

Relationships Between Contraception and Abortion: A Review of the Evidence

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CONTEXT: The relationship between levels of contraceptive use and the incidence of induced abortion continues to provoke heated discussion, with some observers arguing that use of abortion decreases as contraceptive prevalence rises and others claiming that increased use of family planning methods causes abortion incidence to rise.

METHODS: Abortion trends are examined in countries with reliable data on abortion and with contraceptive prevalence information from two points in time showing increases in contraceptive use. The role of changes in fertility in mediating the relationship between abortion and contraception is also explored.

RESULTS: In seven countries—Kazakhstan, Kyrgyz Republic, Uzbekistan, Bulgaria, Turkey, Tunisia and Switzerland—abortion incidence declined as prevalence of modern contraceptive use rose. In six others—Cuba, Denmark, Netherlands, the United States, Singapore and the Republic of Korea—levels of abortion and contraceptive use rose simultaneously. In all six of these countries, however, overall levels of fertility were falling during the period studied. After fertility levels stabilized in several of the countries that had shown simultaneous rises in contraception and abortion, contraceptive use continued to increase and abortion rates fell. The most clear-cut example of this trend is the Republic of Korea.

CONCLUSIONS: Rising contraceptive use results in reduced abortion incidence in settings where fertility itself is constant. The parallel rise in abortion and contraception in some countries occurred because increased contraceptive use alone was unable to meet the growing need for fertility regulation in situations where fertility was falling rapidly.

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Common sense and an elementary understanding of the biological determinants of human reproduction indicate that contraception and induced abortion represent alternative means of achieving the same aggregate level of fertility in a population. If fertility and its other determinants (sexual exposure, lactation and pathological infertility, for example) remain constant, a rise in contraceptive use or in effectiveness of use must lead to a decline in induced abortion and vice versa.

Why, then, does the relationship between levels of contraceptive use and the incidence of induced abortion continue to provoke heated discussion?* And why do some observers claim that increased contraceptive use leads to higher abortion rates?¹

The reason for the confusion stems from the observation that, within particular populations, contraceptive prevalence and the incidence of induced abortion can and, indeed, often do rise in parallel, contrary to what one would expect. The explanation for these counterintuitive trends is clear.² In societies that have not yet entered the fertility transition, both actual fertility and desired family sizes are high (or, to put it another way, childbearing is not yet considered to be “within the calculus of conscious choice”³). In such societies, couples are at little (or no) risk of unwanted pregnancies. The advent of modern contraception is associated with a destabilization of high (or “fatalistic”) fertility preferences. Thus, as contraceptive prevalence rises and ferti-

ity starts to fall, an increasing proportion of couples want no more children (or want an appreciable delay before the next child), and exposure to the risk of unintended pregnancy also increases as a result. In the early and middle phases of fertility transition, adoption and sustained use of effective methods of contraception by couples who wish to postpone or limit childbearing is still far from universal. Hence, the growing need for contraception may outstrip use itself;⁴ thus, the incidence of unintended and unwanted pregnancies rises, fueling increases in unwanted live births and induced abortion. In this scenario, contraceptive use and induced abortion may rise simultaneously.

As fertility decreases toward replacement level (two births per woman), or even lower, the length of potential exposure to unwanted pregnancies increases further. For instance, in a society in which the average woman is sexually active from ages 20 to 45 and wants two children, approximately 20 of those 25 years will be spent trying to avoid pregnancy. Once use of highly effective contraceptive methods rises to 80%, the potential demand for abortion, and its incidence, will fall. Demand for abortion falls to zero only in the “perfect contraceptive” population, in

*See for example, U.S. Senate debate, 105th Congress, 1st Session, Feb. 25, 1997, 2:15 P.M., Vote No. 13, on Mexico City Policy. Those in favor of passing the bill declared, “It is a very arguable assumption at best to say that the declining abortion rates [seen in selected developing countries] are a direct result of pregnancy prevention services.” A synopsis is on the Internet at <<http://www.senate.gov/~r/rpc/rva/1051/105113.htm#HEADING/>>.

which women are protected by absolutely effective contraceptive use at all times, except for the relatively short periods when they want to conceive, are pregnant or are protected by lactational amenorrhea.⁵ Because such a state of perfect protection is never actually achieved, a residual demand for abortion always exists, although its magnitude varies considerably among low-fertility societies, according to levels of contraceptive use and choice of methods.

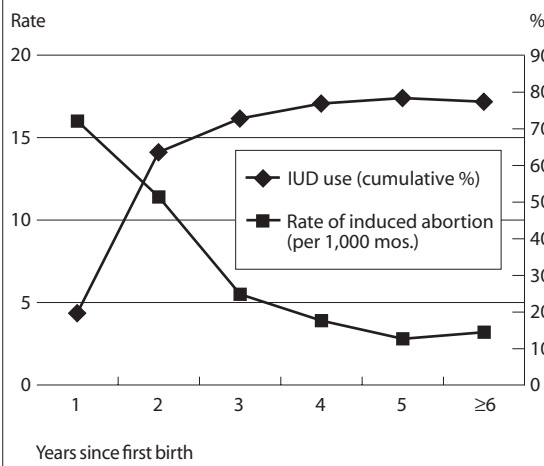
The purpose of this article is to summarize what is known about the relationship between abortion and contraception. We start with a description of a recently proposed model of the relationship,⁶ and provide empirical illustrations to assess the validity of this model. We then review trends over time in the incidence of abortion and contraceptive use for specific countries based on published articles. Finally, we present a comprehensive examination of such trends in all countries thought to possess reliable trend data on abortion and contraceptive use and in which major changes in contraceptive prevalence or effectiveness have been recorded.

MODEL AND EMPIRICAL ILLUSTRATIONS

Bongaarts and Westoff have identified and described mathematically parameters that account for the relationship between contraception and abortion levels.⁷ They show that the abortion rate (the number of abortions per 1,000 women of reproductive age) in a population is related to the number of years in which women are both fecund and exposed to the risk of childbearing by being sexually active, the reproductive time taken for each live birth and the reproductive time for each abortion. The latter two time periods constitute waiting time to conception, pregnancy and the postpregnancy period of insusceptibility. Abortion rates are also related to the prevalence and effectiveness of contraceptive use, and the probability of aborting unintended pregnancies. The total fertility rate (TFR) equals the number of births a woman would expect to have over her lifetime under prevailing fertility rates, and it comprises two components: intended births and unintended births. The total abortion rate is the number of abortions a woman would expect to have under prevailing abortion rates, and can be linked mathematically to the TFR using the parameters just described.

The mathematical links between the TFR and abortion rates and the derivation of these links have been described in detail.⁸ By varying the different parameters one by one, the authors examine the relative effect of each factor on the abortion rate. The practical implications of the model include the following: Early onset of sexual activity, leading to a longer sexual and reproductive span, will tend to be positively related to the abortion rate. In addition, the number of children desired and the length of lactational amenorrhea will be negatively related to the abortion rate. Finally, at a given TFR, contraceptive effectiveness exerts an increasingly important effect on abortion rates as prevalence increases—in other words, as contraceptive prevalence rises, contraceptive failure or misuse becomes a more important factor in determining abortion rates.

FIGURE 1. Rate of induced abortion and cumulative percentage of women using an IUD, by years since first birth, Shanghai, China



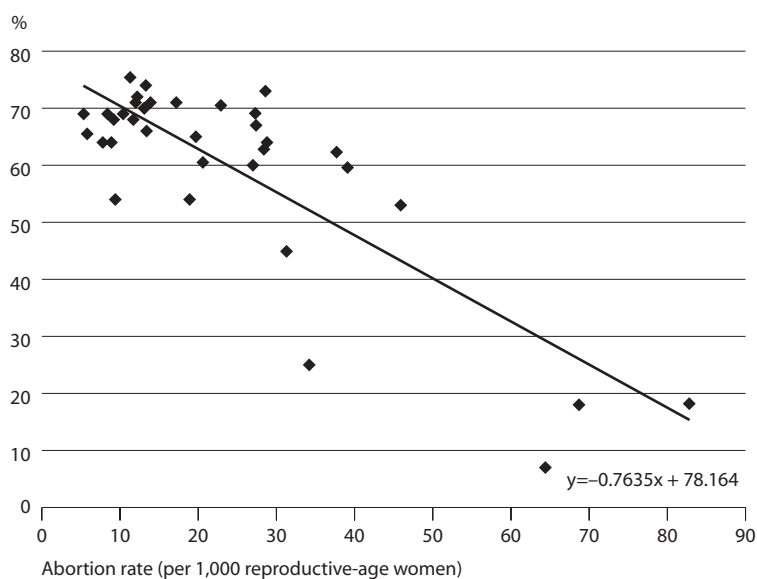
Source: reference 9.

The expected relationship between abortion and contraception can be seen in the first of our three illustrations, which comes from a prospective study of married couples in Shanghai, China.⁹ The women have all had one child and, because of the one-child policy, second births are extremely rare. Following the birth of their first child, many women initially use relatively ineffective methods: withdrawal, periodic abstinence and condoms. With each successive year following childbirth, use of these methods is progressively replaced by use of the IUD—a highly effective method. The proportion of women using IUDs rises from 20% in the first postnatal year to more than 75% in the fifth postnatal year (Figure 1). In the first year following childbirth, the induced abortion rate is 16 abortions per 1,000 months of exposure. By the fifth year, the rate is close to zero, thus providing a vivid demonstration of the trade-off between contraceptive effectiveness and induced abortion.

The second illustration involves a compilation of data on abortion and contraceptive use for a set of countries having approximately the same level of fertility and reliable information on contraception and abortion. The countries selected had a TFR between 1.7 and 2.2 births per woman, because this choice maximized the number of countries and years that could be included. Relevant information was obtained for a total of 36 time points from 11 countries. We included all available data points from all periods in which the TFR was within the specified range.

Figure 2 (page 8) shows a plot of abortion rates and prevalence of modern contraceptive use. The least-squares regression line shows the expected inverse relationship between prevalence of use and the abortion rate. When prevalence of modern method use is around 70%, the abortion rate is typically in the range of 10–30 abortions per 1,000 women in the reproductive ages. When prevalence is 40–60%, abortion rates rise to 30–50 per 1,000. Considerable dispersion from the regression line is evident, reflecting, in part, a mismatch of denominators for the con-

FIGURE 2. Regression of the percentage of married, reproductive-age women using modern contraceptives on the abortion rate in selected countries at points when total fertility was 1.7–2.2 births per woman



Sources: **Abortion**—Bulgaria (1976): Tietze C, 1979 (reference 19); England and Wales (1976, 1983, 1986, 1989, 1991, 1993, 1995, 1997 and 1998): Macfarlane A et al., *Birth Counts: Statistics of Pregnancy and Childbirth*, London: The Stationery Office, 2000; Scotland (1976, 1983, 1986 and 1991): Macfarlane A et al., *Birth Counts: Statistics of Pregnancy and Childbirth*, London: The Stationery Office, 2000; Czech Republic (1970 and 1993): Wynnyczuk V and Uzel R, Czech Republic and Slovak Republic, in: David HP and Skilogianis J, eds., 1999 (reference 18), pp. 91–120, and (for 1991): reference 17; Denmark (1970 and 1975): Tietze C, 1979 (reference 19); Finland (1971): Tietze C, 1979 (reference 19), and (for 1989): reference 17; Hungary (1958 and 1966): Tietze C, 1979 (reference 19), and (for 1986 and 1992): David HP, 1999 (reference 31); Netherlands (1975 and 1977): reference 17; Norway (1977): Tietze C, 1979 (reference 19), and (for 1988): reference 17; Singapore (1977): Tietze C, 1979 (reference 19), and (for 1982) reference 17; United States (1976): Tietze C, 1979 (reference 19), and (for 1982, 1988, 1990 and 1995) reference 17. **Contraception**—Great Britain: Macfarlane A et al., *Birth Counts: Statistics of Pregnancy and Childbirth*, London: The Stationery Office, 2000; all others: United Nations, 1998 (see reference 19).

traceptive and abortion data. Contraceptive-use data pertain to married or cohabiting women, whereas abortion rates are based on all women. Nevertheless, Figure 2 provides convincing support for the Bongaarts-Westoff model.

The model is further buttressed by the plot in Figure 3. In Figure 3, the proportion of married, reproductive-age women using traditional methods (e.g., withdrawal and periodic abstinence) has been plotted against abortion rates, for countries and periods in which total contraceptive prevalence exceeds 65%, and in which the TFR, as in Figure 2, is 1.7–2.2 children per woman. At a given TFR, reliance on abortion rises with the proportion of women using traditional methods—the inverse of the relationship shown in Figure 2. Where modern contraceptives are the principal methods used, abortion rates are far lower.

The third and final illustration comes from the well-known Matlab intervention in Bangladesh.¹⁰ Trends in abortion rates in two areas were examined using longitudinal data collected over the period 1979–1998. These data were matched with information on fertility preferences from two surveys, conducted in 1984 and 1990, to examine differences between intended and unintended pregnancies. In one area, there was a highly active family planning intervention; in the other, the comparison area, only the normal government services were in place. At the beginning

of the study period, abortion rates were similar in the comparison and intervention areas. From 1983 on, the abortion rate increased in the comparison area, while decreasing in the intervention area. At the end of the study period, the comparison area had an abortion rate more than three times as high as the rate in the intervention area.

On the basis of the survey data from 1984 and 1990, the authors report that unintended pregnancies declined in both areas, but that the rate of unintended pregnancy was significantly lower and the decline greater in the intervention area. As would be expected, in both areas and both time periods, unintended pregnancies were much more likely than intended pregnancies to end in abortion. However, women in the intervention area were much less likely to abort intended pregnancies than were women in the comparison area. Women in the intervention area had better access to reliable contraceptive methods, an advantage that the authors suggest assisted them in spacing and timing their births as they wished, hence decreasing the proportion of intended pregnancies aborted because of poor timing. In both areas, the percentage of pregnancies aborted increased significantly between the early 1980s and the late 1990s, but in both periods, the percentage was significantly lower in the intervention area than in the comparison area.

The role of fertility decline is key in explaining these results: Fertility declined in both areas over the study period, but the declines were achieved in different ways. In the intervention area, where there was easier access to family planning services, contraception provided the main method of fertility regulation. By contrast, in the comparison area, where these services were lacking, women had more unintended pregnancies and more abortions. In addition, despite similar desired family sizes in the two areas, fertility was still higher in the comparison area at the end of the study, suggesting that contraception is more effective than abortion in regulating fertility in Matlab. Similar results were obtained in a separate study of Matlab that also used longitudinal data (collected from 1982 to 1995) from the intervention and control areas.¹¹

EVIDENCE OF NATIONAL TRENDS: PUBLISHED STUDIES

The relationship between the incidence of abortion and the change from traditional to modern contraceptive methods was examined in a study of Turkey, primarily based on data from the nationally representative 1993 and 1998 Turkey Demographic and Health Surveys.¹² The authors found that the abortion rate rose sharply after legalization in 1983, but declined steadily after 1988, from 45 abortions per 1,000 married women in that year to 25 per 1,000 in 1998. During this period of decline in abortion rates, use of traditional methods of contraception declined moderately and use of modern methods increased. The authors found that unmet need for contraception (traditional or modern) did not change during the period of decline, suggesting that the reduced levels of abortion were partly due to this shift from less-effective to more-effective methods. By simulating different scenarios and comparing them to the empirical data,

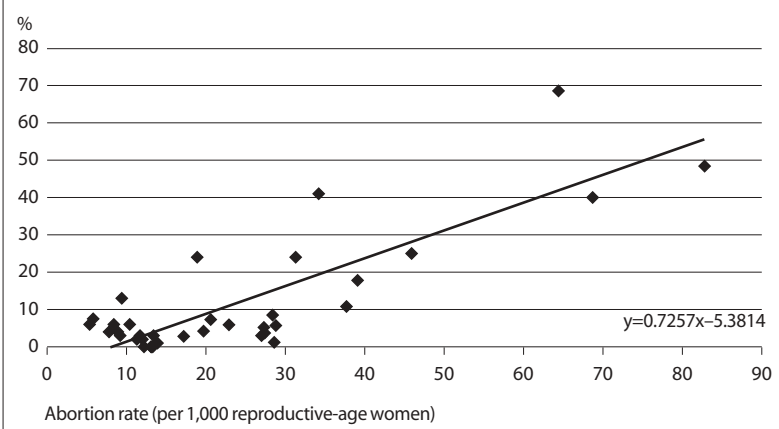
the authors conclude that the principal causes (in order of importance) were a lower propensity to abort accidental pregnancies while using traditional methods, a decline in failure rates of traditional methods, and finally, a shift in method mix toward modern contraception.

The direct impact of the shift from traditional methods to modern methods is, therefore, less important in this analysis than the decline in failure of traditional methods. The authors, however, point out that the shift in method use may also have contributed indirectly both to the decline in the failure rate of traditional methods and to the decline in the propensity to abort pregnancies resulting from traditional method failures: Women at particularly high risk of traditional-method failure, or those who were particularly likely to abort a pregnancy resulting from such failure, may have disproportionately switched to modern methods.

A detailed examination of the extent to which abortion can be replaced by contraception has been carried out by Westoff and colleagues,¹³ who examine trends in abortion and contraception in the populations of three central Asian republics (Kazakhstan, Uzbekistan and the Kyrgyz Republic) that were formerly part of the Soviet Union. In the Soviet Union, abortion was legal and widely available, whereas contraceptives were in limited supply. This situation led to a preference for abortion over contraception in some groups, and was associated with high rates of abortion, estimated in 1990 at around 181 per 1,000 women of reproductive age.¹⁴ Increases in contraceptive prevalence and reductions in abortion appear to be related. Abortion rates in the republics examined have declined over the last decade, and there has been a simultaneous rise in use of modern contraceptive methods. The authors show that levels vary within the populations by ethnic group, age and parity. Ethnic Russians have higher rates of abortion than other groups, and older women and higher-parity women are also more likely to abort their pregnancies. Abortion was found to be used both for spacing and for limiting births, and the authors conclude that abortion is used approximately equally for the two purposes.¹⁵

To analyze the abortion rate in these populations in more detail, the authors divided women into two groups—users and nonusers of contraceptive methods. Nonusers were subdivided into five groups, as follows: those who had never had sexual intercourse, so had had no pregnancies and, therefore, no abortions; currently pregnant women, some of whom would be expected to abort; women who were trying to become pregnant, some of whom might abort if they changed their minds after becoming pregnant; women who were infertile or at low risk of pregnancy because of infrequent sex or for other reasons; and women at risk of pregnancy who wanted to avoid conception, but were not using any method of family planning (i.e., those with unmet need). Of women who had aborted their last pregnancy, the largest group in each population comprised women with unmet need for contraception, suggesting that improved uptake of contraception was probably an important component in reduction of the abortion rate in these populations.

FIGURE 3. Regression of the percentage of married, reproductive-age women using traditional methods on the abortion rate in selected countries with overall contraceptive prevalence of greater than 65% and total fertility of 1.7–2.2 births per woman



Sources: See Figure 2.

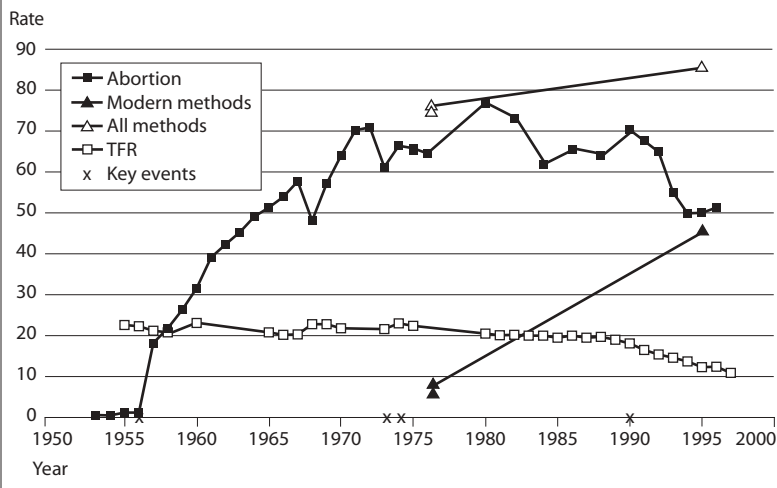
Subsequent analysis using data from the 1999 Kazakhstan Demographic and Health Survey revealed evidence both of a continuing increase in use of modern contraceptives and of declining recourse to abortion: Contraceptive prevalence in Kazakhstan increased by 50% in the 1990s, and abortion decreased by the same amount.¹⁶

NATIONAL TRENDS: NEW EVIDENCE

We used two criteria for inclusion of data in this part of the study. First, the country under examination had to have reasonably complete and accurate abortion data. In this regard, we followed the judgment of Henshaw and colleagues.¹⁷ In addition, for the analysis of trends, we needed contraceptive prevalence data representative of the population as a whole for at least two points in time. The criteria used to select populations for this analysis effectively excluded the many countries for which accuracy of abortion reporting is extremely questionable, for example, those where abortion is illegal or where there is no central reporting system. In addition, contraceptive prevalence data for many countries were unavailable for the same time period as abortion data, if at all. In some countries, contraceptive prevalence data were available for only two points in time; thus, any fluctuations between the two points are invisible. Countries for which data were available, but where very little change in contraceptive prevalence had taken place were also excluded (although some were included in the scatter plots in Figures 2 and 3). Data were obtained from a range of sources, which are cited in the text. The final selection included 11 countries: Bulgaria, Cuba, Denmark, Hungary, Kazakhstan, Netherlands, Singapore, South Korea, Switzerland, Tunisia and the United States.*

*Seven countries with reasonably accurate and complete abortion data—Belarus, Belgium, Estonia, Israel, Latvia, Slovenia and Sweden—were excluded from the final analysis because they had no information on levels of contraceptive use. Six countries—Canada, Finland, Great Britain, New Zealand, Norway and the Slovak Republic—were excluded because no change occurred in their levels of contraceptive prevalence over time or because no trend data were available.

FIGURE 4. Trends in abortion rate, use of modern methods, use of all methods and total fertility rate, by year (with key events indicated), Bulgaria, 1950–2000



Notes: In this and subsequent figures, abortion rates are expressed per 1,000 women of reproductive age, contraceptive prevalence per 100 married women of reproductive age and, for ease of presentation, TFRs per 10 women. Key events: 1956—abortion on request; 1968—abortion restricted for childless women; 1973—restrictions tightened; 1974—restrictions relaxed somewhat; 1990—first-trimester abortions available on request. Modern methods were difficult to obtain before about 1975 (reference 18). Sources: **Abortion**—reference 17, reference 18; and Tietze C, 1979 (reference 19). **Contraception**—reference 18; United Nations, 1998 (reference 19).

Contraceptive Use Rising as Abortion Falls

Trends in abortion incidence and contraceptive prevalence over time in Bulgaria are consistent with evidence presented earlier that modern contraception can replace abortion (Figure 4). In Bulgaria, modern methods were difficult to obtain until around 1975.¹⁸ Fertility rates remained relatively steady across the period illustrated on the graph, but abortion incidence dropped in the 1980s and 1990s as use of modern contraceptive methods increased. Taken together, these patterns imply that modern method use reduced the need for induced abortion in the population.

This pattern of abortion apparently being replaced by contraception is also seen in trend data for Tunisia (1975–

1995) and Switzerland (1980–1995); in both countries, modern method use rose as abortion incidence declined. The increase in contraceptive use and decline in abortion were less pronounced in Switzerland than in Bulgaria and Tunisia.

Simultaneous Rises in Abortion and Contraception

In many populations, rising levels of contraceptive prevalence are not associated over time with falling levels of abortion. It is likely that much of this divergence from the predicted inverse relationship can be explained by simultaneous changes in the TFR, which may mean that the proportion of couples practicing contraception is not keeping pace with the proportion desiring smaller families.

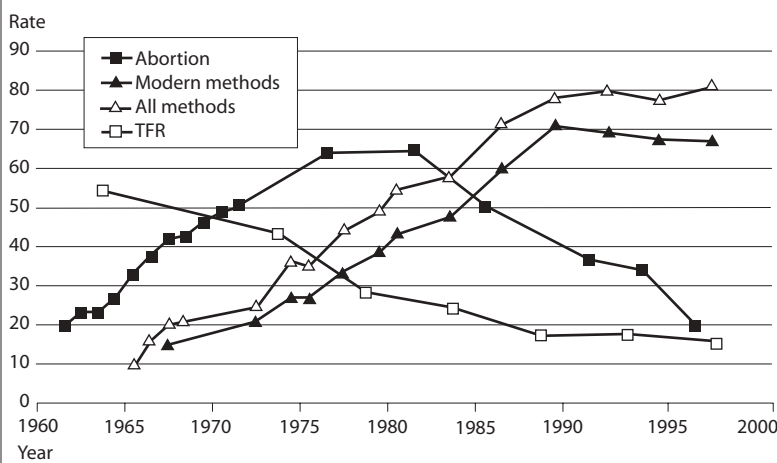
In Cuba, both contraceptive prevalence and abortion incidence increased between 1970 and 1985, with no decline evident in abortion levels in the period for which data are available (1967–1995).¹⁹ This simultaneous rise in both means of fertility regulation, however, coincides with a dramatic drop in fertility from more than four births per woman in 1965 to fewer than two births per woman in the 1990s. The increase in modern contraceptive use alone was probably not sufficient to reach this low level of fertility; therefore, women likely still resorted to induced abortion. Eventually, abortion should be replaced by contraception if levels of contraceptive prevalence continue to rise and fertility stabilizes.

This pattern also seems to have occurred in Denmark (1970–1990), the Netherlands (1970–1995) and the United States (1965–1995).²⁰ In these countries, as in Cuba, abortion incidence rose noticeably as contraceptive prevalence increased, while fertility levels dropped. Unlike the case in Cuba, however, this initial simultaneous rise in levels of abortion and contraceptive use was followed in these countries by a decline in abortion. This occurred in the early 1970s in the Netherlands, in the mid-1970s in Denmark and in the early 1980s in the United States. In each country, the decline was accompanied by a continued rise in levels of contraceptive use, and the stabilization of fertility at a lower level than before.

In Singapore, the same pattern of an initial rise in both abortion and contraceptive use under conditions of fertility decline (1970–1985) was followed by a decline in abortion levels for the remaining period for which data are available (1985–1997), starting in the middle to late 1980s. Data on contraceptive prevalence are not available for this latter period, but it is probable that these levels have risen steadily as abortion has declined.²¹

Long time series of data on both contraception and abortion are available for the Republic of Korea, although the abortion data are not considered to be of very high quality.²² Nevertheless, the trends represent a very complete example of the type of pattern described for Denmark, Netherlands and the United States. Figure 5 shows simultaneous increases in level of contraceptive use and the rate of abortion. In the late 1970s, however, abortion incidence peaked and subsequently fell, whereas contraceptive prevalence

FIGURE 5. Trends in abortion rate, use of modern methods, use of all methods and total fertility rate, Republic of Korea, 1960–2000



Sources: **Abortion**—reference 17; and Tietze C, 1979 (reference 19). **Contraception**—United Nations (UN), 1998 (reference 19). **Total fertility rate**—UN, 2003 (reference 20); and Ross JA, Mauldin WP and Miller VC, 1993 (reference 19).

continued to rise. During the period shown, the Republic of Korea was undergoing a transition from high to low fertility: Desired family sizes were becoming smaller, and the TFR was falling. At the population level, because contraceptive adoption did not increase as quickly as the need for fertility regulation, many couples resorted to abortion to achieve their dramatically lower fertility desires.

Government Legislation and Abortion Levels

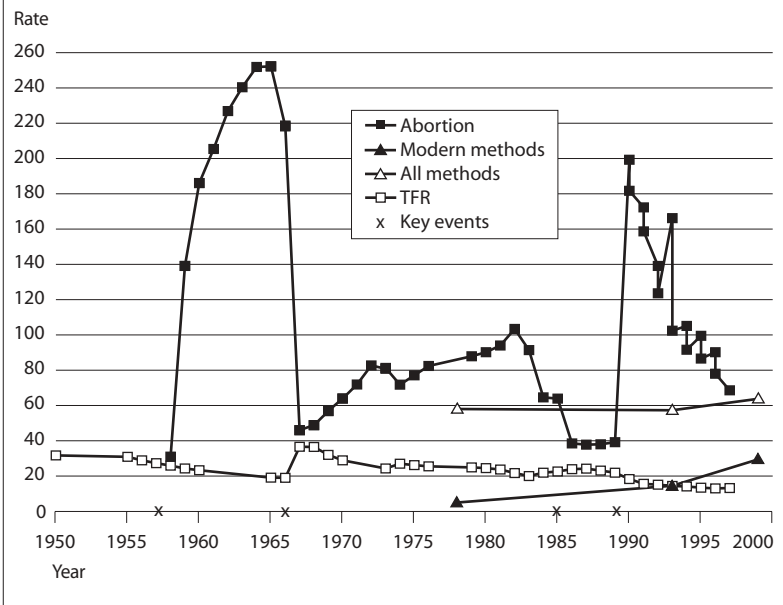
The legal status of abortion does not appear to affect levels of abortion in a population in a straightforward way. For example, some of the lowest abortion levels in the world occur in countries in which abortion is legal (e.g., Western Europe) and some of the highest abortion levels occur in countries in which abortion is illegal (e.g., Latin America).²³ Nevertheless, changes in legislation can have dramatic effects on rates of legal abortion. If these changes are not accompanied by corresponding changes in levels of contraceptive use or fertility, it is more likely that legal abortions will replace illegal abortions or vice versa rather than that the abortion level overall will change. Figure 6 shows the case of Romania, where abortion became the principal method of fertility limitation when it was legalized in 1957. The effects of the sudden legislative change in 1966 that restricted legal abortion can be seen in the subsequent dramatic decrease in the abortion rate and the near doubling of the TFR. The restrictions on abortion were part of a set of pronatalist policies that also included restrictions on divorce and access to contraceptives, special taxes on childless individuals and incentives for childbearing, such as paid medical leave during pregnancy.²⁴

One of the first acts of the new government following the overthrow of Ceausescu in December 1989 was to reverse many of these restrictions, making legal abortion more accessible again.²⁵ Although the general trends shown in Figure 6 are likely to resemble what occurred in the Romanian population, abortion was politically sensitive during the Ceausescu regime, and the levels reported, particularly during the 1980s, are probably too low.²⁶ As in other countries where abortion is illegal or very restricted, maternal mortality and morbidity rose to very high levels as soon as the restrictions were implemented. Abortion-related maternal mortality increased during the 1980s, when legal abortions were highly restricted, from low levels in the 1960s, when abortion was available on demand,²⁷ suggesting that many women may have resorted to unsafe, illegal abortions during the 1980s. An estimated 87% of all maternal deaths in Romania during this period were attributable to unsafe abortions.²⁸

Other examples of the link between legality of abortion and maternal mortality exist. In Sweden, abortion-related mortality was 99.9% lower in the 1970s than in the 1930s. This change has been linked to the legalization of abortion.²⁹

The change in abortion rates that occurred in Hungary as abortion laws changed was similar to that in Romania.³⁰ In Hungary, however, the situation was less clearly related to legislative change, primarily because women could ob-

FIGURE 6. Trends in abortion rate, use of modern contraceptives, use of all methods and total fertility rate, by year (with key events indicated), Romania, 1950–2000



Notes: Key events: 1957—abortion legalized on request; 1966—abortion restricted; 1985—abortion further restricted; 1989—abortion legalized (reference 24). Sources: **Abortion**—reference 17; reference 24. **Contraception**—United Nations, 1998 (reference 19). **Total fertility rate**—reference 24.

tain abortions despite restrictions,³¹ but also because the decrease in abortion rates following legislative restrictions was accompanied by an increase in the use of modern family planning methods, which would be expected to reduce contraceptive failure and, consequently, abortion. Hungary was the only socialist country in Eastern Europe to promote family planning actively, a factor that has been credited for the subsequent decline in the country's abortion rate.³²

CONCLUSION

Empirical study of the aggregate relationships between contraceptive use and induced abortion has to be limited to the few countries where reasonably reliable information exists on both. Despite this severe limitation, our review of the evidence provides ample illustration of the interaction between these factors. When fertility levels in a population are changing, the relationship between contraceptive use and abortion may take a variety of forms, frequently involving a simultaneous increase in both. When other factors—such as fertility—are held constant, however, a rise in contraceptive use or effectiveness invariably leads to a decline in induced abortion—and vice versa.

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27. Ibid.; and Henshaw SK et al., 1999, op. cit. (see reference 17).

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31. David HP, 1999, op. cit. (see reference 30).

32. Ibid.

RESUMEN

Contexto: La relación entre los niveles de uso de anticonceptivos y el aborto inducido continúa propiciando un candente debate. Algunos observadores sostienen que el uso del aborto disminuye a medida que aumenta la prevalencia del uso de anticonceptivos, en tanto que otros afirman que un mayor uso de métodos de planificación familiar contribuye a un aumento en la incidencia del aborto.

Métodos: En los países que cuentan con datos sobre el uso anticonceptivo en dos momentos por separado y que indican un aumento en la prevalencia del uso de anticonceptivos, se examinaron las tendencias del uso del aborto. Asimismo, se estudió el papel que desempeña los cambios de fecundidad con respecto a la relación entre el aborto y la anticoncepción.

Resultados: En siete países—Bulgaria, Kazajstán, República de Kirguistán, Uzbekistán, Suiza, Túnez y Turquía—la incidencia del aborto declinó a medida que aumentó la prevalencia del uso de anticonceptivos. En otros seis países—Cuba, Dinamarca, Estados Unidos, Países Bajos, República de Corea y Singapur—los niveles del aborto y el uso de anticonceptivos aumentaron en forma simultánea. En estos seis países, sin embargo, los niveles generales de fecundidad estaban disminuyendo durante el período en que se realizó el estudio. Después que se estabilizaron los niveles de fecundidad en varios de estos países que habían indicado aumentos simultáneos de la anticoncepción y el aborto, el uso de anticonceptivos continuó aumentando y disminuyeron las tasas de abortos. El ejemplo más claro de esta tendencia fue el la República de Corea.

Conclusiones: El aumento del uso de anticonceptivos resulta en una menor incidencia del aborto en los lugares donde la fecundidad es constante. En algunos países, el aumento paralelo en el aborto y en la anticoncepción ocurre debido a que el solo aumento del uso de anticonceptivos no puede satisfacer la creciente necesidad de regular la fecundidad en casos en que la fecundidad se encuentra disminuyendo en forma rápida.

RÉSUMÉ

Contexte: Le rapport entre les niveaux de pratique contraceptive et l'incidence de l'avortement provoqué continue d'enflammer les débats. Certains observateurs estiment que le recours à l'avortement diminue lorsque la prévalence contraceptive augmente, tandis que d'autres voient dans la pratique accrue des méthodes de planning familial la cause d'une plus grande incidence de l'avortement.

Méthodes: Les tendances de l'avortement sont examinées dans

des pays disposant de données fiables sur l'IVG et de l'information de prévalence contraceptive prélevée en deux points du temps qui révèle une hausse de la pratique contraceptive. Le rôle de l'évolution de la fécondité dans le rapport entre l'avortement et la contraception est également exploré.

Résultats: Dans sept pays (Kazakhstan, République kirghize, Ouzbékistan, Bulgarie, Turquie, Tunisie et Suisse), l'incidence de l'avortement a baissé tandis qu'augmentait la prévalence contraceptive. Dans six autres (Cuba, Danemark, Pays-Bas, Etats-Unis, Singapour et République de Corée), les niveaux de l'avortement et de la pratique contraceptive ont enregistré une hausse simultanée. Dans ces six pays, toutefois, la fécondité globale apparaît en baisse pendant la période à l'étude. Après stabilisation des niveaux de fécondité dans plusieurs des pays qui avaient présenté une hausse simultanée de la contraception et de l'avortement, la pratique contraceptive a continué de croître tandis que baissaient les taux d'avortement. L'exemple le plus clair de cette tendance est la République de Corée.

Conclusions: La hausse de la pratique contraceptive donne lieu à une incidence réduite de l'avortement dans les contextes où la fécondité reste constante. La hausse parallèle de l'avortement et de la contraception dans certains pays est le produit de l'incapacité de la contraception seule à satisfaire le besoin grandissant de limitation des naissances dans les circonstances où la fécondité baisse rapidement.

Acknowledgments

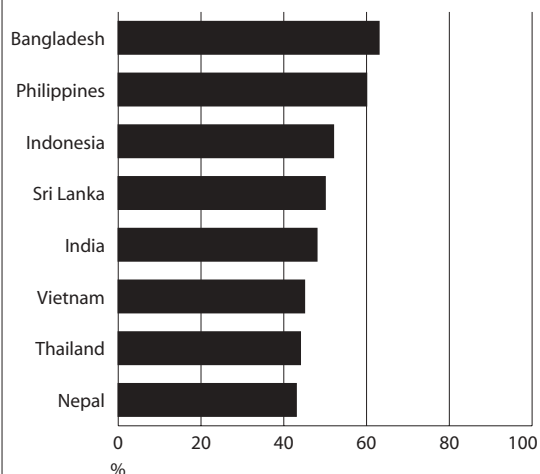
This project was funded by the World Health Organization (WHO). A longer version of this article that contains additional graphs will be published as part of Marston C and Cleland J, The Effects of Contraception on Obstetric Outcomes. It will be available from the WHO Department of Reproductive Health and Research (www.who.int/reproductive-health). The authors thank John Bonggaarts, Sarah Harbison, Iqbal Shah, John Townsend and Charles Westoff for their comments on earlier versions.

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CORRECTION

In "Reproductive Choices for Asian Adolescents: A Focus on Contraceptive Behavior," by Saroj Pachauri and K.G. Santhya [2002, 28(4):186-195], the bar chart shown in Figure 2 (p. 187) is incorrect. The corrected figure is shown below, and can be downloaded at <http://www.guttmacher.org/pubs/journals/2818602.html>.

FIGURE 2. Percentage of married female adolescents who have had a child, selected countries of South Asia and Southeast Asia



Sources: Reference 9, reference 10 and reference 30.