

Abortion and Contraception in the Korean Fertility Transition*

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INTRODUCTION

Low fertility and only a small amount of unwanted childbearing have been shown to follow the widespread use of both modern contraception and abortion.¹ Changes in the use of contraception and abortion are especially important in countries experiencing major declines in fertility. However, accurate information on abortion is generally not available for countries undergoing major changes in fertility. Korea is an almost unique case in that a large amount of survey data of high quality exists relating to recent changes in fertility, contraceptive use and abortion.

Abortion and contraception have an important impact on the tempo of childbearing and, thus, on overall fertility and the speed of any decline in fertility.² We know that use of contraception and abortion in Korea has been increasing. It is more difficult to document changes in the stage of the life cycle when Korean women first begin to use contraception and abortion. Such changes are important because they are closely associated with the subsequent pattern of family building. The fertility of women who use contraception or abortion early in their reproductive lives is lower than among those who delay the start of fertility control until later.

Results of the National Fertility and Family Planning Evaluation Survey of 1976 showed that there has been a decline in age-specific fertility rates since 1960.³ These changes have been especially dramatic among young women because of an increase in the age at which women marry, and among older women because of an earlier cessation of childbearing. Age-specific fertility rates declined by more than 70 per cent between 1960 and 1976 for women aged 15-19, and by more than 75 per cent for women aged 35-49. Age-specific marital fertility rates have declined as well. However, the change has been smaller than that of age-specific fertility at younger ages because of increases in the tempo of childbearing among recently married women.⁴

The proportion of Korean women of reproductive age who used contraception increased from 9 to 44 per cent between 1961 and 1976. In 1976, almost two-thirds of all currently married women had had some experience with family planning. Contraceptive

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¹ C. Tietze and J. Bongaarts, 'Fertility rates and abortion rates: simulations of family limitation', *Studies in Family Planning* 6 (1975), pp. 114-120.

² R. Rindfuss and C. F. Westoff, 'The initiation of contraception', *Demography* 11 (1974), pp. 75-86.

³ B. T. Park, B. M. Choi and H. Y. Kwon, *The 1976 National Fertility and Family Planning Evaluation Survey* (Seoul: Korean Institute for Family Planning), p. 112.

⁴ P. J. Donaldson and D. J. Nichols, 'The changing tempo of fertility in Korea', *Population Studies* 32 (1978), pp. 231-249.

use is positively associated with age, parity and education. Its use is more common in urban than in rural areas, although the difference is narrowing. It is only among the youngest women, those with one child and with no living children, that the proportion using contraception is below 30 per cent.⁵

The use of induced abortion has also increased.⁶ The ratio of abortions per 1,000 live births increased from 195 in 1965 to 667 in 1975.⁷ During the same period there was an increase of 84 per cent in the number of induced abortions per 1,000 women aged 15-44, from 35 to 64 per 1,000. Tabulations of the number of induced abortions by the number of children ever born show that highest induced abortion rates are found among women with three or more children. However, since the data have not been tabulated by respondents' parity, the relationship between abortion and fertility control remains somewhat obscure. This has been recognized for some time by Korean scholars.⁸

THE KOREAN NATIONAL FERTILITY SURVEY

Fieldwork for the Korean National Fertility Survey (KNFS) was conducted between August and December 1974 among a sample of 5,420 ever-married women aged 15-49. The KNFS sample was a self-weighting, nationally representative probability sample based on a three-stage design. The response rate was 95 per cent. All indications are that the data are representative of married women of reproductive age; and of high quality.⁹

For this report we use data collected from 4,867 once-married women with no history of prolonged marital separation. As the purpose of the study is to examine the use of fertility control measures in specific segments of marriage duration, the sample was restricted to those with uninterrupted exposure to childbearing since the first marriage. These women represent 90 per cent of all ever-married women interviewed. The remaining 553 women were either no longer in their first marriage or had experienced periods of marital separation of sufficient length to affect fertility.

USE OF ABORTION

At the time of the survey, contraception was being used by 46 per cent of all women exposed to risk; that is, currently married, non-pregnant women who considered themselves to be fecund, plus currently married women who had been sterilized for contraceptive purposes or whose husbands had been sterilized. Thirty-one per cent of currently married respondents reported having undergone at least one induced abortion; the average number of abortions per woman in this group was 1.9. Of the approximately 23,800 pregnancies that occurred to women before the survey, 14 per cent had ended in induced abortion.

Use of induced abortion increases with the number of completed pregnancies. While

⁵ Park, Choi and Kwon, *op. cit.* in footnote 3, pp. 185-186.

⁶ Hong and Tietze note that 'Prior to 1973 legal abortion in the Republic of Korea was limited by law and judicial decisions to narrow medical indications. However, the last was not enforced, and abortion could easily be obtained from physicians who performed the procedure in their own private clinics. Because of lack of enforcement, large segments of the general public were unaware of the legal status of abortion... In 1973 legislation was adopted authorizing termination of pregnancy on medical, eugenic, and juridical indications' (S. B. Hong and C. Tietze, 'Survey of abortion providers in Seoul, Korea', *Studies in Family Planning* 10 (1979), pp. 161-163).

⁷ Park, Choi and Kwon, *op. cit.* in footnote 3, p. 139.

⁸ *Ibid.* p. 148.

⁹ A complete review of the study procedures and a report on the major findings are available in the *Korean National Fertility Survey: First Country Report* (Bureau of Statistics and Korean Institute for Family Planning, 1977).

6 per cent of the respondents with only one completed pregnancy report having had an induced abortion, the proportion is 26 per cent for those with four completed pregnancies, and exceeds 50 per cent for those with eight or more pregnancies.

The use of abortion reflects success at using other methods of fertility regulation. Thus, it is not surprising that abortion is more widespread among contraceptors than among women who have never practised family planning. Women who use contraception do not want to become pregnant, and are more likely than non-contraceptors to terminate a pregnancy. Only 11 per cent of those who have never used a contraceptive method have had an induced abortion. Among past, but not current, users of contraception, 41 per cent have had an induced abortion. Among current (non-sterilized) users, 49 per cent have had an induced abortion.

Tabulations such as those published in the Korean National Fertility Survey First Country Report are useful indicators of the cumulative experience of women during their reproductive years. However, because the level and pattern of fertility, contraceptive use and abortion are changing rapidly in Korea, such tabulations may be misleading because they are based on the experience of women with very different degrees of access to fertility control and with different reproductive goals and fertility histories.

It is particularly important to control for period effects when considering the relationships among abortion, contraceptive use and fertility in Korea. Although the Korean government began to provide family planning services in 1962, contraception became widely available throughout the country only in late 1964 when the government appointed 1,500 family-planning fieldworkers to promote contraceptive use and help deliver supplies. Chai Bin Park has shown that the sex of the first three children is a significant determinant of the probability of having a fourth child only after 1965, the start of a vigorous national family-planning programme in Korea.¹⁰ He and others have also shown that the impact of infant mortality was different before and after the growth of Korea's national family planning programme.¹¹ Family planning fieldworkers have thus exerted an important influence on the success of the national programme.

TRENDS IN USE OF ABORTION

In Table 1 we present statistics on the trend in induced abortion from 1960 to 1974. The table shows the number of induced abortions per 1,000 live births by pregnancy order for women aged 15-39 during three different periods: 1960-4, before the employment of family-planning fieldworkers by the Korean government; 1965-9, the early years of the fieldworker-based programme; and 1970-4, a period in which the family planning programme was well established and contraception and abortion were, by almost any standards, widely available.

Because we wish to show the increasing ratio of abortions to live births over time, we have constructed Table 1 so that *events*, not person-years of exposure to the risk of having an abortion, are highlighted. The denominator of the fraction is the number of live births that terminated a pregnancy of a given order in a specified period to women aged 15-39. A woman could, of course, have pregnancies (and thus abortions) in more than one of the three periods covered in the table.

The figures in Table 1 show that the probability of a pregnancy ending in an induced abortion has increased significantly. The ratio of abortions per 1,000 live births increased

¹⁰ C. B. Park, 'The fourth Korean child: the effect of son preference on subsequent fertility', *Journal of Biosocial Science* 10 (1978), pp. 95-106.

¹¹ C. B. Park, S. H. Han and M. K. Choe, 'The effect of infant death on subsequent fertility in Korea and the role of family planning', *American Journal of Public Health* 69 (1979), pp. 557-565.

Table 1. *Number of induced abortions per 1,000 live births to women aged 15-39, by pregnancy order: 1960-4, 1965-9 and 1970-4*

Pregnancy	Induced abortions per 1,000 live births		
	1960-4	1965-9	1970-4
1	19*	74	91
2	29	95	97
3	66	99	174
4	76	199	351
5	93	273	573
6	175	464	964
7	305	638	1,163
8	867	1,552	1,722
Total	77	175	277

* Based on fewer than 20 induced abortions.

from 77 in 1960-4 to 175 in 1965-9 and to 277 in the years between 1970 and 1974. The increase is apparent for every pregnancy order.

The ratio of abortions to live births has *not* increased because the number of births has fallen. In fact, there has been an increase in the number of live births of the first four orders in each successive period (statistics not shown). The number of births of higher orders has fallen, but the more important change has been a dramatic increase in the number of pregnancies that end in induced abortion.

At least three factors interact to cause the increase in the ratio of abortions to live births. First, there has been a decline in the proportion of women who desire births of higher orders. Women pregnant for a fourth time between 1970 and 1974 were more likely to have an abortion than those in the same position a decade earlier. Secondly, the proportion of first pregnancies that ended in induced abortion has increased because of an increase in pre-marital conceptions. One indication of this increase is the rise in the number of women whose first pregnancy ended within a year of marriage. Although not exact, a useful approximation of this change can be found among KNFS respondents whose first marriages occurred in 1960, 10 per cent of whose first pregnancies ended either before or during 1960. Among those married in 1965, the corresponding figure was 14 per cent and among those married during the 1970s, over 20 per cent. Thirdly, contraceptive prevalence increased dramatically between 1960 and 1974. Pregnancies at low parities that occurred between 1970 and 1974 were more likely to end in induced abortion because a larger proportion of women had decided to regulate their fertility early in their reproductive period. More and more women were using abortion in cases of contraceptive failure or of unwanted pregnancy following the cessation of contraceptive use.

Previous research has shown that women who use contraception are more likely to have an abortion than those who do not.¹² The figures in Table 2 confirm these findings. Proportionately more contraceptors had had an abortion than non-contraceptors. This helps to explain the observed increase in the ratios of abortions to live births over time. In particular, it is shown in Table 2 that women who used contraception during a particular interval were much more likely to terminate that interval with an induced abortion than those who did not use contraception during the interval. The ratio of abortions to live births has changed very little among contraceptors. The greatest increases have occurred among non-contraceptors.

¹² C. Tietze and M. C. Murstein, 'Induced abortion: 1975 factbook', *Reports on Population, Family Planning* 14, 1975.

Table 2. Number of induced abortions per 1,000 live births to women aged 15-39, by pregnancy order and contraceptive use during the specified interval: 1960-4, 1965-9 and 1970-4

Pregnancy	Induced abortions per 1,000 live births					
	1960-4		1965-9		1970-4	
	Non-use	Use	Non-use	Use	Non-use	Use
1	18*	11**†	74	87	83	211*
2	20	412**†	82	326*	71	266
3	53	393*	61	444	116	383
4	45	739*	113	674	202	797
5	54	1,667**†	153	1,053	305	1,340
6	114	1,500**†	294	1,324	530	2,422
7	206	1,546**†	231	3,286†	642	2,560
8	483*	—	1,056**†	2,364†	828	5,429†
Total	50	891	108	831	160	843

* Based on fewer than 20 induced abortions.

† Based on fewer than 20 live births.

Table 3. Percentage of women aged 15-39 using contraception during specified pregnancy intervals: 1960-4, 1965-9 and 1970-4

Pregnancy interval	Percentage using contraception		
	1960-4	1965-9	1970-4
1	1.3*	2.8	6.7
2	3.1	6.9	15.7
3	5.3	13.3	25.5
4	7.2	21.4	32.7
5	5.8	20.8	38.2
6	9.7	25.9	39.1
7	16.3	34.3	43.8
8	20.3*	50.0	45.6

* Based on fewer than 20 interval contraceptors.

Such comparisons are useful in illustrating the importance of contraceptive status in the use of abortion. The figures presented in Table 2, however, do not reveal the changing pattern of interval-specific contraceptive use that occurred between 1960-4 and 1970-4. Because more contraceptors than non-contraceptors use abortion, an increase in the proportion of contraceptors in the population results in an increase in the ratio of abortions to live births. Table 3 clearly shows the increases in contraceptive use that have occurred at all pregnancy intervals; the probability that a woman had used contraception during a specified pregnancy interval in 1970-4 was between two and six times as great as ten years earlier. Throughout the period, contraceptive use increases with parity; very few women contracept before the second pregnancy. The proportion is particularly low for women in their first or second pregnancy intervals during the early 1960s.

FIRST USE OF ABORTION AND CONTRACEPTION

In Tables 4-8 we present statistics on the use of abortion and contraception by women who began their childbearing either before the Korean family-planning programme was well established (1960-4), during its early years of expansion (1965-9) or after the full-scale

Table 4. *First abortion rates* and cumulative abortion rates† by pregnancy order, for women whose first pregnancy occurred at ages 15–39 in 1960–4, 1965–9 and 1970–4*

Pregnancy order	First abortion rate (%)			Cumulative abortion rate (%)		
	1960–4	1965–9	1970–4	1960–4	1965–9	1970–4
1	1.8	6.5	7.7	1.8	6.5	7.7
2	3.4	8.5	9.4	5.1	14.4	17.3
3	7.2	13.8	22.5	11.8	26.9	45.0
4	14.0	24.9	33.0	24.6	48.9	58.1

* Proportion ending the *n*th pregnancy with an induced abortion, among those having an *n*th pregnancy with no previous induced abortions.

† Proportion who have had one or more induced abortions (including the *n*th outcome), among women completing the *n*th pregnancy.

programme was under way (1970–4). Unlike previous tables, these statistics are based on the experience of individual respondents whose first pregnancy ended during a specific period. This appears to be the best way of illustrating the changing pattern of abortion and contraception in Korea.

In Table 4 we present information on the proportions of women whose first induced abortion ended a pregnancy of a given order, among all women having a pregnancy of that order. The percentages are, thus, first abortion rates. In successive quinquennial periods, proportionately more women had a first abortion early in their reproductive lives. Slightly fewer than 2 per cent of all first pregnancies ended in a first abortion in 1960–4, against almost 8 per cent of those occurring 10 years later. Among women terminating their first pregnancies between 1960 and 1964, only one fourth had had an abortion by the end of their fourth pregnancy. Ten years later, over one-half (58%) had had one or more abortions at that stage of their reproductive lives.

Of special note is the sharp rise in the first use of abortion at pregnancies of lower order after 1965, when the large-scale family planning programme in Korea began. Increased government commitment to a national family planning programme may have encouraged women who would not otherwise have done so to take steps to control their childbearing. It may also have legitimated abortion as an appropriate method of terminating pregnancy both for the women themselves and for potential providers of abortion services. Whatever the reasons, there is a trend not only toward increasing use of abortion, but also toward earlier use.

Table 5. *First contraceptive use rates* and cumulative contraceptive use rates† by pregnancy interval, for women whose first pregnancy occurred at age 15–39 in 1960–4, 1965–9 and 1970–4*

Pregnancy interval	First contraceptive use rate (%)			Cumulative contraceptive use rate (%)		
	1960–4	1965–9	1970–4	1960–4	1965–9	1970–4
1‡	1.3	2.8	6.7	1.3	2.8	6.8
2	4.5	8.4	15.1	5.7	11.0	20.8
3	12.1	21.5	27.3	17.1	30.1	42.4
4	24.7	31.3	32.2	37.5	52.0	60.9

* Proportion using contraception during the interval, among those beginning the (open or closed) interval with no previous contraceptive use.

† Proportion who have used contraception, by pregnancy interval (including use in the open interval).

‡ Closed interval only.

In Table 5 we present similar statistics relating to the first use of contraception. As with abortion, the first use of contraception occurs earlier in the reproductive cycle in each successive quinquennium. Fewer women begin contraception before the first pregnancy than end that pregnancy with an abortion, an indication of a high level of unwanted and poorly timed first pregnancies.

RELATIONSHIP BETWEEN INITIATION OF ABORTION AND CONTRACEPTION

One of the many questions that remain concerns the relationship between the first use of contraception and the first use of abortion. Are women more likely to use abortion or contraception first? Has the likelihood of having an abortion before using contraception changed over time?

Findings from the KNFS (not shown) indicate that it is only among women who had their first abortion after their second pregnancy that more than 50 per cent had used contraception before their first abortion. The majority of women who terminated their first or second pregnancy with their first abortion did not use contraception before conceiving.

Table 6. *Percentage using contraception before first induced abortion, by pregnancy order of first induced abortion, for women whose first pregnancy occurred at age 15-39 in 1960-4, 1965-9 and 1970-4*

Pregnancy order first abortion	Percentage using contraception before first abortion		
	1960-4	1965-9	1970-4
1	7.1*	3.0	13.6
2	26.9	29.1	36.4
3	42.3	56.2	56.3
4	55.4	64.5	55.6*

* Based on fewer than 20 first abortions.

In Table 6 the relationship between the initiation of contraception and first use of induced abortion is illustrated. In each quinquennium, the proportion of women who had used contraception before their first abortion increases, the later in the reproductive cycle the first abortion occurs. When the percentages are compared *across* cohorts by pregnancy order of the first induced abortion, there is a trend toward higher levels of contraceptive experience by the time of the first induced abortion. With the exception of the substantial rise in interval contraception to women who abort at their first pregnancy (from 3 per cent in 1965-9 to 14 per cent in 1970-4), the increases have not been great. Nevertheless, they do indicate that a relative shift over time is occurring in the initiation of fertility regulation by Korean women.

SUBSEQUENT USE OF CONTRACEPTION AND ABORTION

It is of interest to show how different patterns of first acceptance of contraception and abortion lead to different patterns of later use. In Table 7 we examine the pattern of subsequent contraceptive use for women with first pregnancy outcomes up to 1964 and in 1965 and later. Our index is the percentage of immediately following intervals (including open intervals) in which contraception is used, by the interval in which

Table 7. *Percentage using contraception in the open or closed interval immediately following the first interval in which contraception was used, by pregnancy interval of first use and year of first pregnancy outcome*

Pregnancy interval first contraceptive use	Year of first pregnancy outcome	
	1960-4	1965-74
1	*	30.2
2	48.6	29.0
3	43.7	28.1
4	36.7	25.2

* Fewer than 20 cases.

contraception is *first* used. For example, among women with first pregnancies between 1960 and 1964, nearly one-half (48.6 per cent) of those who first used contraception during the second pregnancy interval also used it in the third interval.

It may be observed from Table 7 that the proportion of 'subsequent contraceptors' declines with interval of first use for the 1960-4 group, but *not* for those with a first pregnancy in 1965 or later. We offer the following interpretation. In societies in which contraception is not widely practised, as was the case in Korea during the early 1960s, couples who begin contraception early in their reproductive lives are more likely to continue such use than those who begin later. In societies in which contraceptives are widely available and nearly all couples eventually practise family planning, the interval of initiation is less likely to be associated with use during the subsequent interval.

Less easy to interpret are the differences in interval-specific subsequent contraceptive use. Women whose first pregnancies occurred between 1960 and 1964 were more likely to use contraception during the pregnancy interval immediately following the interval of first use than were women who first became pregnant after 1964. Further analysis of these and other more recently collected data is needed to control for length of exposure to risk of a subsequent pregnancy; events in Table 7 relate to a period of 10-14 years for the former group of women and 0-9 years for the latter.

The pattern of induced abortion among pregnancies immediately following the first abortion is very different from that for contraception (Table 8). In both groups of women, those whose first abortion occurs *later* in the reproductive cycle are more likely to use abortion in the subsequent pregnancy than those whose first experience with induced abortion occurs early. As abortions in later pregnancies (e.g. pregnancies that occur after

Table 8. *Percentage of pregnancies immediately following the first induced abortion which end in an induced abortion, by pregnancy order of the first abortion and year of first pregnancy outcome*

Pregnancy outcome first abortion	Year of first pregnancy outcome	
	1960-4	1965-74
1	*	17.2
2	24.0	17.0
3	40.8	31.5
4	43.5	56.6

* Fewer than 20 cases.

the desired number of children is attained) tend to be used to limit numbers rather than for spacing, it follows that pregnancies that occur after *late* first abortions are less likely to be wanted than those that follow early first abortions (many of which may represent more successful spacing of desired additional births).

Additional analysis is hampered by truncation of the period during which abortions could have occurred. Among women with first pregnancies in 1965 or later, those with a first abortion at successively higher pregnancy orders have experienced a relatively rapid pace of childbearing. Their experience may not, therefore, be representative of all women who began reproduction during this period, and cannot be compared with that of women whose first pregnancy occurred between 1960 and 1964.

IMPLICATIONS

The timing of the first use of fertility control during the reproductive period is important because it influences the pattern of subsequent use of contraception and abortion and, thus, of fertility. More and more Korean couples are protected by highly effective modern contraception and abortion, and more of them are beginning to use these methods during the early stages of family building. As we have demonstrated, a government-supported family planning programme can affect use of contraception and abortion.

The Korean experience is especially important because the decline in fertility in Korea is a model of the modern decline in fertility in which highly effective safe contraception and easily available abortion provided with government support make the process of childbearing subject to far easier control than was the case in Europe. In addition, the wealth of survey data available from Korea enables issues to be investigated that cannot be studied in other societies. The impact of the changes we have documented in this paper merit detailed analysis. At this stage, we can only highlight the key elements and outline a method for studying them.

The increasing use of abortion and contraception has substantially reduced births of higher orders. Until recently, fertility control was used mostly to limit births to a specified number already born. One by-product of this pattern was a remarkable increase in the number of women being sterilized between 1974 and 1975 (from 35,000 to 181,000) when this method became accessible to most Korean women.

The increases in fertility control and the decline of fertility reflect a variety of factors including the entry of the large post-Korean-War baby boom cohorts into the job and marriage markets, the increased availability of effective contraception, new emphasis on social mobility, education and improved status for women. Korea experienced a contraceptive revolution during the 1960s. One result of this revolution was an increase in the control of fertility at all stages in the reproductive life cycle. Indeed, according to Foreit, 'virtually every Korean woman married after 1961 will make some attempt to control her fertility at some point in her married life.'¹³

Before we can completely understand the Korean fertility transition, we must analyse family growth in Korea as a decision-making process.¹⁴ We need more work such as that of Chai Bin Park, in which he examines the influence of various determinants, including abortion and contraception, on the transition from one parity to the next.¹⁵ We have most of the pieces of the puzzle on the table. It now remains to put them together.

¹³ J. R. Foreit, 'Family planning in Korea, 1935-1976: a retrospective cohort analysis', unpublished Dr P. H. Dissertation, School of Public Health, Columbia University, 1979.

¹⁴ N. K. Namboodiri, 'Some observations on the economic framework for fertility analysis', *Population Studies* 26 (1972), pp. 185-206.

¹⁵ Park, Han and Choe, *op. cit.* in footnote 11.