

Patterns of Contraceptive Use in 5 European Countries

ABSTRACT

Objectives. The use of contraception in Denmark, Germany, Poland, Italy, and Spain is described.

Methods. Data were drawn from a population-based cross-sectional study, the European Study of Infertility and Subfecundity. Interviews were conducted with 6630 women aged 25 to 44 years. Logistic regression was used to estimate the effect of factors associated with contraceptive use.

Results. Residents of Northern European countries tended to use more effective methods of contraception than residents of Southern European countries. The use of contraception was generally more common among single women, the more highly educated, those with children, and those with a previous induced abortion. These characteristics were also the main determinants of the use of more effective methods. Periodic abstinence and withdrawal were more common among older women.

Conclusions. The European countries are in different phases of contraceptive practice: in Northern and Western Europe, use of more modern methods has been stable over the past 10 years, whereas these methods are less common in Southern and Eastern Europe. The results suggest the need for information, education, and provision of contraceptive services in Eastern and Southern Europe. (*Am J Public Health*. 2000;90:1403–1408)

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Contraception is widely accepted and practiced in Western Europe. However, there are marked differences between countries in patterns of contraceptive use. These differences reflect availability and accessibility, as well as social and cultural attitudes toward fertility control, sexuality, and the roles of women in society.^{1–7} The patterns of contraceptive use in Western Europe have been studied more recently in 2 surveys conducted under the auspices of the International Health Foundation. The first study (1984–1989) was conducted in Austria, Belgium, Denmark, the Federal Republic of Germany, France, Great Britain, Italy, Spain, and Sweden.⁸ The second study (1991–1992) concerned only Germany (after unification), Great Britain, and Italy.^{9,10}

The data analyzed here were derived from a study conducted during 1991 to 1993 in regions of Denmark, Germany, Poland, Italy, and Spain. The main objective of the study, which was sponsored by the European Union as a Concerted Action Project, was to estimate the prevalence of infertility and subfecundity and to identify risk factors. However, the interviews included questions about current contraceptive use among women aged 25 to 44 years, which provided an opportunity to expand and update the earlier studies of contraceptive use in Europe. The objectives of the present analysis were (1) to describe and compare contraceptive use in the participating European countries and (2) to investigate the effects of age, education, work, marital status, parity, and previous induced abortion on contraceptive use.

Methods

The European Study of Infertility and Subfecundity involved surveys with standard questionnaires and several cycles of pilot testing in the different countries.¹¹ Two study populations were investigated: pregnant or delivering women and a representative sample of the population of women aged 25 to 44 years.

The data presented here were collected from the latter sample. Women were randomly selected from the census registers and electoral rolls of the regions and were interviewed either personally or by telephone. In all regions the same protocol was followed, which ensured that the individuals selected represented a random sampling from a well-defined geographical area.¹²

Interviews were completed with 6630 women; participation rates varied from 54% in Germany to 88% in Poland.¹² The demographic characteristics of nonrespondents were similar to those of the respondents, apart from an excess of older women in Denmark and southern Italy. Only women involved in a steady sexual relationship at the time of the interview were asked to report their actual use of contraception. Multiple responses for couples using more than 1 method were allowed.

Women considered “at risk of pregnancy” (women who were involved in a steady sexual relationship, who were fertile, and who were not pregnant and had not delivered in the previous 2 months) were included in the logistic regression analysis. Because of demographic, socioeconomic, and cultural differences between northern and southern Italy, results for the 2 samples are reported separately. The BMDP package¹³ was used in calculating odds ratios (ORs) and 95% confidence intervals (CIs) via logistic regression. The dependent

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TABLE 1—Fertility Status of Women: 5 European Countries, 1991–1993

Status	Denmark, No. (%)	Germany, No. (%)	Poland, No. (%)	Italy		Spain, No. (%)	Total, No. (%)
				North, No. (%)	South, No. (%)		
Pregnant	43 (4.2)	49 (3.2)	7 (1.6)	54 (2.8)	26 (3.2)	31 (3.4)	210 (3.2)
Delivery in previous 2 months	21 (2.0)	20 (1.3)	3 (0.7)	22 (1.1)	10 (1.2)	4 (0.4)	80 (1.2)
Without a stable sexual relationship	188 (18.3)	164 (10.7)	57 (12.9)	264 (13.8)	71 (8.7)	126 (14.0)	870 (13.1)
Involuntarily sterile and infertile	34 (3.3)	70 (4.6)	8 (1.8)	51 (2.7)	16 (2.0)	25 (2.8)	204 (3.1)
Fertile and sexually active	742 (72.1)	1228 (80.2)	367 (83.0)	1523 (79.6)	692 (84.9)	714 (79.3)	5266 (79.4)
Women using contraceptives, ^a %	76.5	86.3	73.3	82.1	91.2	87.9	83.7
Women not using contraceptives, %	23.5	13.7	26.7	17.9	8.8	12.1	16.3
Total	1028	1531	442	1914	815	900	6630

^a $\chi^2_5 = 103.77, P < .0001$.

variable was use of contraception (any method or group of methods). The independent variables were age group, educational level, occupational status, marital status, parity, and previous induced abortion experience.

It was expected that, in general, the relationships between the independent and dependent variables would be similar in each country but that differences, if observed, would be of interest. Moreover, the independent variables assessed are often correlated (e.g., married women are, on average, older than unmarried women). It was expected that the logistic regression analysis would eliminate confounding and provide estimates of the independent effects of the variables for each country separately.

Results

The age distributions of the women in each country at the time of the interview were similar. Mean ages ranged from 34 years in Denmark to 36 years in Poland. Although the different educational systems made precise comparisons difficult, the lowest levels of education were found in Spain and Italy, and the highest were found in Germany. Denmark and northern Italy had the highest percentages of nulliparous women (36.5% and 39.4%, respectively), while Poland had the lowest (12.9%). In all countries, more than 50% of the women were parous. Denmark had the largest proportion of single women.

Of the 6630 women interviewed, 5266 (79.4%) were at risk of pregnancy; 4406 (83.7%) of these women were using contraceptives (Table 1). Of the women not at risk of pregnancy, 13.1% were not involved in a stable sexual relationship, 3.2% were pregnant, 1.2% had delivered less than 2 months before the interview, and 3.1% were infertile (i.e., the woman and/or her partner). The lowest proportion of women at risk of pregnancy was

found in Denmark, and the highest was evidenced in southern Italy. The difference was due mainly to the different proportions of women without a partner. Of the women who were sexually active, 83.7% used contraception.

Prevalence rates of contraceptive use were different in the 5 European countries, ranging from 73.3% in Poland to 91.2% in southern Italy ($\chi^2_5 = 103.77, P < .0001$). The determinants of contraceptive use were similar. In all countries, contraceptive use was associated with higher educational level, single marital status, and higher parity (Table 2). Women with a previous induced abortion tended to show increases in probability of use of contraception, but there was variability among countries. Contraceptive use tended to be more prevalent among women aged 25 to 29 years but showed no regular trend among the older age groups.

The types of contraceptives that were used varied among the 5 countries (Table 3). Voluntary female and male sterilization were much more common in Germany, Spain, and Denmark than in Poland and Italy. Intrauterine devices and oral contraceptives were used more in Denmark (44.9%), Germany (51.6%), and northern Italy (37.4%) and less in Poland (21.1%), southern Italy (21.9%), and Spain (27.1%). In Poland, 16.7% of the couples used periodic abstinence, while withdrawal was the most common method among couples in southern Italy (33.4%). One quarter of couples in Denmark and Spain relied exclusively on condoms. In countries exhibiting higher rates of use of unreliable contraceptives, a combination of methods was more common. In Poland, the most frequent method reported was a combination of periodic abstinence and withdrawal (24.2%); in southern Italy, 10.9% used periodic abstinence and withdrawal, while 6.8% used withdrawal and condoms.

The factors that tended to affect the use of intrauterine devices among all sexually active women were as follows: age of 30 years or more, single marital status, multiparity, and previous induced abortion. The exception was

Poland, where use was associated with higher educational levels but not with age (Table 4). Use of oral contraceptives was less common with increasing age in all countries, but the patterns of the other variables seemed to differ between countries. Level of education did not appear to influence the decision to use hormonal contraceptives except in Denmark and Poland. Overall, working and single women were more likely than housewives and married women to use oral contraceptives, although Poland was an exception. In Poland, northern Italy, and southern Italy, women with 3 or more children were more likely to use oral contraceptives. In Germany, where oral contraception is more common, this method was used more frequently among women who already had 1 or 2 children. In Denmark and Spain, oral contraceptives seemed to be more frequently used by nulliparous women. A previous induced abortion did not seem to affect the use of oral contraceptives, other than in southern Italy and perhaps Poland.

Barrier methods of contraception (condom, diaphragm, or spermicides) were more likely to be used by more educated women and by those who were not economically active. They were less likely to be used by those who already had several children, although Denmark was an exception. The roles of age and marital status were different in the various countries. The use of barrier contraceptive methods was more common among women 35 years or older in Poland and Italy, while in Denmark, Germany, and Spain women aged 25 to 29 years exhibited higher rates of use. Single women preferred these methods in Germany, Poland, and southern Italy. Also, women in Poland and southern Italy who had experienced a previous induced abortion preferred to use these methods.

Use of withdrawal and periodic abstinence appeared to increase with age, especially after 40 years, when fecundity decreases. These methods were more likely to be used by women

TABLE 2—Logistic Regression Analysis of Contraceptive Use: 5 European Countries, 1991–1993

Characteristic	Denmark		Germany		Poland		Italy		Spain	
	No.	OR (95% CI)	No.	OR (95% CI)	No.	OR (95% CI)	North	South	No.	OR (95% CI)
Age, y										
25–29	217	1.00	262	1.00	64	1.00	382	1.00	196	1.00
30–34	195	0.81 (0.5, 1.3)	352	0.93 (0.6, 1.5)	87	1.04 (0.5, 2.3)	353	0.67 (0.5, 1.0)	191	0.65 (0.3, 1.4)
35–39	172	0.94 (0.5, 1.7)	322	1.02 (0.6, 1.7)	116	1.05 (0.5, 2.2)	372	0.82 (0.5, 1.3)	158	0.40 (0.2, 0.9)
≥40	158	0.83 (0.5, 1.5)	292	1.03 (0.6, 1.8)	100	0.69 (0.3, 1.5)	415	0.73 (0.5, 1.1)	147	0.77 (0.3, 2.1)
Education, y										
<9	189	1.00	84	1.00	42	1.00	617	1.00	320	1.00
≥9	553	1.65 (1.1, 2.5)	1144	1.30 (0.7, 2.5)	325	1.29 (0.6, 2.7)	905	1.34 (1.0, 1.8)	372	1.25 (0.7, 2.3)
Employed										
Yes	550	1.00	794	1.00	253	1.00	1125	1.00	302	1.00
No	192	1.16 (0.8, 1.8)	434	0.64 (0.5, 0.9)	114	1.01 (0.6, 1.7)	397	1.00 (0.7, 1.4)	390	0.73 (0.4, 1.4)
Married										
Yes	412	1.00	972	1.00	344	1.00	1179	1.00	626	1.00
No	330	1.41 (0.9, 2.1)	256	2.81 (1.7, 4.7)	23	1.06 (0.4, 3.0)	343	2.66 (1.8, 4.0)	66	11.9 (2.6, 54.1)
Parity, no.										
0	235	1.00	275	1.00	23	1.00	483	1.00	124	1.00
1–2	422	2.54 (1.6, 4.0)	752	3.71 (2.4, 5.8)	295	5.20 (2.0, 13.3)	959	2.56 (1.8, 3.7)	493	8.84 (4.3, 18.2)
≥3	85	6.39 (2.8, 14.8)	201	5.78 (3.0, 11.0)	49	2.72 (0.9, 8.3)	80	4.09 (1.9, 9.0)	75	21.40 (4.3, 107.0)
Previous induced abortion										
No	515	1.00	986	1.00	317	1.00	1315	1.00	591	1.00
Yes	227	1.10 (0.8, 1.6)	242	1.01 (0.7, 1.6)	50	2.50 (1.1, 6.0)	207	1.42 (0.9, 2.2)	101	10.1 (1.3, 76.2)

Note. OR = odds ratio; CI = confidence interval.

TABLE 3—Types of Contraceptives Used by Couples: 5 European Countries, 1991–1993

	Denmark		Germany		Poland		Italy		Spain	Total
	(n=568), %	(n=1060), %	(n=1060), %	(n=269), %	(n=1250), %	(n=631), %	(n=628), %	(n=4406), %		
Female sterilization	4.7	14.0 ^a	5.7	0.0 ^b	1.9	1.9	6.4	5.7	9.6	4.1
Male sterilization	10.0 ^a	5.7	0.0 ^b	0.0 ^b	0.4	0.2	9.6	4.1	11.8	14.4
Intrauterine device	23.9 ^a	16.6	15.2	12.1	8.7 ^b	11.8	14.4	22.7	0.6	0.3
Oral contraceptives	21.0	35.0 ^a	5.9 ^b	25.3	13.2	15.3	22.7	0.3	0.0 ^b	0.3
Injection	0.0 ^b	0.5	1.9 ^a	0.0 ^b	0.0 ^b	0.6	0.3	0.3	0.0	0.3
Diaphragm and spermicides	1.1	0.4	1.5 ^a	0.0 ^b	0.0 ^b	0.0	0.3	0.3	0.0	0.3
Periodic abstinence	1.9 ^b	7.2	16.7 ^a	7.4	3.6	4.8	6.3	6.3	4.8	6.3
Withdrawal	1.4 ^b	1.4 ^b	10.4	10.2	33.4 ^a	11.1	10.4	10.4	11.1	10.4
Condom	24.3	9.7	3.7 ^b	18.9	13.5	27.7 ^a	16.9	16.9	27.7 ^a	16.9
Periodic abstinence + withdrawal	0.7 ^b	0.8	24.2 ^a	6.1	10.9	1.6	5.3	5.3	1.6	5.3
Periodic abstinence + condom	3.9	4.4 ^a	3.3	3.6	2.9	1.8 ^b	3.4	3.4	1.8 ^b	3.4
Withdrawal + condom	0.9	0.3 ^b	3.3	4.3	6.8 ^a	5.4	3.4	3.4	6.8 ^a	3.4
Periodic abstinence + withdrawal + condom	0.7	0.4 ^b	10.0 ^a	2.4	4.3	1.1	2.2	2.2	4.3	2.2
Other combinations	5.3	3.1	3.0	7.1 ^a	0.2 ^b	2.5	4.0	4.0	0.2 ^b	4.0
Other	0.2 ^b	0.6	0.7	0.2 ^b	0.5	0.6 ^a	0.4	0.4	0.5	0.4

Note. Chi-square tests showed highly significant differences among the 5 countries for every method ($P < .001$) apart from periodic abstinence + condom ($P = .09$). Percentages do not total 100 because of rounding.

^aHigh relative value.

^bLow relative value.

at higher educational levels in Denmark, but there was little evidence of this in the other countries where the methods were more prevalent. They were more likely to be used by parous women in Denmark, Poland, and northern and southern Italy, where they tended to be avoided by women with a previous induced abortion.

Discussion

During the last century, European populations have succeeded in reducing fertility through the progressive adoption of more methods (and, in particular, more effective methods) of contraception. In the earlier phases of this process, the main methods used were coitus

dependent (withdrawal, periodic abstinence methods, condoms, and, in case of failure, induced abortion). Later, after the advent of modern coitus-independent contraception, more and more women adopted oral contraceptives and intrauterine devices. However, the European countries are in different phases of this transition, and the methods used still vary.

TABLE 4—Odds Ratios for Use of Various Contraceptive Methods, by Women's Social and Reproductive Characteristics: 5 European Countries, 1991–1993

Characteristic	Denmark		Germany		Poland		Italy				Spain	
	OR	95% CI	OR	95% CI	OR	95% CI	North		South		OR	95% CI
Intrauterine device												
Age, y												
30–34	1.82	1.0, 3.4	1.76	1.1, 2.9	0.91	0.4, 2.4	1.08	0.6, 2.1	1.52	0.6, 3.7	1.67	0.7, 4.1
35–39	1.79	0.9, 3.4	1.31	0.8, 2.2	1.11	0.5, 2.7	1.94	1.1, 3.6	1.76	0.7, 4.4	2.19	0.9, 5.2
≥40	1.31	0.7, 2.6	1.20	0.7, 2.1	0.53	0.2, 1.5	1.76	1.0, 3.2	1.80	0.7, 4.5	1.65	0.7, 4.2
Education ≥9 y	1.05	0.7, 1.6	1.05	0.6, 2.0	2.05	0.6, 7.2	0.83	0.6, 1.2	1.22	0.7, 2.3	1.09	0.6, 1.9
Not working	0.89	0.6, 1.4	0.89	0.6, 1.3	1.11	0.6, 2.2	1.11	0.8, 1.6	0.78	0.4, 1.4	0.62	0.4, 1.1
Single	1.20	0.8, 1.9	0.99	0.6, 1.6	2.12	0.7, 6.7	0.83	0.5, 1.5	1.75	0.5, 5.8	2.89	1.3, 6.5
Parity, no.												
1–2	3.46	1.9, 6.3	2.05	1.2, 3.5	1.95	0.4, 9.6	2.65	1.4, 4.9	2.51	0.8, 8.5	7.73	2.4, 25.5
≥3	2.79	1.2, 6.4	1.71	0.9, 3.3	1.45	0.2, 9.5	2.77	1.2, 6.6	4.81	1.2, 19.5	6.28	1.7, 23.9
Previous induced abortion	1.13	0.8, 1.7	1.28	0.9, 1.9	1.87	0.8, 4.2	2.12	1.4, 3.2	1.77	0.9, 3.4	2.67	0.6, 11.4
Oral contraceptives												
Age, y												
30–34	0.57	0.3, 1.0	0.71	0.5, 1.0	1.08	0.4, 3.3	0.94	0.7, 1.3	1.04	0.6, 1.9	0.54	0.3, 0.9
35–39	0.30	0.2, 0.6	0.32	0.2, 0.5	0.63	0.2, 2.0	0.56	0.4, 0.8	0.39	0.2, 0.8	0.24	0.1, 0.5
≥40	0.31	0.2, 0.6	0.21	0.1, 0.3	0.26	0.1, 1.2	0.23	0.1, 0.4	0.12	0.0, 0.4	0.05	0.0, 0.2
Education ≥9 y	1.42	0.9, 2.4	1.13	0.7, 2.0	1.75	0.4, 8.1	1.02	0.8, 1.3	1.18	0.7, 2.0	1.08	0.7, 1.7
Not working	0.97	0.6, 1.5	0.56	0.4, 0.7	1.06	0.4, 2.6	1.01	0.8, 1.4	0.67	0.4, 1.2	0.96	0.6, 1.5
Single	1.57	1.0, 2.5	1.32	0.9, 1.9	0.47	0.1, 4.0	2.02	1.5, 2.8	1.87	0.8, 4.3	2.38	1.3, 4.4
Parity, no.												
1–2	0.77	0.5, 1.3	1.97	1.4, 2.9	0.64	0.1, 3.2	0.98	0.7, 1.4	1.23	0.6, 2.7	0.95	0.5, 1.7
≥3	1.06	0.5, 2.5	1.17	0.7, 2.0	1.51	0.2, 9.8	1.31	0.7, 2.6	2.44	0.9, 6.9	0.81	0.3, 2.2
Previous induced abortion	1.00	0.6, 1.6	0.94	0.7, 1.3	1.69	0.6, 5.0	1.11	0.8, 1.6	3.58	2.0, 6.4	0.34	0.1, 1.7
Barrier contraceptive methods												
Age, y												
30–34	0.79	0.5, 1.3	0.72	0.5, 1.1	0.90	0.4, 2.2	0.85	0.6, 1.2	1.02	0.6, 1.7	0.89	0.6, 1.4
35–39	1.03	0.6, 1.8	0.89	0.6, 1.4	1.25	0.5, 2.9	1.18	0.8, 1.7	1.40	0.8, 2.4	0.63	0.4, 1.0
≥40	0.49	0.3, 0.9	0.74	0.5, 1.2	1.30	0.5, 3.1	1.29	0.9, 1.9	1.35	0.8, 2.3	0.73	0.4, 1.2
Education ≥9 y	2.34	1.5, 3.7	2.92	1.2, 7.4	1.22	0.5, 3.1	2.11	1.6, 2.7	1.89	1.3, 2.8	1.67	1.2, 2.4
Not working	1.57	1.1, 2.3	1.40	1.0, 2.0	1.26	0.7, 2.3	0.99	0.8, 1.3	1.28	0.9, 1.9	1.03	0.7, 1.5
Single	0.93	0.6, 1.4	1.58	1.0, 2.4	1.68	0.6, 4.6	1.16	0.8, 1.6	1.99	1.0, 3.9	1.02	0.6, 1.8
Parity, no.												
1–2	1.25	0.8, 2.0	0.72	0.5, 1.1	1.16	0.8, 1.6	1.00	0.6, 1.8	1.65	1.0, 2.8
≥3	1.60	0.8, 3.2	0.70	0.4, 1.3	0.34 ^a	0.1, 1.0	0.87	0.5, 1.6	0.45	0.2, 1.1	0.95	0.5, 1.9
Previous induced abortion	0.94	0.6, 1.4	1.05	0.7, 1.6	1.80	0.9, 3.8	0.97	0.7, 1.4	1.37	0.8, 2.3	0.69	0.2, 2.3
Withdrawal and periodic abstinence												
Age, y												
30–34	1.09	0.5, 2.3	1.48	0.9, 2.4	1.14	0.6, 2.2	1.06	0.7, 1.5	0.64	0.4, 1.0	1.26	0.7, 2.4
35–39	0.87	0.4, 2.1	1.36	0.8, 2.3	1.29	0.7, 2.4	1.10	0.8, 1.6	0.91	0.6, 1.5	1.88	1.0, 3.5
≥40	0.75	0.3, 2.0	1.91	1.1, 3.3	1.15	0.6, 2.2	1.54	1.1, 2.2	1.35	0.8, 2.2	2.68	1.4, 5.0
Education ≥9 y	2.70	1.2, 6.2	1.44	0.7, 3.0	0.78	0.4, 1.5	0.84	0.7, 1.1	0.95	0.7, 1.4	0.72	0.5, 1.1
Not working	0.99	0.5, 1.9	1.54	1.1, 2.2	0.94	0.6, 1.5	1.00	0.8, 1.3	1.34	0.9, 1.9	1.65	1.1, 2.5
Single	2.49	1.3, 4.8	1.20	0.8, 1.9	1.04	0.4, 2.6	0.93	0.7, 1.3	0.86	0.5, 1.6	0.78	0.4, 1.6
Parity, no.												
1–2	1.30	0.6, 2.6	0.55	0.3, 0.9	3.58	1.3, 9.7	1.43	1.0, 2.0	2.23	1.3, 3.8	1.08	0.6, 2.1
≥3	1.44	0.4, 4.7	0.75	0.4, 1.4	2.33	0.7, 7.4	1.11	0.6, 2.0	1.15	0.6, 2.4	0.98	0.5, 2.1
Previous induced abortion	0.88	0.5, 1.6	0.99	0.7, 1.5	0.94	0.5, 1.8	0.72	0.5, 1.0	0.48	0.3, 0.8	1.40	0.4, 4.8

Note. Reference groups were as in Table 2. OR=odds ratio; CI=confidence interval.

^aReference group parity ≤2.

The results of this analysis seem to confirm progressive changes in contraceptive practices in Europe; the data from the different sources may not be strictly comparable, however, because the studies were confined to specific areas that may or may not represent the overall practices of a particu-

lar country. In the international survey conducted a decade ago,⁸ oral contraceptives were used by only 6% of Italian women aged 15 to 44 years at risk of pregnancy; in the present study, this percentage had increased to 13.2% in southern Italy and 25.3% in northern Italy. In Spain, the prevalence of

sterilization among women increased from 3.0% to 6.4%.

However, these changes seem to have occurred to a larger extent in the countries of Southern Europe, where there was more room for improvement in contraceptive practice. In some areas, such as southern Italy, the most

prevalent method of fertility control is still withdrawal. Our data show that in Poland, modern contraception is still relatively rare and is probably used mainly by privileged minorities, but this is generally true for the other Eastern European countries as well.¹⁴

In Denmark and Germany, the comparison with previous surveys indicated that there has not been much change in patterns of use. Our data show that in Denmark, 60% of women at risk of pregnancy are protected by sterilization, intrauterine devices, or oral contraceptives, whereas this proportion was 64% in the earlier study.⁸ In Germany, the percentages covered by effective methods were 50% a decade ago and 72% in the present study. In these countries, with a long tradition of contraception, it would appear that the pattern of use has stabilized.

Italy is of particular interest because of marked differences in contraceptive practice between the northern and southern portions of the country. Northern Italy, where nearly 40% of the women use effective contraception, appears closer to the countries of Western and Northern Europe, while in southern Italy a combination of withdrawal and barrier methods is still most prevalent, and only 20% of women use effective methods. These differences between northern and southern Italy have been described in previous studies and have been attributed to lack of knowledge (especially among women younger than 20 years or older than 39 years), lack of support from the male partner, and moral scruples.¹⁵ A study conducted in Italy in 1995 showed that this pattern has apparently remained relatively stable over time.⁷

Apart from the differences observed between countries, the data also show a certain degree of uniformity in contraceptive behavior and in the contraceptive choices of European women. Use of contraception, in general, was found to be more common among highly educated women, among single women, and among those who already had several children or had experienced induced abortions. Women (usually single, of higher parity, and with a previous induced abortion) with greater motivation to avoid an unwanted pregnancy were also more likely to use the more effective methods of contraception (oral or intrauterine), even in the countries (Southern Europe) where these methods are less prevalent. Poland is an exception to this general pattern, possibly because these methods are inaccessible to the women most needing them (i.e., women of higher parity).

The use of withdrawal and periodic abstinence complements the findings described here: these methods were used mostly by older women and were not likely to be used by those with high levels of education, those

who were single, or those who already had more than 2 children or had experienced previous induced abortions. This pattern is clearly evident in Southern Europe and Poland. However, in Denmark and Germany, these observations are not so clear, probably because of the very small numbers of women using periodic abstinence and the virtual absence of reliance on withdrawal.

The characteristics of the women who use barrier methods of contraception are somewhat mixed and depend on the prevalence of the use of other types of contraception. However, in all countries barrier methods were more likely to be used by those with high levels of education. In Poland and Italy, they tended to be used by older women, while in Denmark, Germany, and Spain, they were more common among younger women (aged 25 to 29 years), suggesting that these are the methods of choice for periods of the life cycle when women may have many partners.

These results are consistent with the hypothesis that the use of the condom has recently increased among younger women as a result of the "safe sex" campaigns implemented in many European countries to prevent AIDS and other sexually transmitted diseases.⁶ Women of higher parity were less likely to use barrier methods, while the results regarding experience of a previous induced abortion did not show a consistent pattern.

Conclusions

Contraceptive use in the countries surveyed follows several distinct patterns corresponding to the different phases of the countries' social, cultural, and demographic evolution. In Denmark and Germany, there are high levels of use of modern contraceptive methods, use of periodic abstinence is uncommon, and barrier methods are used only for temporary fertility control. Contraceptive use in these 2 countries has stabilized in the last decade and is unlikely to change much in the future in the absence of important changes in contraceptive technology.

In the last decade, northern Italy and Spain also reached a high level of coverage by effective contraceptive methods, although barrier methods and periodic abstinence are also used when the risk of pregnancy is not great. In southern Italy, modern contraception is practiced by a relatively low number of women apart from those who need total protection against pregnancy (i.e., single women, those of high parity, or those with a previous induced abortion). The most common method used is withdrawal, reported by 33% of our study respondents. The other couples used a combination of periodic abstinence and barrier methods.

Finally, Poland is similar to southern Italy: a low prevalence of modern contraception, which seems to be reserved for women with higher levels of education; an intermediate prevalence of barrier methods, especially among single women; and a high prevalence of a combination of periodic abstinence methods. Also, induced abortion is widely practiced in Eastern Europe.^{14,16,17} Our study data clearly indicate the need for programs of information, education, and provision of contraceptive services. □

Contributors

A. Spinelli and I. Figà Talamanca collaborated on planning the study, supervised data collection and analysis, and wrote the paper. L. Lauria analyzed the data and contributed to the writing of the paper.

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