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THE FERTILITY TRANSITION IN CUBA AND THE FEDERAL REPUBLIC OF KOREA: THE IMPACT OF ORGANISED FAMILY PLANNING

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Summary. South Korea and Cuba are dissimilar in religion, economy, culture and attitudes toward premarital sexual relations. In 1960, Korea instituted a national family planning programme to combat rapid population growth. Cuba explicitly rejected Malthusian policies, but made family planning universally available in 1974 in response to health needs. Both countries have undergone rapid fertility declines and today have less than replacement level fertility. Both countries have also used a similar mixture of methods, including a high prevalence of female sterilisation. Abortion has played a major role in the fertility decline of both countries, rising in the first half of the fertility transition and then falling, although remaining a significant variable in the second half. It is concluded that access to contraception, voluntary sterilisation, and safe abortion has a direct impact on fertility and has been associated with a rapid fall in family size in two very different countries.

Introduction

The social structures of Cuba and the Federal Republic of Korea are distinct and their economies are nearly mirror images (Table 1). Cuba, currently struggling for its economic survival, is the only socialist country in the Western hemisphere. Korea is a capitalist country well integrated into the global market and it has been viewed as a bulwark against communism in East Asia. In Cuba, as in the Caribbean in general, there is a social acceptance of pre-union intercourse, a high prevalence of consensual unions and relatively young age at first union formation. In South Korea, premarital intercourse is not socially sanctioned, the great majority of unions are legally formalised and the mean age at first marriage is 25·5 years for women and near 30 years for men. Yet the fertility transitions of Cuba and Korea share remarkable similarities. Both populations underwent rapid fertility decline following the initiation of

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Table 1. Socioeconomic indicators: Korea and Cuba, 1960 and 1990

	Korea		Cuba	
	1960	1990	1960	1990
Population (m)	24·987	42·87	6·83	10·60
Total land area (km^2)	99,016		110,861	
Population/km^2	254	432	59	95
Annual growth rate (%)	3·0	0·9	2·0	1·1
% of population over age 65	2·9	5·0	4·4	10·4
Mean age of population (years)	23·1	29·5	23·3	27·0
% of population residing in urban areas	28·0	74·4	40·3	74·0
Life expectancy at birth	52·5	74·0[a]	61·8[b]	75·0
Female labour force participation (%)	21·5	46·2	13·1[b]	46·0
Infant mortality rate	69·0	12·8	62·0	10·7
Daily caloric intake	2370[c]	2850	2653[c]	3129[d]
Per capita income ($)	82[e]	6353	887	1573
% literate	66·3[b]	96·0	76·4	97·0
Mean age at first union (female)	21·6	25·5	21·5	18·4[f]
Population projected for 2025 (m)		50·8		12·9

[a]1993 figure.
[b]1958 figure.
[c]1970 figure.
[d]There has been a decrease in caloric intake since 1990.
[e]Not adjusted for inflation.
[f]1987 figure.

government family planning programmes. In Korea, the inception of family planning services led to a 30% decrease in the crude birth rate in less than a decade. In Cuba, the crude birth rate fell by 40% in the years immediately following the introduction of such services. And today, 31 years after the beginning of Korea's family planning programme and 20 years after the beginning of the programme in Cuba, both countries have total fertility rates (TFR) well below replacement level (1·6 and 1·5 respectively). The two nations have nearly the same land area, but Korea's population is approximately four times the size of Cuba's.

The fertility transitions of Cuba and Korea were achieved through high rates of contraceptive prevalence and ready access to legal abortion. In both countries, family planning services have been provided through public health care structures, although the public sector also provided subsidies to private medical practitioners in Korea. The mix of contraceptive methods is similar in both settings, demonstrating a heavy reliance on IUDs and female sterilisation. In both countries, approximately one-third of all abortions occur among the youngest age groups, indicating that the greatest challenge confronting family planning providers lies in improving contraceptive services for those wishing to postpone their first birth.

Fertility trends and government policy

The 1950s in Korea and 1960s in Cuba were periods of socioeconomic homogenisation. Korea was emerging from a costly war with the North (1950–53), and revolution in Cuba had brought a socialist government to power (1959), provoking large scale emigration of the economic elite. Both governments faced the task of reconstruction.

Following the establishment of the socialist government, Cuba experienced a baby boom which peaked in 1963–64. For the next 10 years, fertility rates slowly descended and were back to pre-revolutionary levels by 1972–73 (Fig. 1). Thereafter, fertility decline accelerated and the TFR decreased from 3·7 in 1972 to 1·9 by 1978 (Hollerbach & Díaz-Briquets, 1983). Following the Korean War, there was a baby boom which peaked in 1959. Korea's transition to lower fertility began in 1962, and the TFR declined from 6·0 to 3·9 over the next 10 years (Cho & Seo, 1992). Replacement level fertility was achieved in 1984, 6 years ahead of the government target.

In Korea, contraception and abortion were illegal until the end of Japanese colonial rule in the 1940s. Prior to the initiation of the government family planning programme in 1960, condoms and spermicides were the primary forms of contraception. Although legal access to abortion was restricted until 1974, abortions were widely performed by physicians under relatively safe conditions during the 1960s. Substantial external aid (including adequate supplies of contraceptives) was provided by the international community, particularly early in the programme. Between 1961 and 1975, the Korean government received $8·1 million in external support for its national family planning programme. Family planning funds were allotted by the Economic Planning Ministry to the Ministry of Health and Social Affairs and by 1965, family planning accounted for 30% of the Ministry's budget. In 1974, the Cuban government received almost $4 million in assistance from the UNFPA to improve maternal and child health service delivery and increase the supply of contraceptives. The International Planned Parenthood Federation (IPPF) contributed $630,500 to family planning activities in Cuba between 1977 and 1979.

The rapid fertility decline in both countries coincided with the beginning of national family planning programmes. Korea's family planning programme was designed to curb population growth which, in the early 1960s, was growing more rapidly than the economy. The programme set demographically driven targets. As Korea became richer, a comprehensive health care system was developed, and universal health insurance was achieved in 1989. The Planned Parenthood Federation of Korea (PPFK) has also added a wide range of cancer prevention and other services in the past decade. In contrast, the Cuban government's involvement in family planning is not based on demographic goals, but flows from its commitment to provide reproductive health care and contraceptive services to all those in need. 'The revolutionary government of Cuba excludes birth control as an instrument of policy or planning because it considers that the number and spacing of births is at the sole discretion of the parents' (International Planned Parenthood Federation, 1979); and contraceptive services are provided 'to reduce the incidence of induced abortion and not for demographic reasons' (Díaz-Briquets & Pérez, 1981). The Korean leadership saw 'slowing population growth (as) a useful method to cut the vicious cycle of poverty' (Young, 1971) while in Cuba, policy-makers opposed 'the neo-Malthusian argument that "overpopulation" is one cause of poverty' (Díaz-Briquets & Pérez, 1981).

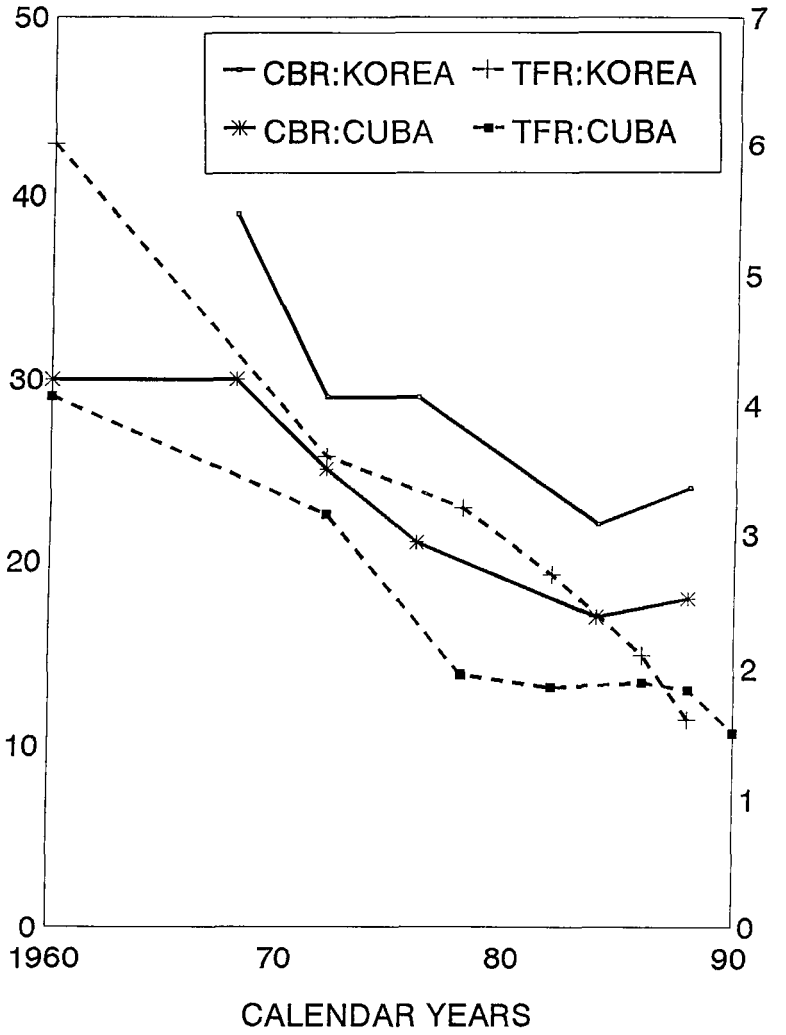

Fig. 1. Crude birth rates (left vertical axis), Korea 1968–88, Cuba 1960–88, and total fertility rates (right vertical axis), Korea 1960–88, Cuba 1960–90.

Health care structures

In Cuba and Korea, government infrastructures were used to make family planning services available. In Cuba, family planning was grafted on to an existing primary health care system, and doctors and nurses serve as the main family planning providers. In Korea, family planning began relatively early in the evolution of health services and initially many providers were non-physician field workers. While the Cuban approach always emphasised women's rights to contraception and abortion as integral components of reproductive health care, Korea's approach was initially cast in narrow, demographic terms but evolved into a wide range of reproductive services.

By 1975, the Cuban government had established primary care polyclinics in every health area (population of 30,000) with a strong emphasis placed on prevention and health care education. The family doctor programme was launched in 1984 to strengthen community-based service delivery. These specialists in 'general, integral health care' are stationed in most neighbourhoods throughout the country and now cover 93% of the population (Cuba, 1994). Family doctors are responsible for 120–170 families, providing preventive and curative care as well as health orientation. Required record-keeping on the 'bio-psycho-social' health status of all individuals (not just the infirm) ensures that the doctor is familiar with women's reproductive histories. Particular attention is given to those displaying 'pre-conception risk factors' of either a physical or social nature.

In Korea, publicly funded health centres provided family planning services as well as referrals to hospitals and private doctors. In the 1960s and 1970s, the government programme depended on recruiting and training large numbers of field workers who sold oral contraceptives and brought contraceptive information to households. By 1963, there was one field worker in each township. Initially, the programme was a 'vertical' one with family planning the sole function of one category of field workers. In the early 1980s, a number of field worker functions (from prenatal care to tuberculosis control) were combined. This policy change, along with the evolution of universal health insurance, has practically eliminated the role of field workers in family planning today.

Government family planning efforts in both countries harnessed the assistance of state-supported women's organisations as disseminators of information (and of contraceptives in Korea) as well as the technical support of local IPPF affiliate associations. The PPFK played a central role in the educational and information components of Korea's family planning programme. Founded in 1961, PPFK initiated Mothers' Clubs which supported a broad range of village activities. In Cuba, the IPPF affiliate *Sociedad Científica Cubana para el Desarrollo de la Familia* (SOCUDEF) was established in 1976 and, like PPFK, works in close consultation with the Ministry of Public Health. The SOCUDEF serves as the principal family planning adviser to the central and provincial governments. Its protocols, modes of service delivery and advice on contraceptives are usually adopted by the government with a presumed increase in efficiency. While officially a non-governmental organisation, SOCUDEF's family planning clinics operate within the state's polyclinics and are staffed by medical personnel whose salaries are paid by the government. The PPFK also receives significant monetary support from the Korean government.

Family planning service delivery

Family planning services in Cuba were integrated within pre-existing maternal and child health programmes, but similar services in Korea were made available prior to the implementation of a comprehensive health care plan in the early 1980s. By the end of 1978, weekly family planning clinics were operating in nearly one-quarter of Cuba's polyclinics. Between early 1978 and the end of 1979, the number of contraceptive users grew by over 350% (International Planned Parenthood Federation, 1979) (Fig. 2). Intrauterine devices and female sterilisation are available in clinics and hospitals throughout the country, and all services received in a medical facility are free of charge.

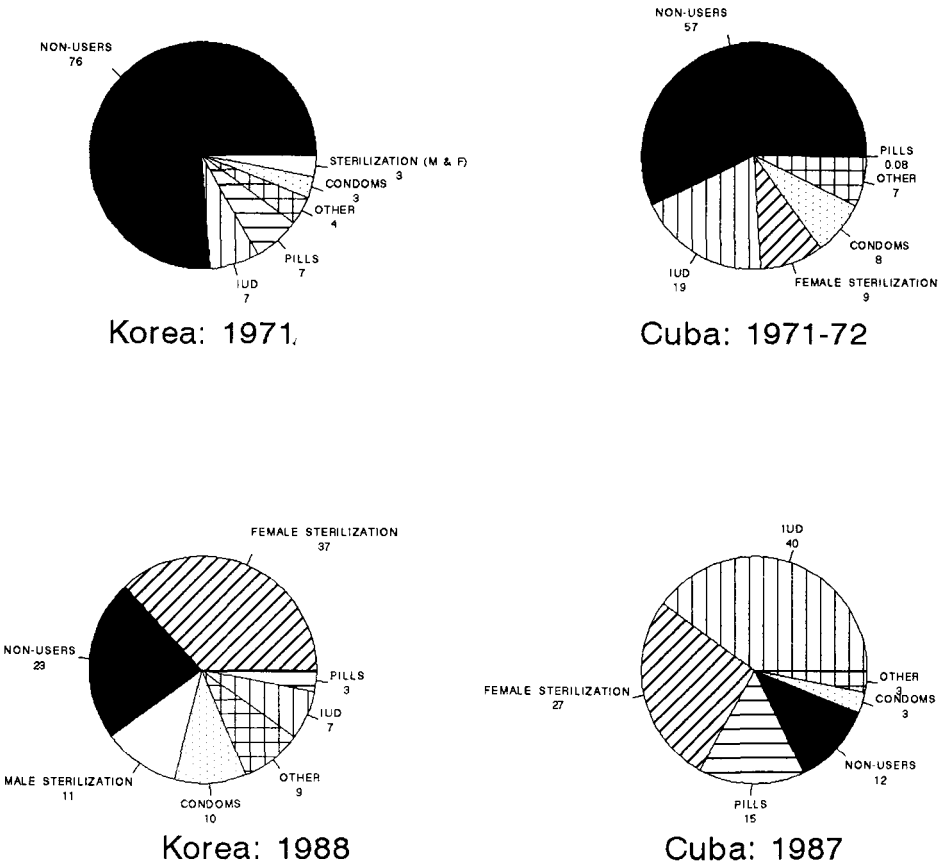

Fig. 2. Contraceptive prevalence. Korean data are derived from surveys limited to married women; Cuban data are based on samples of sexually active women irrespective of marital status. In 1971, total contraceptive prevalence in Korea was 24%, rising to 77% in 1988. In 1971–72, total contraceptive prevalence in Cuba was 43% (estimated from regional surveys), rising to 88% in 1987.

Oral contraceptives, condoms and spermicides are sold without prescription in pharmacies at subsidised prices. A national sex education programme was formulated in 1977 which led to the founding of the National Center for Sex Education. Since 1979, this organisation and the Federation of Cuban Women have co-ordinated mass media campaigns, sex education programmes for target populations and the training of teachers and other adults working with adolescent populations. Korea introduced population education into schools in the 1960s, but has been less forthright than Cuba in the content of its sexuality courses. Both the Federation of Cuban Women and PPFK took information to women at the community level. The frequent meetings of local chapters of the Federation and neighbourhood block committees provide forums for Cuban women to discuss sexuality, pregnancy, breast-feeding and family planning. Members of Korean Mothers' Clubs, who were often village opinion leaders, learned about family planning techniques and then informed the other women in their villages.

By 1968, there were 17,000 Mothers' Clubs operating in rural areas. In addition to promoting the concept of small families, club members supplied oral contraceptives directly to users and played an important role in the transformation of family planning from a taboo subject to something well known and widely used.

The Korean Institute for Family Planning was established in 1965 to consolidate the knowledge and technical skills of those working on population issues and family planning. The institute is responsible for training a large portion of the family planning programme staff.

The IUD was among the first methods offered in Korea and in 1968, oral contraceptives became available in the public sector without prescription. Korea was one of the first countries to make vasectomy available on a wide scale (1961), and female sterilisation became a choice in 1972. Local production of condoms and foaming tablets was established in the early 1960s. Between 1964 and 1978, the use of contraceptives increased from 9% to 49% (Tinker & Cho, 1981).

During the 1960s, Cuban government efforts were concentrated on meeting basic health care needs and the eradication of infectious diseases. There was a severe shortage of contraceptives, which were provided only on request in public health facilities or upon a physician's recommendation following an abortion (Hollerbach & Díaz-Briquets, 1983). Condoms, coitus interruptus, female sterilisation and (after 1963) IUDs were the primary forms of birth control (Hollerbach & Díaz-Briquets, 1983; Alvarez-Lajonchere, 1989). In the mid-1970s, the Cuban Ministry of Public Health gave specific attention to reproductive health care, integrating family planning services and maternal and child health programmes. In Cuba, the range of methods is restricted by a lack of foreign exchange to purchase certain supplies, but the mix of methods has become remarkably similar to that of Korea (Fig. 2). Although oral contraceptives are available to Korean women, they are infrequently chosen over IUDs or surgical sterilisation.

Since the beginning of Cuba's economic crisis in 1990, the family doctor's role as a birth control provider has become increasingly important. Pharmacies once well stocked with condoms and oral contraceptives now suffer from chronic supply problems, exacerbated by the hoarding tendencies prevalent in all aspects of the Cuban economy. While the family doctor does not dispense these items, those willing to forgo oral contraceptives for IUDs receive their contraceptive services from the doctor rather than the pharmacy. Women who have had past problems with IUDs are referred to the polyclinic where a wider range of methods, including oral contraceptives, is usually available.

Evaluating family planning programmes

A successful family planning programme may be defined as one which has contributed to a sustained decrease in a population's TFR through meeting women's reproductive needs. Basic indicators of successful service delivery are useful tools for evaluating the quality of family planning programmes. First, the recipient population must have some knowledge of family planning and be aware of the services available. Second, services must be accessible in terms of location, hours of operation and affordability. And third, the services must be of high enough quality that there is a perception of probable benefit attached to the utilisation of offered services. This combination of awareness, accessibility and perceived quality are the primary components of successful family

planning programmes, and seem to have been present in Cuba and Korea for more than a decade. A basic knowledge of contraceptive methods is nearly universal in both populations. In Cuba, 99·5% of reproductive age women can spontaneously name at least one form of birth control, and over 95% have basic knowledge of IUDs, oral contraceptives, condoms and female sterilisation (Cuba, 1991). In Korea, 90% of all married women have some knowledge of these methods (Korea, 1980).

In Cuba, the primary source of information regarding IUDs and female sterilisation is the service provider. For oral contraceptives, a female friend or relative is the most common source of information (Alvarez, 1988). School-based sex education also plays an important role, followed by the health promotion activities of the mass organisations and media campaigns. In Korea, members of the Mothers' Clubs (1968–78) played a prominent role in the dissemination of family planning information, particularly with respect to oral contraceptives which they sold for a small fee. Family planning field workers, as well as paramedical workers and nurses employed in the public health centres, were also important sources of contraceptive information.

Access to contraceptive services in Cuba is ensured by the presence of polyclinics and family doctor offices located throughout the country. Numbering over 22,000 in a national population of 11 million, family doctors are the principal providers of contraceptive methods and information, while polyclinics serve as back-up institutions for women whose special contraceptive needs cannot be met by the family doctor. In Korea, prior to the introduction of the national insurance plan in the early 1980s, most family planning services were provided free of charge. Public health centres received item-of-service payments from the Ministry of Health and Social Affairs. They also provided coupons for family planning services which could be redeemed in the private sector. Private doctors would then receive reimbursement for IUD insertions, surgical sterilisations and (after 1974) menstrual regulation. This system is being replaced by payment for family planning services under a comprehensive health insurance plan which requires the client to pay 30% of total costs.

The perceived quality of services is more difficult to measure than either awareness or accessibility. However, it is reasonable to assume that the voluntary utilisation of services by large portions of the reproductive age population indicates an acceptable level of quality. In Korea, access to subsidised services in the private sector was probably attractive to many couples and gave users a wider choice than that offered by the typical, public sector provider. High contraceptive prevalence rates in both countries suggest that most women anticipate personal benefit from the utilisation of family planning services.

Postponing the first pregnancy

In Cuba, oral contraceptives are the preferred method of young women (Cuba, 1991) and prior to current shortages, pill packets could be easily purchased without parental knowledge. Cuban medical providers consider IUDs an appropriate method for young women, and there are no age, parity or monogamy requirements for its use, probably reflecting a lack of reversible contraceptive options. Adolescent men are encouraged to use condoms, but their erratic supply in the pharmacy hinders efforts to increase usage. In Korea, there are strong social prohibitions against premarital intercourse. Pills are available over-the-counter and, at least in urban areas, without parental knowledge. Young women who want IUDs or need an abortion typically receive their services from

the private sector. However, the contraceptive needs of this age group are largely unmet, demonstrated by the fact that one-third of all abortions occur among young, single women.

Abortion

An important factor in the achievement of below replacement level fertility in Cuba and Korea has been the large scale use of safe abortion (Fig. 3). Both Cuba and Korea report abortion rates more carefully than many other countries. In Korea, large sample surveys collected data on abortion even before legalisation. In Cuba, the National Statistical Committee has published a record of legal abortions since 1970 and estimated the abortion rate back to 1968. In both countries, there may be some underestimation of abortion numbers, but the trends represented in Fig. 3 are certainly meaningful. Cuba and Korea employ similar abortion technologies, including menstrual regulation, and have achieved low rates of abortion-related mortality. Even with high levels of contraceptive prevalence, abortion is relatively common and the fertility decline in either nation would not have occurred at the rate it did, or to the level now observed, without recourse to abortion.

During the first 5 years of the Cuban revolution, an attempt was made to enforce the 1936 Social Defence Code which prohibited abortion under most circumstances. After a sharp increase in abortion-related mortality, the old code was reinterpreted in 1965 using the WHO definition of health which encompasses a complete state of well being, thus providing wide access to safe abortion. A new penal code was approved in 1979 which specified the conditions under which an abortion would be considered illegal. Abortions are legal except under the following conditions: if carried out without the woman's consent; if performed outside of a hospital; if the provider fails to comply with established medical norms; or if the abortion is performed for profit. Korea's abortion law was reformed in 1974, allowing physicians to offer menstrual regulation up to 8 weeks from the last menstrual period 'when continuation of the pregnancy . . . is likely to damage the health of the mother'. The law is much more restrictive than in Cuba, but the *de facto* situations are similar. Prior to 1974, abortions had been widely performed by doctors under relatively safe conditions. Vacuum aspiration had been used by private doctors since the 1960s, and knowledge of menstrual regulation spread rapidly after its introduction in 1972. In Cuba, the total lifetime abortion rate increased from 0·5 in 1968 to 2·1 in 1974. During the 1960s and 1970s in Korea, the abortion rate and contraceptive prevalence rose together, although the former peaked around 1978 when the total abortion rate reached 2·9, while contraceptive use continued to increase well into the 1980s. The abortion rate slowly decreased during the 1980s and was reported as 1·9 in 1991. In Cuba, as the availability of contraceptives increased during the second half of the 1970s, the abortion rate also declined, returning to a lifetime rate of 1·5 by 1981. A secondary rise in the abortion rate occurred in the mid-1980s, before again declining in 1985. Provisional figures for 1993 report a total abortion rate of 0·8 (Cuba, 1994), although this statistic excludes menstrual regulation.

In both countries, approaches to abortion were driven by pragmatic considerations. In Korea, health care officials concerned with relatively high rates of maternal mortality and government officials concerned with lowering fertility rates saw a

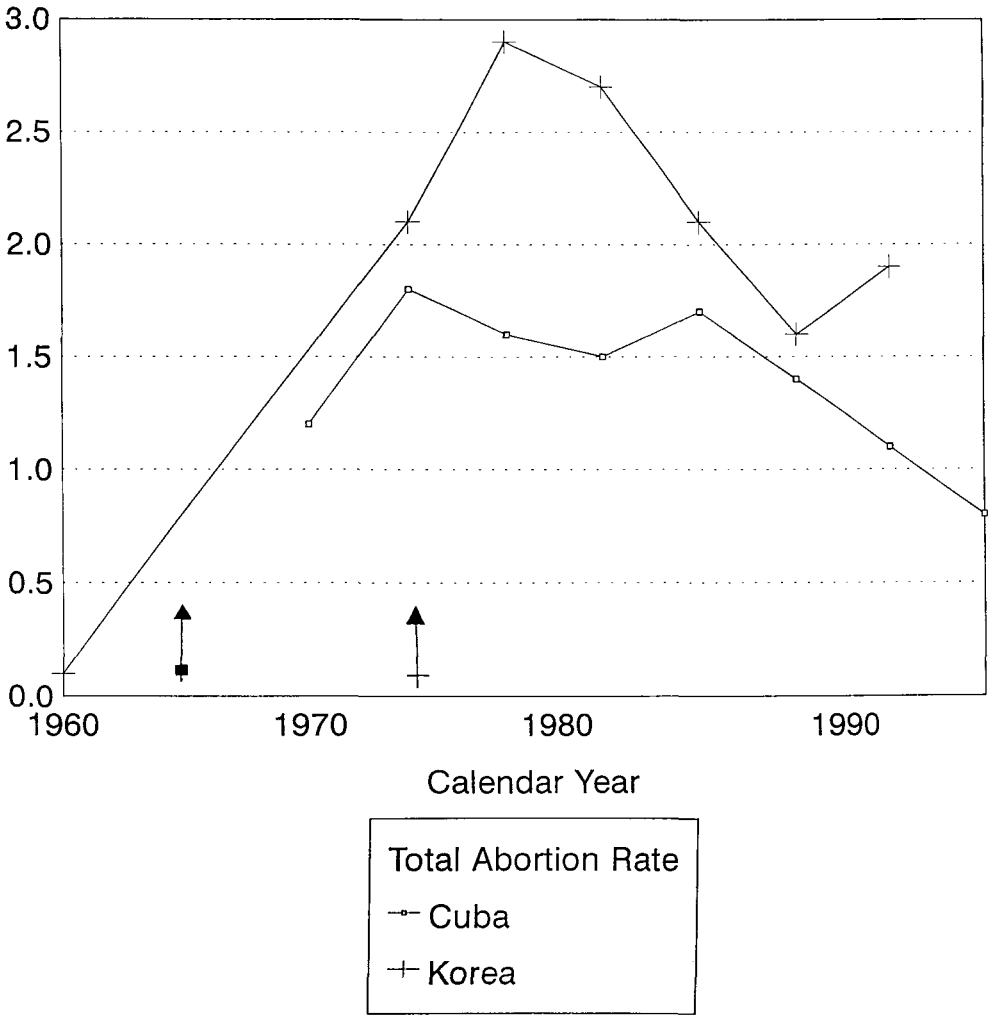

Fig. 3. Total abortion rates, Korea 1960–90, Cuba 1970–93. Arrows indicate liberalisation of abortion laws.

liberalisation of the abortion law as a practical way of achieving progress toward both goals. Accompanying the legal reform, the government began paying for abortion services, primarily through reimbursement to the private sector. However, state funding covered only a small proportion of the procedures taking place in the 1970s. Today, the cost of a first trimester abortion is approximately $40 which is unlikely to be cost-prohibitive for the majority of Koreans. In Cuba, abortions are offered free of charge by government health care providers.

Since the collapse of the socialist trading bloc and the precipitous drop in export earnings, the Cuban government's lack of hard currency has prohibited sufficient purchases of most consumer items, from birth control pills and antibiotics to soap and cooking oil. Family planning providers are faced with the dilemma of how to increase

contraceptive use among teenagers when condoms and birth control pills are not always available. Although there are not similar supply problems facing programme managers in Korea, prevalence rates for oral contraceptives are low when compared to other countries such as Thailand (Fig. 2).

Improving family planning services

The most immediate challenge in both countries is to improve contraceptive services for adolescents. In Cuba, the situation is made difficult by serious contraceptive supply problems. According to Cuba's 1987 National Fertility Survey (Cuba, 1991), 92·7% of all women in unions had used contraception at some point in the past, and 88% of all women exposed to the risk of pregnancy were using a contraceptive method at the time of the survey. However, when disaggregated by age group, only 68% of sexually active women under the age of 20 were current users. While birth control pills are the most prevalent method among teenage women, the IUD is the most common method for all other age groups. Female sterilisation is not widely used by women in their twenties, but accounts for 30% of contraceptive users in the 30–39 age group and 42% of users above the age of 40.

Due to the strong social prohibitions against pre-marital intercourse in Korea, national fertility surveys have been restricted to married women. As in Cuba, contraceptive use among married women is high: 79·4% of married women aged 15–49 were using a method in 1991. In both countries, the women most likely to experience unplanned pregnancies are those attempting to postpone or space births. While the high effectiveness of sterilisation reduces the probability of unplanned pregnancies among older women, access to this method can only partially account for the differential abortion rates of older and younger women. Although it is possible that older women are simply better family planners than younger women, it is also likely that the services available are better suited for women wishing to avoid, rather than to postpone, future pregnancies. If the latter is the case, then improving services designed to help women postpone (or space) childbirth could significantly improve programme outcomes. Research on women's attitudes towards oral contraceptives might also be useful.

Both countries might benefit from the option of additional methods. Korea experimented with injectables but withdrew them (against the advice of its expert committees) when the US Food and Drug Administration failed to approve Depo-Provera. The addition of injectables would probably prevent some abortions, particularly among younger women. Efforts to increase contraceptive use among young Cuban women should include a dependable supply of both oral and injectable contraceptives.

In Cuba, efforts to improve the counselling skills of the family doctor could prove beneficial. As family doctors are the main source of information regarding IUDs, they can play an important role in mitigating young women's fears of gynaecological examinations and IUD insertions and encourage pregnancy prevention, rather than a reliance on menstrual regulation or abortion to avoid unwanted births. Korean providers face a similar challenge of improving services which encourage contraceptive use prior to unwanted pregnancies, but are additionally hampered by social constraints which counsel against family planning education for the unwed. Past and present strategies for meeting the contraceptive needs of adolescents should be carefully

evaluated. The successes and failures of different approaches should be analysed by policy makers and providers so that needed policy change can be based on lessons from the field. Pilot projects which allow the introduction of novel approaches could serve as important laboratories for testing new hypotheses and strategies.

Korea introduced vasectomy early, and male methods are relatively prevalent. Social marketing programmes that have increased condom use in Korea and elsewhere should be experimented with in Cuba. Vasectomy has been adopted in Latin America when made available, as in Brazil (Ross, 1992) and Puerto Rico (Pan American Health Organization, 1993). It is possible that provider bias is as important as lack of consumer acceptability in keeping the method out of Cuba (Ross, 1992).

Discussion

The role played by access to family planning services in fertility decline continues to be debated. Cleland (1993), Cleland & Wilson (1987) and others emphasise that good family planning programmes can have a direct impact on fertility. Shifts in fertility, even in a poor country such as Bangladesh, appear to feed back into further declines in desired family size even in the presence of distressingly high levels of infant mortality. Pritchett (1994), Thomas (1993) and others continue to maintain that socioeconomic development is a prerequisite for the adoption of family planning and that the presence or absence of formal family planning services has little or no effect on actual family size.

This history of family planning services and demographic change in Cuba and Korea throws a useful light on this debate. It is difficult to find two countries further apart in many aspects of government, culture and economy: one is a struggling Marxist economy, the other a highly successful, export-oriented, free market economy; one tolerates premarital sex, the other denies it. Korea started with a target driven, vertical family planning programme, predicated on the belief that a high birth rate perpetuated poverty. Cuba began with integrated family planning services built on a policy that specifically denied any link between population growth and poverty. Yet both countries experienced parallel, rapid fertility declines (Fig. 1), using a comparable mixture of contraceptive methods (Fig. 2), and both have arrived at remarkably similar demographic configurations today. This analysis supports the arguments of Cleland & Wilson (1987) that family planning programmes can have a direct impact on fertility. It does not support the suggestions of Pritchett (1994), Thomas (1993) and others that socioeconomic change is the primary cause of fertility decline. In opposing the role of organised family planning in accelerating the trend to smaller families, Thomas (1993) suggested that fertility decline in Korea was partially the result of the 'dominant small-scale orientation of reform ... related to the American concept of democratization of rural life as a policy against communism'. Parallel changes in Cuba suggest that this explanation may have been misguided.

The assumption that socioeconomic change is a prerequisite for fertility decline rests in part on the supposition that the desire for children is set at a moderately high level and changing socioeconomic forces are needed to push it lower. The observation that access to contraceptives can change fertility in a situation of rising incomes (Korea), but also where the economy is slipping backwards (Cuba), suggests that many people in both societies have a modest target for the number of children they wish to

bear. Once appropriate policy choices are made and most reasonable family planning options are realistically addressed, then a swift and sustained fertility decline is possible.

With hindsight, national family planning programmes in both countries could have given more attention to encouraging breast-feeding and (in Korea) controlling the aggressive advertising of milk formula. Unfortunately, even research on breast-feeding is sparse. In the early 1970s, one-third of Cuban women were still breast-feeding at 6 months, and in 1990, 28% of Korean women were doing so. Almost certainly, breast-feeding lasted longer in the 1960s. Had the mean duration of postpartum anovulation not fallen in the 1960s and 1970s, then the same input into family planning might have had an even more striking effect on birth rates. In Cuba, breast-feeding patterns also seem to have changed even though milk formula was less widely available, and imported products are now virtually unobtainable.

The demographic transitions of Korea and Cuba strongly suggest that access to reversible and permanent contraception and to safe abortion greatly accelerated the rate at which fertility declined and was associated with a lower final fertility than would have occurred if these choices had not been available. Contraceptive practice has been the most significant proximate determinant of fertility in both countries, followed by abortion and changes in nuptiality patterns (Koh & Smith, 1970; Hollerbach & Díaz-Briquets, 1983; Alvarez, 1987; Catasús *et al.*, 1988). Korean and Cuban experiences also indicate that high rates of induced abortion are an intrinsic part of fertility decline (Donaldson, Nichols & Choe, 1978) (Fig. 3), although this should not overshadow the achievements made in reducing the number of unwanted pregnancies through high rates of contraceptive prevalence. Abortion rates have probably declined more among women in stable unions than among adolescents. Sexual activity is often initiated years before a woman desires to begin her family, and abortion rates are partly driven by young women wishing to postpone their first childbirth. Once a woman has entered her early to late twenties, she typically has one or two (closely spaced) births and is finished with all desired childbearing. While access to female sterilisation and IUDs has largely met the contraceptive needs of older women in Cuba and Korea, abortion rates among younger women may persist until innovative approaches are undertaken to meet their specific family planning needs. Korean and Cuban experiences also indicate that high rates of induced abortion are an intrinsic part of fertility decline.

When analysing abortion trends in Cuba and Korea, it is important to remember that abortion statistics provided by the Cuban and Korean governments are not subject to the chronic under-reporting typical of many countries where the procedure remains illegal. Abortion rates are high, but abortion remains secondary to contraceptive use as a proximate determinant of fertility in both countries. Moreover, abortion rates in low fertility populations will be greater than those in high fertility populations, other things being equal, as low parity women have a greater number of years in which they must actively work to prevent pregnancy. And when fewer children are the norm, any unplanned pregnancy is more likely to end in abortion than within a context of higher parity. As long as contraceptive methods remain less than 100% effective and discontinuations occur due to side effects, the practice of abortion will remain an important determinant of fertility even when contraceptives are widely used.

Cuba and Korea are only two countries of the many involved in the demographic

transition sweeping the developing world and the newly industrialised countries. Both are at the extremes of the political and economic spectrum. The similarity in response of these two very different societies to the same range of fertility control options, largely sterilisation, IUDs and abortion, suggests organised family planning: (a) significantly accelerates fertility decline and (b) permits fertility to reach lower levels than would occur in the absence of these options. It is sometimes suggested that, because developed countries reached low fertility without formal family planning programmes, such programmes are unnecessary in the contemporary developing world. However, the reform of anti-contraceptive and anti-abortion laws in the West has often been associated with further fertility declines. In 1970 in Italy, for example, when both abortion and contraception were illegal, the total fertility rate was 2·4 while today, when abortion and contraception are legal, the TFR is 1·2. The Cuban and Korean experiences also demonstrate, with a documented clarity lacking in many other countries, that in the last decade of the twentieth century population stabilisation can only be achieved in one of two ways: by a heavy reliance on induced abortion with poor contraceptive choices as occurs, for example, in the former USSR (Haub, 1994); or by access to good contraception, with abortion playing a lesser, but still essential, role. No country has achieved, nor will achieve in the next few decades, a net reproductive rate of one or less without a significant reliance on abortion. Cuban and Korean experiences with family planning cannot be simply written off as heavy reliances on abortion, but reflect a global experience that occurs in all countries with falling fertility.

Finally, it is revealing that in these two very different cultures, the outstanding contemporary problem in family planning is that of adolescent sexuality. As the highest abortion rates are found among the youngest age groups in both countries, there is clearly a need to improve contraceptive services for these women. Although stable relationships are more conducive to consistent contraceptive practices, a primary factor in high abortion rates among young women is increased exposure to pre-union pregnancies. In both Cuba and Korea, efforts need to be made to expand the range of methods available to meet the reproductive needs of adolescents. A careful analysis of the shortcomings of current service delivery, accompanied by efforts to correct deficiencies, could help to lower abortion rates in both societies.

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