradictions of women's reproductive lives and the legitimacy of their strategies for dealing with these.

Acknowledgements

Thanks to the women and others in Kien Xuong who spent time with us and shared their experiences; Le Quang Hoanh, director of Thai Binh Medical College, Trin Huu Vach and other colleagues at the Medical College and other institutions in Thai Binh who participated in the survey; and Le Thi Nham Tuyet, at the Centre on Gender, Family and Environment in Development, Hanoi, Kajsa Sundstrom and Kristina Holmgren, Sweden for advice and support. The baseline survey on, which this study is based was financed by the Swedish International Development Authority, Stockholm.

References and notes

1. Levels and trends of contraceptive use as assessed in 1988. Population Studies. 110, United Nations, New York, 1989.
2. IUDs - an update. Population Reports. Series B, Number 6, December 1995.

3. Jain A, Bruce J, 1994. A reproductive health approach to the objectives and assessment of family planning programs. In: Sen G, Germain A, Chen L (eds). Population Policies Reconsidered, Harvard University Press, Cambridge MA.
4. A variety of ring-shaped plastic IUDs were used in north Vietnam -in the 1960s the Japanese OTA, and in the 1970s and 80s the 'Dana' from Czechoslovakia and the Vietnamese 'Happiness'. They were replaced in the late 1980s by the copper-bearing IUDs (TCu 200, 220 and 250) and in the 1990s by the TCu 380A. (We do not have information about the types of IUD used in south Vietnam.)
5. Goodkind DM, 1995. Vietnam's one or two-child- policy in action. Population and Development Review. 21:85-111.
6. Vietnam Intercensal Demographic Survey 1994. Major findings. Statistical Publishing House, Hanoi, May 1995.
7. Goodkind D, 1994. Abortion in Vietnam: measurements, puzzles and concerns. Studies in Family Planning. 25:342-52.
8. Henshaw SK, 1990. Induced abortion: a world review. Family Planning Perspectives. 22:76-89.
9. Nguyen van Phai, Knodel J, Mai van Cam, Hoang Xuyen, 1996. Fertility and family planning in Vietnam. Evidence from the 1994 Intercensal Survey. Studies in Family Planning. 2(1):1-17.
10. Contraceptive effectiveness is the percentage by which the monthly probability of conception is reduced through the use of contraception. Method effectiveness, or efficacy, refers to a method's performance under ideal, usually clinical conditions, while use effectiveness refers to the protection offered by the method under field conditions: 'allowing for human error as well as method failure' (from [18] below). A contraceptive failure is defined as a pregnancy that begins in a month when contraception is being used.
11. Farr G, Amataya R, 1994. Contraceptive efficiency of the Copper T 380A and Copper T 200 intrauterine device: Results from a comparative clinical trial in six developing countries. Contraception. 49:231-43.

12. Leong Wai Ping, Nguyen Thi My Huong, Duong Thi Cuong et al, 1994. A prospective study of TCU 380A IUD in Vietnamese women. Institute for the Protection of Mothers and Newborns, Hanoi, 1994.
13. Pham Van Bich, 1997. The changes of the Vietnamese family in the Red River Delta. Monograph, Department of Sociology, Gothenburg University, Sweden.
14. Vuong Xoan Tinh, 1993. The need for sons; problems and solutions. Vietnam Social Science Review. 39(1):25-28.
15. Johansson A, Le Thi Nham Tuyet, Nguyen The Lap et al. 1996. Abortion in context: women's experiences in two villages in Thai Binh Province, Vietnam. Family Planning Perspectives. 22(3):103-07.
16. Johansson A, Hoang Thi Hoa, Le Thi Nham Tuyet et al. 1996. Family planning in Vietnam - women's experiences and dilemma: a community study from the Red River Delta. Journal of Psychosomatic Obstetrics & Gynecology. 17:59-67.
17. Another paper based on the same survey is: Johansson A, Hoang Thi Hoa, Nguyen The Lap et al. 1996. Population policies and reproductive patterns in Vietnam. Lancet. 347:1529-32.
18. Measuring the Dynamics of Contraceptive Use. Proceedings of the United Nations Expert Group Meeting on Measuring the Dynamics of Contraceptive Use. United Nations, New York, 1991. A comparison between data collected with the core Demographic and Health Survey questionnaire and a retrospective pregnancy history calendar, like the one used in this study, indicated that the calendar method led to reasonably accurate and complete reporting of previous contraceptive use, even going back 10-15 years.
19. During the period 1980-84, IUDs used in Vietnam were mainly the plastic devices 'Dana' and 'Happiness'. The TCU200 and TCU220 were introduced in Thai Binh in 1987 and replaced in the early 1990s by the TCU 380A. The two-child policy began to be promoted in 1980-85, but without financial or other disincentives. The period 1985-89 was characterised by increasingly strict enforcement of a two-child norm, using incentives and fines. This policy was further reinforced in the early 1990s through even

higher fines for those who exceeded two children (see [5] for details of fines in two Thai Binh communes). Thus, from 1980 to 1993, there has been a change towards both better quality IUDs and increasing political pressure to comply with the two-child policy.

20. Of the 842 women who were using an IUD during the study period, 58 per cent said they were using a copper IUD, 5 per cent the plastic 'Dana'; over one-third were not sure which IUD they were using. Although the majority were likely to be using a copper IUD, the proportion who were not sure was too large to draw conclusions about differences in side effects reported for different IUDs.

21. Anderson BA, 1994. The validity of survey responses to abortion: evidence from Estonia. *Demography*. 24:115-32.

22. Moreno L, Goldman N. 1991. Contraceptive failure rates in developing countries: evidence from the Demographic and Health Survey. *International Family Planning Perspectives*. 17(2):44-49.

23. Do Trong Hieu, Hoang Thi Van, Donaldson PJ et al. 1995. The pattern of IUD use in Vietnam. *International Family Planning Perspectives*. 21(1):6-10.

24. See for example Trussell J, Kost K, 1987. Contraceptive failure in the United States: a critical review of the literature. *Studies in Family Planning*. 18(5):237-83. The exclusion criteria used for clinical trials of IUDs (e.g. menstrual disorders, anaemia and reproductive tract infections), make it impossible to extrapolate the results to the 'typical user', i.e. to the estimated 45 per cent of non-pregnant women in developing countries who by the WHO definition are anaemic (quoted in [2]).

25. Gammeltoft T, 1996. Women's bodies, women's worries: health and family planning in a Vietnamese rural commune. PhD Thesis, Institute of Anthropology, University of Copenhagen, Denmark.

26. Uhrig J. 1995. Survey on reproductive tract infections in Vietnamese rural women. Summary of major findings Hanoi, April. (Unpublished).

27. de Silva WI, 1993. Influence of son reference on the contraceptive use and fertility of Sri Lankan women. *Journal of Biosocial Science*. 25:319-31.

28. Rajaretnam T, Deshpande RV, 1994. The effect of sex preference on contraceptive use and fertility in rural South India. *International Family Planning Perspectives*. 20(3):88-95.
29. Haughton J, Haughton D, 1995. Son preference in Vietnam. *Studies in Family Planning*. 26(6):325-37.
30. Hoang Thi Hoa, N V Toan, Johansson A et al, 1966. Child spacing and two child policy in practice in rural Vietnam: cross sectional survey. *BMJ*. 313:113-16.
31. Hoang Thi Hoa, 1996. Family planning and reproductive patterns in rural Vietnam. A study during a period of rapid socio-economic transition. Medical licenciate thesis, Karolinska Institutet, University of Umea, Sweden.
32. Tu Ping, 1995. IUD discontinuation patterns and correlates in four counties in North China. *Studies in Family Planning*. 26(3):169-79.
33. Bongaarts J, Rodriques G, 1995. A new method for estimating contraceptive failure rates. (In [2] above)
34. See for example:
- Nichter M, Nichter M, 1989. Modern methods of fertility regulation: when and for whom are they appropriate? *Anthropology and International Health*. Klumer, Netherlands;
- Hardon AP, 1992. The needs of women versus the interest of family planning personnel, policymakers and researchers: conflicting views on safety and acceptability of contraceptives. *Social Science and Medicine*. 35(6):753-66;
- Ravindran S, Berer M, 1994. Contraceptive safety and effectiveness: a re-evaluation of women's needs and professional criteria. *Reproductive Health Matters*. 3:6-11.