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Short Note

Contraceptive Pills and Twins

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Neither the percentage in the previous use of contraceptive pills nor the distribution of the time interval between the discontinuation of the pill and conception has shown any significant difference in twins and control singletons. Twin conception within one month after discontinuation of the norethynodrel type pill, however, was significantly more frequent, whereas after the use of the linestrenol type, it was lower.

Key words: Contraceptives, Fecundability, Twinning, Hungary

INTRODUCTION

In 1970 the decrease in the frequency of multiple births came to an end in Hungary and it even increased by about 10% (Fig. 1). Since then, this higher level seems to have stabilized. This change could not be explained by the usual demographic factors – maternal age, parity, higher rate of highly fecundable women, etc – the probable twin-producing effect of contraceptive pills had to be taken into consideration [1, 3, 4, 9], since the use of oral contraceptives has been spreading in Hungary since 1967. In 1975, 22.5% of reproductive-age women used the pill. The Budapest Twin Register offered a unique possibility to study this controversial correlation.

MATERIALS AND METHODS

The Budapest Twin Register was established in 1970 [2]. The placentas of multiple births are collected and examined by one pathologist. The zygosity of dichorial same-sexed twins is determined by the help of blood and serum protein groups. The twins are under continuous and special care for their first years. A total of 3,020 twin pairs and 19 sets of triplets were entered in the Budapest Twin Register between 1970 and 1977. The use of contraceptive pills in the mothers delivering twins in 1970–1974 was studied earlier [7]. This survey included the *twins* born in Budapest, between 1975 and 1977. A questionnaire was sent to the parents of 1,282 twin pairs concerning the use of the pill 6 months prior to the conception. The same questionnaire was sent to the parents of 1,282 control singletons matched for maternity hospital or department, day of birth, and sex. If more controls were found, one was picked up randomly. On account of wrong address, lack of reply, inaccuracy of data, or absence of matched control case, finally 661 twin pairs (51.6%) could be evaluated.

RESULTS AND DISCUSSION

Neither the percentage in the prior use of the pill nor the distribution of the time interval between the discontinuation of the pill and conception have shown any significant differ-

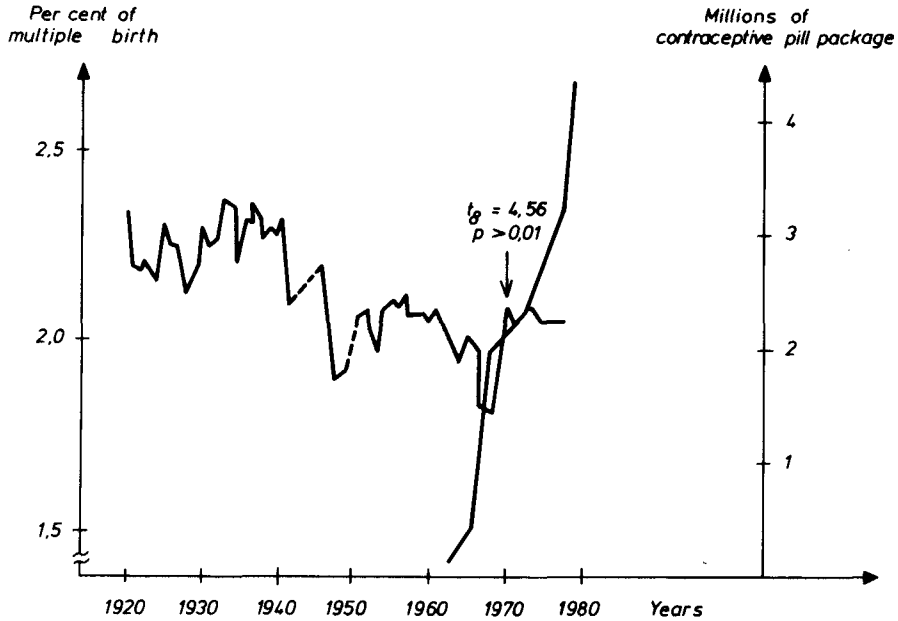


Figure. The Percentage of Multiple Births and the Spreading of Oral Contraceptives in Hungary 1920–1978.

TABLE 1. The Number of Previous Pill Users and the Distribution of Pill Use Discontinuation Before Conception in Twins and Singleton Groups

Group	No. of cases	Mother used pill previously	Pill-use discontinuation before conception (in months)			
			Use	1	2–3	4–6
Twins, N	661	194	12	61	59	62
%		29.35	6.2	31.4	30.4	32.0
Singletons, N	661	244	21	67	92	64
%		36.91	8.6	27.5	37.7	26.2

ence in the studied twins and control singletons (Table 1). These results seem to confirm the data of well-known epidemiological studies [eg, 5, 8]. In the background of this phenomenon, however, different effects could neutralize each other. In Hungary, between 1975 and 1977 there were only two commonly used contraceptive pills: A norethynodrel type (Infecundin: 17-hydroxy-19-nor-17 α -pregn-5/10/en-20-in-3-on-norethynodrelum 2.5 mg; 17- α -ethynil-oestradiol-3-methylether-mestranolum 0.1 mg) and a linestrenol type (Bisecurin: 17- α -ethynil-1,3,5/10/-oestratrien-3,17 β -diol-aethynyl-oestradiolum 0.05 mg) (Table 2). The majority of “other types” had been purchased abroad.

The distribution of the interval between discontinuation of the pill and conception showed a significant difference between the group of norethynodrel and its suitable control group of singletons ($\chi^2_2 = 7.82$; $P < 0.05$) as well as between the linestrenol group and its control ($\chi^2_2 = 5.65$; $P \approx 0.06$). In effect, twin conception within 1 month after the stopping

TABLE 2. Conception of Twins (a) and of Singletons (b) Following Different Intervals Since Discontinuation of Three Pill Types

a. Interval between discontinuation of pill use and conception (in months)		Norethynodrel				Lynestrenol				Other pill types			
		MZ	DZ	?	Total	MZ	DZ	?	Total	MZ	DZ	?	Total
-1	No.	6	16	4	26	8	14	7	29	6	10	2	18
	%	27.3	72.7		100.0	36.4	63.6		100.0	37.5	62.5		100.0
2-3	No.	3	7	1	11	13	19	8	40	2	5	1	8
	%	30.0	70.0		100.0	40.6	59.4		100.0	28.6	71.4		100.0
4-6	No.	2	3	1	6	14	25	9	48	3	4	1	8
	%	40.0	60.0		100.0	35.9	64.1		100.0	42.9	57.1		100.0
Total	No.	11	26	6	43	35	58	24	117	11	19	4	34
	%	29.7	70.3		100.0	37.6	62.4		100.0	36.7	63.3		100.0

b. Interval between discontinuation of pill use and conception (in months)		Norethynodrel		Lynestrenol		Other pill types		Total	
		No.	%	No.	%	No.	%	No.	%
-1		9	28.1	47	32.0	32	49.2	88	36.1
2-3		16	50.0	60	40.8	16	24.6	92	37.7
4-6		7	21.9	40	27.2	17	26.2	64	26.2
Total		32	100.0	147	100.0	65	100.0	244	100.0

of the norethynodrel type pill was significantly more frequent than in the control group. On the contrary, twin conception was less frequent within 1 month after the discontinuation of the linestrenol type pill. These data could explain the observed increase of multiple births in Hungary in 1970 because only the norethynodrel type pill was available between 1967 and 1973. Another argument for the twin-producing effect of norethynodrel is the highest dizygotic (DZ) rate in the "1-month-within-conception" group. The antagonistic effect of different types of pills could explain the results of the above-mentioned epidemiological studies which involved women using a number of different types of pills. The observed occurrence of twin births (0.97%) after previous use of different types of pills fits with the expected value (1.00%) in our study, too. The probability ("risk") of twin conception, however, is 2.97% and 0.58% within 1 month after the discontinuation of norethynodrel and linestrenol type, respectively. These data confirm our previous study [7] and other reports [1, 6] suggesting a correlation between the higher twinning rate and the use of some types of the pill soon (1 month) before conception.

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