Son Preference and Induced Abortion in Rural China:
Findings from the 2001 National Reproductive Health Survey

(Draft)

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ABSTRACT

Using data from the 2001 National Family Planning/Reproductive Health Survey, this paper applies multi-factor logistic regression analysis to examine the effect of son preference on induced abortion of married women in rural China. We show that son preference and sex-selective abortion have existed for a long time in rural China, and have become more prevalent under the national population policy. After implementation of the population policy, the risk of induced abortion to end the next pregnancy for women with two children is significantly higher for those whose first birth is a girl. In order to eliminate sex-selective abortion entirely, a key objective should be to weaken son preference.

Key words: son preference, induced abortion, sex-selective abortion, sex ratio at birth, rural China

China's fertility rate has declined rapidly along with the implementation of the governmental population policy, with the TFR dropping from 5.7 in 1970 to 2.3 in 1999 (Zhang, 1998). In populations with strong son preference, a major drop in fertility is often followed by a rise in the sex ratio at birth, or SRB (Zeng et al., 1993; Park and Cho, 1995). Abnormally high SRB has been seen at the higher parities, especially when the prior births were daughters (Poston et al, 1997). Some researches have claimed that son preference that is embedded in Chinese traditional culture is the basic reason for the high SRB (Zeng et al.,1993; Gu and Roy,1995; Li et al.,1997). Sex-selective abortion is the most direct consequence of sex preference. Abortion is applied not only to control family size but also to produce the desired sex configuration of children (Zeng et al,1993; Park and Cho,1995). The increase of SRB with parity is mainly a result of sex-selective abortion (Zeng et al,1993), which is expected to be more common in families with only daughters (Park and Cho,1995). The widespread availability of modern technology for prenatal sex determination in rural areas has led some scholars to claim that sex-selective abortion is one of the most important factors causing the rise of SRB (Zeng et al, 1993; Tu, 1993; Li , 1993; Gu and Xu, 1994). This paper explores the relationship between son preference and induced abortion, especially sex-selective abortion.

BACKGROUND

Induced abortion was legalized in China in 1956 but was not common before the 1970s. It has been estimated that between 1971 and 1979 the number of induced abortions was less than 5.4 million each year after which it increased rapidly, reaching a

peak value of 14 million in 1983, and declining to 8.9 million in 1984 and 11.6 million in

1986 (Hardee-Cleveland and Banister, 1988). In the 1990s, the ratio of induced abortions

again increased gradually from 30.18 percent in 1990 to 41.31 percent in 1995, and then

decreased again. In this period the number of induced abortions was usually around 7

million but surpassed 8 million in 1993 and 1995 (Qiao and Suchindran, 2001).

Following the 1994 International Conference on Population and Development in Cairo

and the 1995 Fourth World Conference on Women in Beijing, the Chinese government

began to experiment with informed choice of contraceptive use, and the number of

induced abortions dropped after the 1990s. However, as a result of its huge population

size, the annual number of induced abortions in China continues to be very high.

There are many factors influencing the prevalence of induced abortion. Studies on

induced abortion in China generally focus on the following. First, the prevalence has a

close temporal relationship with the birth control policy. In 1973, China launched a

family planning campaign with the slogan "later, longer, and fewer". The "one-child

policy" was adopted in 1979, but couples in rural areas have been allowed to have a

second child since 1984 under conditions specific to each province (Attané, 2002). The

government would prefer that the objective of the family planning should be met mainly

by contraception rather than abortion, and the latter represents a last resort when the

former fails (Susan, 1996). Nevertheless, abortion still has a significant influence on

controlling population growth. The total estimated number of abortions in China was 200

million in the 1970s and the 1980s, equivalent to 80 million births averted (Zeng, 1991).

To achieve their population target, some local governments use abortion as an essential instrument of birth control. Violation of the family planning policy and failure of contraception became the main reasons for abortion, and the number of induced abortions has increased dramatically since the implementation of the population policy in 1979 (Susan, 1996). It has been demonstrated that the main reason for abortion in rural areas is a pregnancy outside the family planning policy (Tu and Smith, 1995; Qiao, 2002). The stricter the birth policy in a district, the higher the risk of induced abortion in that district (Huang and Yu, 2000). Tu and Smith (1995) found that the probability of abortion is significantly lower if the first child is a girl, the time since the previous birth is long, or the mother is 28 years old and above. Second, at the individual level, women at their peak reproductive age, well educated women, women in urban areas, as well as women of the Han Nationality are more likely to carry out induced abortion (Kang, 1991; Zheng, 2000). Third, at the aggregate level, induced abortion is more likely to occur in areas having a developed economy, a high level of urbanization and good hygienic conditions (Huang and Yu, 2000). Finally, son preference in Chinese traditional culture has an influence on induced abortion. The norm of "rearing a son for old age" has been central for a long time in the rural areas, and probably reflects the origin of son preference. Under the birth control policy, the reproductive objective of Chinese farmers has been transformed from "more children, more happiness" to guaranteeing sons; thus there is strong son preference under limited fertility. When the desired number and sex of children cannot be achieved simultaneously, an ideal sex configuration of children can be realized at smaller

psychological cost when prenatal sex determination is available (Gu and Roy, 1995). Sex-selective abortion, a form of parental discrimination against young daughters, is not only a result of enduring tradition or low fertility, but is exacerbated by the one-child policy (Greenhalgh and Li, 1995; Johnson, 1996). As a manifestation of Confucian culture , prenatal sex selection has been practiced not only in China, but also in Korea, Taiwan and other area, where political systems and population policies are significantly different. This suggests that motivation for sex discrimination is indeed cultural (Coale and Banister, 1994; Gu and Roy, 1995; Goodkind, 1996).

Quantitative analyses of the impact of son preference on induced abortion, especially sex-selective abortion are rarely seen. In the relevant studies, the viewpoints diverge greatly. Some scholars have pointed out that the rate of induced abortion is lower for women without a son than for those having at least one son (Tu and Smith,1995; Qiao and Suchindran, 2001; Chen, 2002; Qiao, 2002). But it has also been claimed that sex-selective abortion is most likely to occur when the previous child or children are girl(s) and the current fetus is female (Chu, 2001). In summary, existing studies cannot explain the prevalence of abortion at the national level either because of the small scale of the surveys or lack of convincing quantitative analysis at the national level. In an attempt to rectify these deficiencies, this paper uses the national data to analyze the influence of the sex of prior children on induced abortion. We investigate the extent and temporal characteristics of sex-selective abortion in rural China, and make policy suggestions that might reduce son preference and sex-selective abortion in rural areas.

STUDY DESIGN

Hypotheses

From the above review of past studies we make the following testable hypotheses: 1) The risk of abortion is significant higher for women having a girl than for those having a boy. Because of widespread son preference in rural areas, women whose first child is girl are more likely to carry out a sex-selective abortion to ensure the next child is a boy and comply with the birth policy. 2) The risk of induced abortion increased greatly after the implementation of national birth control policy. Moreover, since local governments place limitations on women's age at their second birth and birth spacing between first and second births, the risk of induced abortion for older women with longer birth spacing is more likely to be lower. 3) The risk of induced abortion for well-educated women is higher. 4) Decisions on induced abortion are also determined by community factors, with risk of induced abortion higher in communities with developed economies, higher urbanization and convenient medical care.

Data

The data used in this paper come from National Family Planning and Reproductive Health Sample Survey of 2001. The survey targeted childbearing women aged from 15 to 49 years old and the total sample size is 39,586. The data we analyze come from two questionnaires in the third stage of the survey, including partial economic and facility information from the village-level community questionnaire, as well as pregnancy and birth information from the household questionnaire. The survey is matched to the

National Population and Reproductive Health Survey in 1997. However, there were some changes in the content of the questionnaires, especially the community questionnaire and household questionnaire from which key information used in this paper is derived and this has led us to abandon the data from the 1997 survey.

Comparing data from the 2001 survey with those in the Chinese Health Yearbook of the corresponding year suggests that induced abortion is underreported in this survey. However, our aim here is not to estimate the number of induced abortions, but to analyze the relationship between son preference and sex-selective abortion. Therefore, this underreporting is unlikely to greatly influence our analysis and it is feasible to complete the study with chosen data.

Methodology

Thought and focus of studies

Our focus is on son preference and induced abortion, but it is impossible to ignore the influence of government policy. Before the birth policy was implemented, even women with strong son preference seldom carried out induced abortion. Under the present birth policy, if son preference is weak the risk of induced abortion by rural Han women with a boy is higher. If the influence of son preference is added, the risk of induced abortion for these women may be high, which is consistent with the results of some scholars (Tu and Smith, 1995; Qiao and Suchindran, 2001; Qiao, 2002; Chen, 2002). In this context, it is difficult to estimate the prevalence of sex-selective abortion. However, if the risk of induced abortion is significantly lower for these women than for

those with a girl, it can be inferred that sex-selective abortion exists.

These considerations led us to include different stages of birth policy implementation. We first use single variable analysis to compare the proportion of induced abortions and SRB of Han nationality rural women, and then explore synchronization of these as they change over time. If they are synchronized, we further compare SRB with the proportion of induced abortions by parity and sex composition of previous children for these women through a cross table to examine whether the two changes are highly consistent. If there is consistency between the two changes, sex-selective abortion is inferred to occur. Finally, using a multivariate logistic model, we analyze the influence of first child's sex on induced abortion in the Han nationality rural women who have two children, after controlling for population policy, as well as individual and community variables.

We focus on Han nationality rural women, especially those who have two children. There are two reasons for this. 1) Birth policy has a significant influence on induced abortion, and there are substantial regional and ethnic differences in policy implementation. First, in urban areas, a strict one-child policy is widely implemented, while in rural areas couples are allowed to have two children under some circumstances. Next, because birth policies for ethnic minority women are relatively relaxed, and it would be rare for them to use induced abortion as a remedial strategy. The strict one-child policy for urban women and the more relaxed birth policy for ethnic minority women suggest that son preference will be difficult to detect from induced abortion in these two groups. Therefore, we exclude these two groups in our analysis of the influence of son

preference on induced abortion before and after the implementation of the birth policy, and focus on son preference behaviors of Han nationality rural women. 2) Rural couples in about two-thirds of all provinces in China are allowed to have a second child if the first child is a girl. In other provinces, all rural couples are allowed to have two children regardless of the sex of the first child (Peng, 1996). It is common for rural couples to have two children, while three children or more is forbidden. In rural China, married women without a child rarely undergo abortion, and the proportion of pregnancies for women with two or more children is very low because they are ordinarily persuaded to adopt permanent contraception (Attané, 2002). Therefore, we focus on Han nationality rural women with two children. Our analysis of the determinants of induced abortion focuses on 11,253 pregnancies after the first child of those women for whom the complete information needed for the multivariate logistic analysis is available. This accounts for 70 percent of the total pregnancies of women with two children and above.

Variables

Dependent variable

The regression analysis focuses on Han nationality rural women with two children, and the total sample includes all the pregnancies between first and second children. Thus, the dependent variable is whether the women carry out an induced abortion for each pregnancy after the first birth.

Independent variables

Sex of prior child is the independent variable in this study. Sex of prior child is

expected to have a decisive influence on induced abortion. In a population with strong

son preference, women whose first child is a girl have a higher risk of sex-selective

abortion.

Control variables

Control variables include policy, individual and community variables. There are

several components to policy variables, <u>year of child born</u> represents the different stages

of birth policy implementation. Before 1979, the government advocated "later, longer,

and fewer" as its birth policy and fertility declined rapidly; in 1980-89, the current birth

policy was implemented and the fertility fluctuated around a low level; after the 1990s,

the current birth policy was stabilized and fertility has fluctuated around replacement

level. <u>Women's age at pregnancy</u>. Following Tu and Smith (1995), we divide women's

age into two categories, younger than 28, and 28 or older. <u>Interval between first birth and</u>

<u>current pregnancy</u>. Different intervals are used by different local governments; 3 to 4

years, 5 to 6 years or more in general. Following Tu and Smith (1995), we divide this

interval into three categories, namely less than 3 years, 3 to 4 years and more than 4

years.

Individual variables include <u>women's education</u>. It might be expected that the higher

the level of a woman's education, the more she is likely to be aware of and agree to

procedures that terminate an unwanted pregnancy by induced abortion. As a result, she is

more likely to have a higher risk of abortion.

Individual decision-making about induced abortion should be affected by

community factors. Existing research on the influence of community on abortion has considered only two aspects, namely average per capita income and location of residential district (Chen, 2002; Qiao, 2002). However, community culture, transportation and urbanization might also affect induced abortion. Following suggestions by Zhang (2000), we have chosen the following variables. Per capita income. Income of a village reflects the development level of the community economy. Residents of a community with a higher level of income are more likely to undergo induced abortion because they are more likely to obtain various medical services.

Elementary school. Whether the village has an elementary school reflects the maturity of the community facilities. A community with an elementary school is generally large and more modernized, and its residents are more likely to have medical care awareness. Thus, the risk of induced abortion is higher. Rural doctor. Whether the village has rural doctors reflects how convenient it is for women to obtain medical services. The risk of induced abortion for women in the community with rural doctors is likely to be higher. Distance from township also indicates how convenient it is for women to obtain medical care and how modern the community is likely to be. The shorter the distance from a township, the easier it is for women to obtain family planning services and the higher the risk of induced abortion. Location of residential district is divided into eastern, middle and western parts of the country. These represent three different degrees of economic development. The risk of induced abortion is expected to vary across regions.

RESULTS

Table 1 shows the proportion of induced abortions and SRB of children ever born to Han rural women with different demographic and the community characteristics. The proportion of abortions is very low and the SRB is normal before 1979, but these increased greatly after the implementation of the current birth policy. The proportion of induced abortions and SRB are high in the 30-35 age group. The more women are educated, the higher their risk of induced abortion and the higher the SRB. The change in the proportion of induced abortions and SRB is consistent for community income, elementary school and distance from township, but the inconsistent variables are rural doctor and residential district. Table 1 indicates that the trend in the proportion of induced abortions and SRB are basically consistent for most population and community characteristics, namely the higher the proportion of induced abortion, the higher the SRB. This suggests that sex-selective abortion is a plausible cause for the rise of SRB.

Table 1 here

Table 2 reveals four characteristics of SRB. First, SRB of the first three children is quite normal before 1979 but SRB at each parity increases greatly after implementation of the birth policy. Next, SRB at first parity is normal in each period of time and increases with parity. Moreover, SRB is abnormally high when the previous children are girls. Finally, SRB of the last child far exceeded the normal level. These characteristics reflect that son preference has existed in rural China for a long time, and the availability and accessibility of B ultrasound and high quality medical equipment in rural area have led to the popularity of sex-selective abortion.

Table 3 demonstrates two characteristics of induced abortion. First, the proportion of induced abortion greatly increases along with the birth policy implementation. Next, sex of previous children greatly affects induced abortion. Rural women rarely carry out the induced abortion before they have their first child. But the proportion of induced abortion between first and second children is very high, and that for women with a daughter is the highest. In each period of time, the proportion of induced abortion is obviously higher for women with a daughter.

<center>Tables 2 and 3 here</center>

In order to further explore the relationship between sex-selective abortion and SRB, we contrast the results of Tables 2 and 3. The results of the two tables are highly consistent in the changes of corresponding items. Across the different stages of birth policy implementation, the proportion of induced abortion and SRB increases simultaneously. SRB increases along with parity and especially when the sex of the previous child is female. The proportion of induced abortions increases after the first birth and is highest when the first child is a girl. The proportion of abortions obviously drops after two children because rural women have generally adopted permanent contraception measure after two children. In rural areas with strong son preference, sex of the previous child has a profound influence on induced abortion. Women with a daughter tend to have a higher proportion of sex-selective abortions thus guaranteeing a son at the current pregnancy.

Logistic analysis

To further analyze the changes in abortion risk for women with daughters before and after implementation of the birth policy, Table 4 provides the results of a regression analysis for risk of abortion after the first birth. Model 1 analyzes the risk of all women with two children, while models 2 to 4 analyze their risks in the three policy periods, respectively.

Table 4 here

First, as for sex of previous child, the risk of induced abortion for women with a daughter is significantly higher than those with a son. There is no obvious difference between these two groups of women before 1979, but the difference became pronounced in the 1980s and the 1990s, indicating that implementation of the birth control policy has intensified son preference and increased the rates of sex-selective abortion. The influence of year of child born is strong, with the risk of induced abortion for women who gave birth in the 1980s and the 1990s being higher than for those who gave birth before 1979, again reflecting that implementation of the birth control policy greatly increased the rate of induced abortion. The influence of woman's age at pregnancy is also strong. The risk of aborted pregnancy for women 28 years old or above is significant lower than for those below 28. The risk of aborted pregnancy for women whose interval from first birth is 3 years and 4 years or more is significantly lower than for those with an interval below 3 years, in all the three periods. Again, this indicates that the birth policy has a tremendous influence on induced abortion. Women's education has a significant influence on abortion

with better-educated women having a higher risk of induced abortion after 1979. Women with more education are more likely to employ various kinds of short-term contraceptive measures, which may inadvertently lead to unwanted pregnancies and consequently a higher abortion risk.

DISCUSSION

Our original hypotheses are supported by the statistical findings. Sex of previous children has a significant influence on the outcome of pregnancy. Birth control policy, individual and community factors all have a strong influence on the rate of induced abortion among Han rural women. Our study has produced the following findings. After the implementation of the birth control policy, for Han rural women with two children the risk of induced abortion for women whose first child was a daughter is significantly higher than for those with a son. The data of 1997 and 2001 are comparable. From the 1997 data, it was concluded that the induced abortion rate for women with only daughters was much lower than for those with at least one son, with the suggestion that this was due to expectation of a son decreasing the induced abortion rate (Qiao and Suchindran, 2001; Qiao, 2002; Chen, 2002). However, these women cannot know that the next fetus is male and this is not a satisfactory explanation of the influence of son preference on induced abortion. Tu and Smith (1995) used survey data of four counties in North China and also concluded that the probability of a pregnancy's being terminated by abortion is significantly lower for women whose first child is a daughter.

The reason that our conclusions differ from those of previous reports lies in the

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different samples and population analyzed. Previous scholars used samples from the 1997

data which included urban and rural women and both Han and minority women.

Differences exist between urban and rural areas, and between Han and minority areas in

the implementation of the birth policy. Compared with Han areas, minority areas have a

more relaxed birth control policy. A pregnancy after one child is generally carried to term,

whereas a pregnancy after one child in the urban areas is generally aborted. The reasons

for rural women to carry out induced abortion vary greatly, such as not complying with

the birth control policy, contraceptive failure, sex-selective abortion and so on. Pooling

urban and rural women, Han and minority women in order to analyze the influence of son

preference on induced abortion may remove any statistical signal due to the tremendous

variety of reasons for abortion as well as social and individual variations. Tu and Smith

(1995) analyzed women with one child and above, and their samples included

pregnancies for those women 5 years after their first birth. For women with one child,

pregnancies after their first birth definitely are all aborted *(?????)*, but for women with

three children and more, a pregnancy 5 years after their first birth is more likely to be

carried to term. Therefore, it seems inappropriate to combine women with one child and

two children or more together to analyze the influence of son preference on abortion.

Thus we have removed some bias by taking Han rural women as our sampled population

and examined pregnancies between first and second births.

Under the current birth policy, if son preference did not exist, the risk of an aborted

pregnancy for women with a daughter should be lower than that for those with a son. A

pregnancy by women with a son violates the policy and should be aborted. However, our results indicate that the risk of induced abortion for women with a daughter is not lower, but is actually significantly higher than for those with a son. This is a strong argument for son preference and its relation to sex-selective abortion. Han rural women with two children whose first birth was a daughter face the dilemma of fulfilling their desire for a son or violating the birth control policy. Sex-selective abortion becomes a method to solve this problem and the data verify that this preference behavior occurs.

Sex-selective abortion not only causes serious harm to women's reproductive health, but also causes an unbalanced SRB and a future squeeze on the marriage market (Tuljiapurkar et al., 1995; Das Gupta and Li, 1999), which will initiate a series of social problems. In order to reduce the frequency of sex-selective abortion, the following measures may be taken. First, an effective family planning network with cooperation of health departments in rural areas can strengthen the management of ultrasound B to prohibit sex-selective abortion. Second, establishment of security for the elderly in rural areas can be explored. Family support for the elderly is still the main source of old-age security in rural China and a national policy of old-age security would mitigate against the extra worries of "rearing children for old age" and reduce son preference. However, to eliminate sex-selective abortion entirely, weakening son preference is the most important cultural challenge. Establishing and disseminating a new childbearing culture through community development could gradually change the traditional son preference. If the motivation behind son preference did not exist, the behavior of sex-selective abortion

would vanish.

Our findings have some limitations. Direct information on sex-selective abortion does not exist in the questionnaire, and this produces some weakening of the statistical conditions. If the questionnaire contained relevant information, such as the month of pregnancy termination, whether ultrasound B was used and reasons for each induced abortion our analysis would be more definitive. Further study might compare the 2001 data and 1997 data to explore further trends in induced abortion and changes in causes of sex-selective abortion at the national level.

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Table 1 Proportion of induced abortions and SRB of Han rural women

Characteristics	Induced abortion proportion			SRB	
	pregnancies	abortion number	Proportion (%)	Live birth	SRB
Year first child born: 1979-	10527	325	3.1	5796	105.5
1980-89	31566	2812	8.9	19529	110.8
1990[+]	25543	3931	15.4	16379	126.9
Age: 15-24	1324	177	13.4	1136	112.3
25-29	5735	874	15.2	4610	123.2
30-34	10662	1768	16.6	8486	123.7
35-39	12481	1799	14.4	10356	116.2
40-44	8849	1135	12.8	7409	109.8
45-49	11377	1304	11.5	9725	111.6
Education: Illiterate	14101	1383	9.8	12280	116.5
Primary high school	19432	2762	14.2	15993	116.4
Junior high school	14557	2484	17.1	11584	114.2
Senior high school[+]	2338	428	18.3	1847	120.0
Income per capita: 1000[−]	7861	708	9.0	6895	114.9
1000-2000	18786	2288	12.2	15837	117.0
2000-3000	13764	1941	14.1	11394	115.4
3000[+]	10017	2120	21.2	7578	116.0
Elementary school: No	9376	2059	22.0	7033	119.4
Yes	41052	4998	12.2	34671	115.4
Rural doctor: No	3018	370	12.3	2552	124.5
Yes	47410	6687	14.1	39152	115.5
Distance from township: ≤5	38456	5583	14.5	31626	116.6
>5	11972	1474	12.3	10078	114.2
Residential district: Eastern	19478	3220	16.5	15730	115.6
Central	18467	1836	9.9	15907	117.3
Western	12483	2001	16.0	10067	114.8

Source: National Family Planning and Reproductive Health Sample Survey in 2001

Table 2 SRB by parity and sex composition of previous children of Han rural women

Year	P-1	P-2	m2	f2	P-3	mm3	mf3	fm3	ff3	P-last
1979$^-$	104.9	107.4	113.8	101.4	108.1	75.4*	118.8*	94.8	140.0	175.7
Sample	3421	1755	881	874	512	114	105	113	180	1180
1980-89	105.1	111.8	99.8	124.4	121.1	87.8	113.2	96.9	171.9	184.8
Sample	9228	6779	3277	3502	2622	524	548	571	979	8159
1990$^+$	105.1	155.7	110.9	195.4	171.9	72.3	123.7	161.2	298.2	165.7
Sample	8873	5396	2088	3308	1490	255	255	303	677	12183
Total	105.0	126.3	105.3	146.7	133.5	81.5	116.7	112.7	203.5	173.2
Sample	21522	13930	6246	7684	4624	893	908	987	1836	21522

Source: National Family Planning and Reproductive Health Sample Survey in 2001
labels: year=year of children born; p-1=parity 1; p-2=parity 2; p-3=parity 3; p-last=parity
    last; m2=parity 2-male1st birth; f2= parity 2-female1st birth; mm3= parity
    3-male1st two birth; mf3= parity 3-male and female1st two birth; fm3= parity
    3-female and male1st two birth;ff3= parity 3-female1st two birth.
* denotes cases where the numerator and/or denominator are less than 50.

Table 3 Proportion of pregnancies aborted by parity and sex composition of previous children of Han rural women (%)

Year	p-0	p-1	m	f	p-2	mm	mf	fm	ff	p-last second
1979^{-}	0.9	7.5	7.5	7.5	6.5	7.4	6.9	3.7	7.4	9.3
Pregnancies	3665	3609	1779	1830	1235	285	261	268	421	3817
1980-89	1.4	11.8	10.8	12.7	5.5	6.7	4.7	6.6	4.8	9.8
Pregnancies	9766	8859	4038	4821	3014	549	601	636	1228	13746
1990^{+}	3.6	14.0	12.7	14.7	4.1	2.9	1.7	5.2	4.7	8.2
Pregnancies	9518	3773	1348	2425	788	136	116	173	363	11279
Total	2.2	11.4	10.3	12.2	5.5	6.4	4.9	5.7	5.3	9.1
Pregnancies	22949	16241	7165	9076	5037	970	978	1077	2012	28842

Source: National Family Planning and Reproductive Health Sample Survey in 2001
Labels: p-0=first pregnancy; p-second last=parity of second last. Other labels are the same as Table 2.

Table 4 Odds ratio of pregnancies aborted after first birth of Han rural women, CEB=2

Variables	Ceb=2 (model 1)	1979 (model 2)	1980-89 (model 3)	1990$^+$ (model 4)
Sex of first child: m				
f	1.367***	1.115	1.336***	1.553***
Policy variables				
Year of child born: 1979$^-$				
1980-89	1.329**			
1990$^+$	1.557***			
Age at pregnancy: <28				
28+	0.694***	1.266	0.616***	0.641**
Interval: 1-2 yr				
3	0.611***	0.497**	0.653***	0.585**
4$^+$	0.320***	0.314***	0.363***	0.254***
Education: Illiterate				
Primary high school	1.405***	1.523*	1.342**	1.445*
Junior high school	1.446***	1.758*	1.430**	1.434*
Senior high school$^+$	1.824***	1.972	1.558**	2.966***
Community variables				
Income per capita: 1000$^-$				
1000－2000	1.390**	1.015	1.478**	1.286
2000－3000	1.480***	1.081	1.608**	1.396$^+$
3000$^+$	1.905***	1.711+	2.243***	1.349
Elementary school: No				
Yes	0.517***	0.454+	0.495***	0.655**
Rural doctor: No				
Yes	1.686***	1.955*	1.625***	1.678*
Distance from township: ≤5				
>5	1.095	0.799	1.130	1.204
Residential district: Eastern				
Central	0.691***	0.779	0.551***	0.909
Western	1.103	1.754*	1.145	0.847
Constant	0.096***	0.101***	0.137***	0.127***
-2LL	8766***	1263***	4810***	2615***
Sample	11253	1832	6111	3310

Source: National Family Planning and Reproductive Health Sample Survey in 2001
***P<0.001, **P<0.01, *P<0.05, +P<0.10
Labels: Interval =interval between first child and current pregnancy. The variables are all dummy variables; the average mean of each variable equals 1. The omission kind of each variable: Sex of first birth，boy; Year of first child, before 1979; Woman age at pregnancy, <28; Interval, 1-2 yea; Education, illiterate; Income per capita, <1000; Elementary school, no; Rural doctor; no; Distance from township; ≤5 kilometers; Residential district; eastern. CEB=children ever born