

Fertility Regulation in a Declining State Socialist Economy: Bulgaria, 1976–1995

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Context: Although reproductive behavior in eastern Europe is believed to have altered with the decline of the state socialist systems, there are few data available with which to elucidate changes.

Methods: Findings from a 1976 World Fertility Survey of married women and from a 1995 survey of married and unmarried women are used to assess changes in contraceptive usage during a two-decade time period in Bulgaria. Data on the number of births and abortions from the country's vital and health statistics system are then used to analyze corresponding changes in reproductive outcomes.

Results: Among married women aged 15–44, use of modern contraceptive methods increased from 6% in 1976 to 46% in 1995, while their reliance on traditional methods decreased from 70% to 40%. The proportion of women using no method decreased from 25% in 1976 to 14% in 1995. Although married women under the age of 20 did not increase their practice of contraception as much as women aged 20–44, their reliance on modern methods increased from 1% in 1976 to 18% in 1995. During the same 20-year time period, an increasing share of pregnancies ended in abortion, while live births declined in relative frequency. In 1976, 49% of all pregnancies ended in abortion; by 1995, the proportion had increased to 57%.

Conclusions: Concurrent with an increase in the practice of contraception, Bulgarian women's reliance on induced abortion also increased. The trend evidenced in Bulgaria provides a fresh example of a multiphasic response: A strong stimulus (in this case a declining economy) created an urgency among Bulgarians to control their fertility by all available options.

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In the decade since the 1990 World Health Organization conference, "From Abortion to Contraception,"¹ held in Tbilisi, Georgia, family planning efforts in eastern Europe have focused on increasing contraceptive use to reduce the region's heavy reliance on induced abortion as the primary means of fertility regulation. However, the relationship between contraceptive use and abortion may be more complex than the conference title suggests.

Both contraceptive use and abortion figure among the intervening variables affecting fertility that are outlined by Davis and Blake,² but they do not necessarily vary inversely (i.e., an increase in one may not produce a decrease in the other). In this article, we use data on contraceptive use, births and abortions to examine trends in reliance on induced abortion in Bulgaria, women's patterns of reliance on contraception and abortion during the past 20 years, and trends in the proportion of pregnancies ending in live births.

Data

Information about contraceptive practices in Bulgaria comes from two sources. First is the 1976 World Fertility Survey (WFS), one of the few such surveys undertaken in what is not considered to be a developing country. The survey of a national probability sample of 6,352 women aged 15–45³ and in their first marriages has been neither received nor catalogued in any of the international repositories for WFS data. Scholars and authorities in Sofia believe the data set no longer exists. It has never been subjected to independent analysis by scholars outside the original group of investigators in Bulgaria.

A few summary statistics, including information on the proportions of respondents using different contraceptive methods, have passed from hand to hand as citations in review articles.⁴ The only known detailed report of findings from this survey was published in 1981 (in Bulgarian) by a group of scholars under the lead-

ership of Nikolai Naoumov. In the absence of original individual-level records from the 1976 WFS, we have based our analysis on findings from the Naoumov report.⁵

In 1995, the Institute of Demography in the Bulgarian Academy of Sciences and the Bulgarian National Statistical Institute (NSI) cooperated on the Women in Transition Survey (WTS).⁶ Involving a national probability sample of 8,642 men and women, the WTS is our second source of contraceptive information. The survey included questions about knowledge, attitudes and practices regarding contraception, similar to those of the 1976 WFS and of the Demographic and Health Surveys conducted elsewhere.

The respondents were selected by the NSI from a sampling frame maintained throughout Bulgaria. The population of Bulgaria, as enumerated in its 1992 census, was divided into 41,224 enumeration districts, following administrative boundaries (regions and municipalities). These served as the primary sampling units. Although the districts' population counts are not precisely equal, they do provide an adequate basis for random sampling.

Annually, the NSI field staff update basic census information for a random sample of 4,065 primary sampling units. Each year, 1,000 of these updated units are drawn at random for inclusion in the NSI's semi-monthly household budget survey and are studied carefully. From each of the 1,000 sampling units, eight households were randomly selected for inclusion in the WTS. A comparison of the sample households'

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characteristics (such as age distributions, sex ratios and marital status distributions) with those of the national population suggests respondents are representative of the national population.

The annual numbers of births and abortions come from the country's vital and health statistics system, as furnished by the National Statistical Office and the Ministry of Health. Some of these vital statistics are taken from published sources; other supplementary unpublished information was made available by the Center for Health Informatics at the Ministry of Health and the Department of Population Statistics in the National Statistical Institute.

Findings

Trends in Contraceptive Use

Between 1976 and 1995, patterns of contraceptive use changed dramatically in Bulgaria (Table 1). For example, among married women, there was a large increase in modern contraceptive use. The 1976 WFS found that among 15–44-year-olds, only 6% reported use of the pill, the IUD or the condom. By 1995, 46% of married women aged 15–44 were found to be using one of these methods. Of the women surveyed in 1976, 24% did not practice contraception; by 1995 the proportion of women using no method had decreased to 14%.

While 70% of married women relied on traditional contraceptive methods in 1976, this proportion had dropped to 40% by 1995. Among those aged 25–44, use of withdrawal fell by nearly half, and even sharper reductions were found among those relying on periodic abstinence.

While about one of every 10 married women used a modern contraceptive method in 1976, the figure was closer to five of 10 by 1995. The use of some methods increased more than others. Of all modern methods, the use of IUDs, all but unknown in 1976, increased the most: By 1995, about one-quarter of women aged 25–44 were using IUDs. Pill use among women aged 25–44 increased from less than 3% to approximately 10%. Condom use also increased significantly, from around 2% of women in most age-groups to anywhere from 8% (among 15–19-year-olds) to 19% (among 25–29-year-olds). In 1995, IUD use was highest among women aged 30–34, followed by those aged 25–29. Similarly, condom use was greatest among those aged 25–29, followed by women aged 30–34.

A limitation of the Bulgaria WFS, like others of its kind, was its exclusion of unmarried women,⁷ who were included in the later WTS. Without 1976 data on unmarried women, we can compare only the

Table 1. Percentage distribution of women aged 15–44, by current contraceptive use, according to age and marital status, Bulgaria, 1976 and 1995

Age, year and marital status	N	Pill	IUD	Condom	Douche	Periodic abstinence	Withdrawal	None	Total
15–44									
1976—married	6,352	2.5	1.4	2.1	0.8	9.3	59.0	25.0	100.0
1995—married	1,762	9.3	22.3	14.0	2.0	4.1	34.2	14.1	100.0
1995—unmarried	765	10.3	6.7	12.9	0.9	3.0	16.1	50.1	100.0
15–19									
1976—married	219	0.4	0.4	0.0	1.4	5.9	29.2	62.6	100.0
1995—married	40	5.0	5.0	7.5	5.0	5.0	37.5	35.0	100.0
1995—unmarried	319	6.3	0.3	9.7	0.6	3.4	10.0	69.6	100.0
20–24									
1976—married	983	2.5	0.9	2.0	0.6	8.7	48.3	36.9	100.0
1995—married	204	7.9	14.7	12.8	1.9	1.9	38.2	22.5	100.0
1995—unmarried	208	10.6	2.9	18.8	1.4	0.5	20.7	45.2	100.0
25–29									
1976—married	1,335	3.8	1.8	2.5	0.8	8.7	59.0	23.4	100.0
1995—married	332	8.1	25.6	19.2	2.7	3.0	27.7	13.6	100.0
1995—unmarried	74	17.6	13.5	20.3	1.4	5.4	12.2	29.6	100.0
30–34									
1976—married	1,295	2.3	1.6	2.5	0.6	10.1	64.5	18.4	100.0
1995—married	342	10.5	29.3	14.4	1.2	3.5	33.1	8.1	100.0
1995—unmarried	39	20.5	17.9	10.3	0.0	0.0	25.6	25.6	100.0
35–39									
1976—married	1,263	1.7	1.3	1.7	1.2	9.8	65.2	19.1	100.0
1995—married	407	10.6	23.1	13.3	2.7	4.9	33.2	12.2	100.0
1995—unmarried	69	10.1	20.3	5.8	1.4	5.8	26.1	30.4	100.0
40–44									
1976—married	1,257	2.3	1.3	2.1	0.8	9.4	60.7	23.5	100.0
1995—married	437	8.9	19.0	11.5	1.4	5.7	38.7	14.8	100.0
1995—unmarried	56	16.1	21.4	10.7	0.0	5.4	19.6	26.8	100.0

Notes: Data were not collected for unmarried women in 1976. Totals may not add to 100% due to rounding.

data on married women in 1976 with those of 1995, and then analyze the differences between married and unmarried women in 1995.

In 1995, the proportion of married women aged 25 and older who were using a modern contraceptive method (43%) was similar to that of unmarried women (39%). At the youngest ages, however, unmarried women were far less likely to practice contraception than were married women. (Many of the youngest unmarried women were not practicing contraception because they were not sexually active.)

Although married women younger than 20 practiced contraception more than did their unmarried counterparts, they did not use contraceptives as much as women in the older age-groups. Nevertheless, the proportion of married women aged 15–19 using no contraceptive method decreased from 63% in 1976 to 35% in 1995. However, not all of this decrease was accounted for by more widespread use of modern contraceptives; four-tenths of the increased contraceptive use among married teenagers was due to increased reliance on traditional methods, in particular douche and withdrawal. While married 15–19-year-olds using modern contraceptive methods re-

lied on all types almost equally, their unmarried counterparts were more likely to rely on condoms and rarely used IUDs.

The 20–24 age-group form a bridge between the teenagers and women older than 25. Among married women aged 20–24, the use of no contraceptive method fell from 37% to 23%. Their reliance on withdrawal and rhythm also declined, and their use of modern methods expanded considerably. In 1995, the IUD was the most widely used method among the married women in this age-group, while condoms and pills were more widely used by their unmarried counterparts.

Trends in Births and Induced Abortions

At the same time that contraceptive use increased substantially in Bulgaria, the share of pregnancies ending in abortion also increased. Table 2 (page 186) shows the total number of births and abortions in the years 1970–1996. The totals combine live births with stillbirths and induced abortions with spontaneous abortions. Because the majority of births recorded are live births and the majority of abortions are induced, we attribute trends observed in both categories to these outcomes.

The size of the female population of

Table 2. Total number of births and abortions, and percentage of pregnancies ending in abortion, Bulgaria, 1970–1996

Year	No. of births	No. of abortions	% of pregnancies ending in abortion
1970	140,127	142,511	50.4
1971	136,802	153,687	52.9
1972	132,554	154,715	53.9
1973	140,962	137,439	49.4
1974	150,426	144,509	49.0
1975	145,836	143,450	49.6
1976	146,070	142,261	49.3
1977	142,795	141,917	49.8
1978	137,534	147,797	51.8
1979	136,329	148,084	52.1
1980	129,176	156,056	54.7
1981	125,133	152,531	54.9
1982	125,085	147,976	54.2
1983	123,856	134,413	52.0
1984	123,143	131,322	51.6
1985	119,740	132,269	52.5
1986	120,794	134,964	52.8
1987	117,392	134,097	53.3
1988	118,138	133,147	53.0
1989	112,953	132,021	53.9
1990	105,821	144,644	57.8
1991	97,134	138,405	58.8
1992	90,442	132,891	59.5
1993	85,574	107,412	55.7
1994	80,426	97,547	54.8
1995	72,425	97,092	57.3
1996	72,188	98,663	57.7

Source: National Statistical Institute and Bulgarian Ministry of Health (published and unpublished data).

childbearing age remained almost constant from 1970 to 1996; therefore, the trends found in simple counts of events probably are virtually identical to those that would have been observed in total fertility rates and total abortion rates.* Since both 1976 and 1995 were typical years in this series, comparing them does not distort the overall time trend.

In 1976, women in Bulgaria had 146,070 births and 142,261 abortions, very nearly a half-and-half split of all pregnancies. The number of births declined steadily throughout the next two decades; by 1995, only 72,425 births were recorded in the country—a drop of 50% from 1976. Abortions declined in number as well, but more slowly. In fact, the total number of abortions in the late 1980s had hardly decreased at all (only 6–7%) from the 1976 level. After the collapse of the state socialist system from 1989 to 1990, the total number of both pregnancies and abortions fell rapidly, at first outpacing continuing declines in the number of births. The decrease in the number of abortions bottomed out in 1994, and the fertility decline appears to have leveled off in 1995. Lev-

*This is fortunate because, while Bulgaria's total fertility rate is calculated annually, the total abortion rate values cannot be calculated. Age-specific data on abortions have neither been calculated nor published by the Bulgarian Ministry of Health.

els observed in 1995 may represent a new stabilization of both births and abortions at much lower levels than in earlier years.

When the chance that a pregnancy will end in abortion rather than birth is considered, as illustrated by the abortion ratio, it is clear that pregnancies were more likely to end in abortion during the early 1990s than ever before. The share of pregnancies ending in abortions increased from slightly less than half of all pregnancies (49%) in 1976 to well over half (57%) in 1995.

Discussion

Between 1976 and 1995, there were sizable increases among Bulgarian women in the use of modern contraceptives, especially IUDs. Reliance on traditional methods or the use of no method at all declined sharply for women above the age of 25. Women younger than 20, who were still in the midst of family formation, did not increase their use of contraceptives as much, and what increases were found were split between traditional and modern methods.

No national surveys of contraceptive knowledge and practice were conducted in Bulgaria during the late 1980s, so it is not possible to know whether the changed patterns of contraceptive use occurred before or after the societal upheaval of that time. Structural change in Bulgarian society occurred relatively slowly in the early 1990s; therefore, the impact of the upheaval may not be as critical as in other countries where the post-Communist transformation was more drastic.

Such parallel increases in both contraception and abortion vividly illustrate the substitution effect implied by the theme of the 1990 Tbilisi conference oversimplifies the realities of reproductive decision-making in contemporary eastern Europe. Increased reliance on both modern contraceptives and induced abortion among women caught in a declining state socialist economy, common throughout eastern Europe, might reflect what Kingsley Davis has called a "multiphasic response." He observed it in Japan: "It is the picture of a people responding in almost every demographic manner then known to some powerful stimulus. Within a brief period they quickly postponed marriage, embraced contraception, began sterilization, utilized abortion and migrated outward. It was a determined, *multiphasic response*, and it was extremely effective with respect to fertility."⁸

The response in Bulgaria and the rest of eastern Europe has not been quite so multiphasic. Legal and political limits elimi-

nated certain options. Emigration was out of the question, as the citizens of the German Democratic Republic discovered when they attempted this response and the government responded by constructing a wall between the divided Germans. Similarly, the option of postponed marriage was discouraged because every state socialist government, in hopes of raising fertility to levels sufficient for sustained population growth, offered incentives for early and universal marriage and childbearing.

However, by propelling people into reproduction at early ages but failing to create social conditions that would sustain childbearing throughout adulthood, the state socialist system created a new problem for married couples—how to control fertility once state criteria for access to housing and other amenities had been met. Fertility regulation for married couples with children assumed an importance, even an urgency, not seen in most other societies.

In contrast to actions aimed at stimulating childbearing, abortion was legalized in eastern Europe almost from the inception of the state socialist system,⁹ and it rapidly became the chief form of fertility regulation.¹⁰ This created an unusual context for the adoption of modern contraceptives. Rather than competing against obviously inferior traditional methods of contraception only, modern methods also had to compete with a fully developed and institutionally legitimated reliance on the guaranteed effectiveness of induced abortion as a means of fertility regulation.

The stimulus prompting both more contraception and more induced abortion in Bulgaria involved the decline of the state socialist system itself. Due to subsidies, producers did not have to be efficient or profitable; fewer consumer goods were produced, while more and more resources were consumed. When further economic growth was prevented because the limit of available resources had been reached,¹¹ the output of consumer goods began to decline. The chronic qualitative and quantitative inadequacy of consumer products in general, and more particularly of housing and household amenities, not only gave rise to very early entry into childbearing in order to qualify for scarce housing, but also to very small completed family sizes and a consequent high demand for fertility regulation among older married women. In fact, the resulting low level of reproduction led to a finite, even shrinking, labor force, which intensified the systemic crisis.¹²

The original stimulus for more contra-

ception and more abortion (a declining state socialist economy) has been succeeded by new and rapidly changing socioeconomic conditions, but trends first visible in 1990 indicate that the multiphasic response is continuing. Within this context, it is important to examine whether it is the same women who are increasing their reliance on both abortion and contraception, as the multiphasic interpretation suggests, or whether there is one population increasing its use of contraception while another continues to rely upon induced abortion.

Although retrospective reporting of induced abortion must always be viewed with skepticism due to reporting bias, such reporting was considered to be particularly good in another Slavic population from the Baltic region.¹³ In the Bulgarian WTS sample, women who reported previous induced abortions were twice as likely to report modern contraceptive use as those not reporting abortions (56% vs. 37%), and were much less likely to report no contraceptive use than women not reporting abortions (8% vs. 29%). This pattern, stable across all age-groups of women, supports our multiphasic interpretation.

It remains to be seen whether new family planning programs in Bulgaria will expand use of modern contraceptives so that they become the primary means of fertility regulation, rather than merely supplementing a primary reliance on repeated induced abortions.

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Resumen

Contexto: Si bien se cree que con la caída del sistema estatal socialista ha cambiado la conducta reproductiva en los países de Europa Oriental, hay muy pocos datos disponibles para identificar claramente estos cambios.

Métodos: En Bulgaria, se han utilizado los datos de mujeres casadas entrevistadas para la Encuesta de Fecundidad Mundial de 1976 y datos de una encuesta de 1995 de mujeres casadas y no casadas, para evaluar los cambios ocurridos en el uso de anticonceptivos durante un período de dos décadas. Luego se utilizaron datos sobre el número de nacimientos y abortos, obtenidos del sistema de estadísticas de vida de Bulgaria, para analizar los cambios correspondientes en materia reproductiva.

Resultados: Entre las mujeres casadas de 15–44 años, aumentó el uso de los anticonceptivos modernos del 6% en 1976 al 46% en 1995, en tanto que el uso de los métodos tradicionales disminuyó del 70% al 40%. El porcentaje de mujeres que no utilizan ningún método anticonceptivo disminuyó del 25% en 1976 al 14% en 1995. Si bien las mujeres casadas de menos de 20 años, no aumentaron la práctica de la anticoncepción tanto que lo hicieron las de 20–44 años, su uso de métodos modernos aumentó del 1% en 1976 al 18% en 1995. Durante el mismo período de 20 años, un mayor porcentaje de embarazos concluyeron en aborto, en tanto que disminuyeron los nacimientos vivos. En 1976, el 49% de todos los embarazos concluyeron en abortos y en

1995, este porcentaje aumentó al 57%.

Conclusiones: Junto con un aumento de la práctica anticonceptiva, la mujer de Bulgaria también presentó un aumento en el uso del aborto inducido. Esta tendencia identificada en Bulgaria ofrece un claro ejemplo de una respuesta de esfuerzos múltiples y simultáneos: un sólido estímulo (en este caso se trata de una economía que declina) creó una situación de urgencia entre los búlgaros para controlar su fecundidad con todas las opciones disponibles.

Résumé

Contexte: Bien que les comportements procréateurs semblent avoir évolué avec la chute des systèmes socialistes d'Etat en Europe de l'Est, les données disponibles sur la question sont rares.

Méthodes: Les résultats d'une Enquête mondiale sur la fécondité menée en 1976 parmi les femmes mariées et ceux d'une enquête menée en 1995 parmi les femmes mariées et célibataires ont été utilisés pour évaluer l'évolution de la pratique contraceptive sur une période de deux décennies en Bulgarie. Les données d'état civil relatives aux nombres de naissances et d'avortements survenus dans le pays ont ensuite servi à l'analyse de l'évolution correspondante de la procréation.

Résultats: Parmi les femmes mariées de 15 à 44 ans, la pratique contraceptive moderne est passée de 6% en 1976 à 46% en 1995, tandis que le recours aux méthodes traditionnelles tombait de 70% à 40%. La proportion des femmes ne pratiquant aucune méthode a également diminué, de 25% en 1976 à 14% en 1995. Bien que les femmes mariées âgées de moins de 20 ans n'aient pas accru leur pratique contraceptive autant que celles de 20 à 24 ans, leur recours aux méthodes modernes a également augmenté, passant de 1% en 1976 à 18% en 1995. Durant la même période de 20 ans, l'avortement provoqué s'est révélé en hausse, tandis que la fréquence relative des naissances vivantes déclinait. En 1976, 49% de toutes les grossesses avaient été interrompues; en 1995, cette proportion était passée à 57%.

Conclusions: En Bulgarie, la hausse de la pratique contraceptive s'est accompagnée d'un recours croissant à l'avortement provoqué. La tendance offre un exemple récent de réponse à phases multiples: un stimulus puissant (en l'occurrence, le déclin de l'économie) a créé chez les Bulgares un besoin urgent de maîtriser leur fécondité par tous les moyens disponibles.