

A STUDY OF PREGNANCY WASTAGE

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THE rapid decline of the birth rate during the past decade and the continuing unfavorable maternal mortality rate in the United States have focused increasing attention on the problem of pregnancy wastage, and particularly on that of illegal abortion. Yet data concerning either the amount of such wastage or its public health implications remain far from adequate. Such reports as are available estimate that from 18 to 25 per cent of the large number of maternal deaths in this country are due to abortion. The number of abortions occurring annually in the United States is a matter of conjecture but Taussig, who has studied the problem in great detail, suggests that 700,000 is a conservative estimate.² Apparently they are much more common in urban than in rural districts. Taussig believes that we may "justly assume a minimum ratio of one abortion to two and one-half confinements in the cities, and a ratio of one abortion to five confinements in the country districts."³ There is also a general impression that abortions recently have become increasingly common. This impression has been confirmed in one area by Millar who finds, in his study of the records of the Cincinnati General Hospital, that the abortion index increased much more rapidly than the birth index between 1918 and 1932.⁴

These crude estimates of the gross magnitude of the problem leave the most important matters untouched. They do not indicate the proportion of abortions which are spontaneous and the proportion which are induced. They tell us nothing of the con-

¹ From the Milbank Memorial Fund.

² Taussig, Fred J., M.D.: "Abortion in Relation to Fetal and Maternal Welfare." A chapter in *FETAL, NEWBORN AND MATERNAL MORBIDITY AND MORTALITY*. A publication of The White House Conference on Child Health and Protection. New York and London, D. Appleton-Century Company, 1933, p. 449.

³ *Ibid.*

⁴ Millar, William M., M.D.: Human Abortion. *Human Biology*, May, 1934, vi, No. 2, pp. 271-307.

ditions which stimulate or inhibit recourse to induced abortion, or of the extent to which such abortions serve as the only method of birth control. Nor do these general estimates indicate the health hazards of abortion or the relative incidence of complications in each type.

About these matters, case histories of patients of birth control clinics afford virtually the only source of information. Any abortions in the patient's history are things of the past about which she is usually willing to give information if she believes it to be relevant and confidential. In general, patients of birth control clinics can be interviewed at the time and under the circumstances best calculated to elicit accurate and complete information. The most extensive study thus far made of pregnancy wastage based on this type of data is that by Kopp, included in her analysis of the case histories of ten thousand patients of the Birth Control Clinical Research Bureau of New York.⁵

The present study, like Kopp's, deals with patients of the Birth Control Clinical Research Bureau. It differs from hers in being an intensive study of a small number of patients from whom detailed information was secured through personal interview in their homes.⁶ Every effort was made to obtain records as accurate as possible by this method. However, any conclusions which may be drawn cannot be considered to have universal application, since they are based on the experience of a small group of women who expressed interest in birth control by attending a birth control clinic. The women may be less conservative than the average, and they apparently were more fertile than the population at large. Both these factors might lead them to resort to abortion more readily than would other women. A further limitation of the study lies in the fact that since all the women were living at the time of interview, it can yield no information concerning

⁵ Kopp, Marie: *BIRTH CONTROL IN PRACTICE*. New York, Robert M. McBride and Company, 1934.

⁶ The interviews were conducted by the author.

deaths due to abortion. It is also extremely unlikely that there were any women in the group who had become sterile, either because of abortion or for other reasons.

The 991 women whose pregnancies were studied came to the Birth Control Clinical Research Bureau from the Borough of the Bronx between January 1, 1931 and June 30, 1932. Two-thirds of the families in the group were Jewish, one-sixth were Catholic, and the remainder were either Protestant or mixed marriages. Half the women were foreign born, a fact which must be remembered when they are compared with other groups. The families were from the middle and working classes and their incomes had been greatly reduced by the depression. The women were very fertile for an urban group but, with the exception of the Catholics, apparently no more so than other women of the same Borough in similar social-economic conditions and with similar religious backgrounds.⁷

Each woman interviewed gave a complete fertility history dating from marriage, in which were detailed the following items: number of pregnancies, in order, with date and type of termination of each pregnancy and entry of any pregnancy complications; type of contraceptive practice preceding each pregnancy, and whether it was interrupted to permit conception or whether the conception was accidental; whether the patient did or did not attempt abortion when she found she was pregnant, and if there was induced abortion, whether the agent was a physician,

⁷ Data are not available for a group of women comparable in these respects with the entire clinic sample, but a health survey in one district of the Bronx (Mott Haven) provided data for an unselected sample of 661 women aged 20 to 44 years which is believed to be comparable with the 232 women in the clinic sample who lived in this part of the Bronx. The live birth rates for each religious group, standardized by age and nativity, are given below:

	LIVE BIRTHS PER 100 WOMEN		
	Jews	Catholics	Protestants and Others
Clinic sample	236	366	198
Health survey sample	239	314	232

a midwife, or the patient herself. All terminations of previable pregnancies were designated as abortions, which have been classified as spontaneous, therapeutic, and illegally induced. In order to keep the records as accurate as possible, all so-called drug-induced abortions of less than two months' gestation were excluded unless they had been diagnosed by a physician, or unless there was other concrete evidence, such as hemorrhage or the necessity for curettage, to show that the patient actually had been pregnant. The exclusion of these doubtful pregnancies may have resulted in an understatement of the number of abortions, but the evidence from the records,⁸ as well as the opinion of gynecologists of experience, leads to the belief that a complete abortion induced by drugs is the exception rather than the rule. It is possible that this procedure has yielded a lower percentage of uncomplicated self-induced abortions than would have been found had it been possible to diagnose the pregnancies directly. This should be borne in mind when the question of complications is discussed.

The women of this group had been married an average of 8.5 years when the period covered by this part of the study came to an end.⁹ They had had 3,106 pregnancies, of which 35 were premarital conceptions. In spite of the high birth rate of the group, live births accounted for only a little more than two-thirds of all the pregnancy terminations. Of the remaining pregnancies, a few were terminated by spontaneous abortion, stillbirth, or therapeutic abortion, but most of the fetal loss was due to illegally induced abortion.

The gross figures for the entire sample have a rather limited usefulness because of the unusual religious distribution of the women under consideration. The proportion of Jews was large

⁸ There are in our series over 650 recorded instances in which the patient admitted taking abortifacient drugs early in a pregnancy which was later terminated by instrumental abortion or full-term birth.

⁹ This article relates only to the experience of the group before attending the Birth Control Clinical Research Bureau.

even for a New York City population but there were so many Catholic, Protestant, and mixed marriages that the sample could not be studied as an exclusively Jewish group. Since there are definite religious teachings concerning both abortion and contraception, it seemed likely that the classification of the data by religious affiliation would increase their general usefulness. Accordingly in most of what follows, the data are shown separate for Catholic women whose husbands were Catholic, Jewish women whose husbands were Jewish, and, since there were too few Protestants to warrant separate classification, a residual group comprising Protestants and all women whose husbands' religious affiliations differed from their own. It should be observed that nothing is known of the actual religious beliefs of the people interviewed except their religious affiliations as they themselves represented them, and that since all of the women considered were patients of a birth control clinic, they may not be considered a representative sample of their own religious groups.

Table 1 shows the distribution of pregnancies by types of termination for each religious group. The per cent of pregnancies terminated by stillbirth, spontaneous abortion, and therapeutic abortion does not vary significantly with religion, but the proportion terminated by live birth and illegal abortion shows

Table 1. Distribution of pregnancy terminations by type, for each religious group.

RELIGION	TOTAL PREGNANCIES	PER CENT OF TOTAL PREGNANCY TERMINATIONS					
		Total	Live Births	Stillbirths	Abortions		
					Spontaneous	Therapeutic	Illegal
TOTAL	3,106	100.0	69.4	1.3	6.0	1.2	22.1
Catholic	646	100.0	74.0	1.7	4.8	0.8	18.7
Jewish	1,975	100.1	69.1	1.2	6.2	1.4	22.2
Protestant and Other	485	99.9	64.7	1.2	6.8	1.0	26.2

RELIGION	WOMEN	TOTAL PREG- NANCIES	LIVE BIRTHS	STILL- BIRTHS	ABORTIONS			
					Total	Spon- taneous	Thera- peutic ¹	Illegal
NUMBER								
TOTAL	991	3,106	2,156	41	909	186	37	686
Catholic	165	646	478	11	157	31	5	121
Jewish	663	1,975	1,364	24	587	122	27	438
Protestant and Other	163	485	314	6	165	33	5	127
NUMBER PER 100 WOMEN								
TOTAL	—	313.4	217.6	4.1	91.7	18.8	3.7	69.2
Catholic	—	391.5	289.7	6.7	95.2	18.8	3.0	73.3
Jewish	—	297.9	205.7	3.6	88.5	18.4	4.1	66.1
Protestant and Other	—	297.5	192.6	3.7	101.2	20.2	3.1	77.9

¹ Includes 7 ectopic pregnancies.

Table 2. Pregnancy terminations of each type per 100 women, for each religious group.

considerable variation. Among Catholics the proportion of live births was high and that of illegal abortions correspondingly low. In other religious groups the low proportion of live births was balanced by a high proportion of illegal abortions.

The smaller proportion of pregnancies terminated by illegal abortion in the Catholic than in the Jewish group does not represent a smaller number of abortions per woman, as will be seen in Table 2. The Catholic women, because they made less use of contraception,¹⁰ became pregnant more times than the Jewish women, so that even though a smaller proportion of their pregnancies was terminated by illegal abortion there was a slightly larger number of those abortions per woman. In each religious group about 35 per cent of the women had resorted to illegal abortion at least once. About 16 per cent of the Catholics and 20 per cent of the Jews had done so only once, but 6 per

¹⁰ Stix, Regine K., M.D., and Notestein, Frank W.: Effectiveness of Birth Control. A Second Study of Contraceptive Practice in a Selected Group of New York Women. *The Milbank Memorial Fund Quarterly*, April, 1935, xiii, No. 2, pp. 162-178.

cent of the Jews and 11 per cent of the Catholics had experienced three or more illegal abortions.

Dr. Kopp's material shows somewhat higher abortion and pregnancy rates per woman than the present study, but the relative differences in the three religious groups are similar.¹¹ Both studies point to the fact that the incidence of induced illegal abortion is extremely high in a group of fertile women who sought birth control information, and that all other types of pregnancy wastage are relatively unimportant numerically.

The importance of the pressure of a rapidly growing family as a spur to induced abortion may be seen clearly in Table 3 which shows total pregnancy rates¹² for each five-year duration of marriage by religion, and the distribution of pregnancy terminations in relation to each rate. Figure 1 presents this material graphically. Total pregnancy rates for each group declined markedly as marriage lengthened. This was due to two factors: First, more couples used contraceptives as the duration of marriage lengthened, and second, apparently contraception was used more effectively as time went on. The proportion of pregnancies terminating in live births declined rapidly with increasing length of marriage in each group, and there was a corresponding rise in the proportion terminated by illegally induced abortion. Although the pregnancy rates were higher among Catholics than among other groups, and the proportion of live births was higher,

¹¹ Kopp. *Op. cit.* From material presented in Tables III and XXX it appears that there were approximately 112 abortions per 100 women. The corresponding ratio found in the present study is 92 (Table 2). The difference probably is due to the rigid exclusion of so-called drug abortions from the present study. When Kopp's material is adjusted to show the same proportion of self-induced abortions as that found here, the total number of abortions and of pregnancies in her group is reduced by at least 14 per 100 women.

¹² For method of computing pregnancy rates see: Stix and Notestein: Effectiveness of Birth Control. Milbank Memorial Fund *Quarterly*, January, 1934, xii, No. 1, pp. 59-64. Briefly, the rates represent pregnancies per 100 years of exposure to the risk of pregnancy of the whole group, individual exposure being the sum of those periods of each woman's life when she was living with her husband and not pregnant. The rates in this table are derived by combining exposure and pregnancies when contraception was used with exposure and pregnancies when none was used.

the same general time trend was apparent in the Catholic as in the other two groups.

Early pregnancies apparently were welcome in almost all families, for less than one-fifth of all the first pregnancies were accidental. On the other hand, nearly three-fourths of the few

Table 3. Pregnancy rates, and percentage distribution of pregnancies by type of termination, for specified periods of married life and each religious group.¹

PERIOD OF MARRIED LIFE	PREGNANCIES PER 100 PERSON-YEARS EXPOSURE	PER CENT OF TOTAL PREGNANCY TERMINATIONS			
		Total	Live Births	Illegal Abortions	Other Pregnancy Wastage
ALL RELIGIONS					
TOTAL	48	99.9	69.1	22.2	8.6
0-4 years	68	100.0	76.9	14.9	8.2
5-9 "	36	100.0	60.2	31.4	8.4
10-14 "	28	100.0	45.4	43.3	11.3
15-29 "	18	100.1	49.3	42.3	8.5
CATHOLIC					
TOTAL	70	100.0	73.9	18.6	7.5
0-4 years	93	100.0	80.4	11.2	8.4
5-9 "	53	100.0	68.3	26.1	5.6
10-14 "	49	100.0	50.8	42.9	6.3
15-29 "	27	100.0	53.8	46.2	0.0
JEWISH					
TOTAL	42	100.0	68.8	22.3	8.9
0-4 years	61	100.0	77.0	14.8	8.2
5-9 "	31	100.0	60.0	30.9	9.1
10-14 "	23	100.0	44.0	44.6	11.4
15-29 "	18	100.0	47.2	41.5	11.3
PROTESTANT AND OTHER					
TOTAL	56	99.9	64.0	26.8	9.1
0-4 years	71	99.9	72.0	19.9	8.0
5-9 "	43	100.0	50.0	40.8	9.2
10-14 "	39	99.9	43.2	37.8	18.9
15-29 "	13	100.0	60.0	40.0	0.0

¹ The data from which the rates and distributions are derived are shown in Table 4.

conceptions, which took place in the period from 15 to 29 years after marriage, occurred while contraceptives were being used. It appears that after these women felt they had had enough children, they first used whatever contraceptives they chanced to know about, and when these failed they frequently had the re-

Table 4. Data from which pregnancy rates and percentage distribution of pregnancy terminations shown in Table 3 are derived.¹

PERIOD OF MARRIED LIFE	PERSON-YEARS EXPOSURE TO RISK OF PREGNANCY	PREGNANCY TERMINATIONS			
		Total	Live Births	Illegal Abortions	Other Pregnancy Wastage
ALL RELIGIONS					
TOTAL	6,419.9	3,071	2,123	685	263
0-4 years	2,873.7	1,943	1,494	289	160
5-9 "	2,145.6	773	465	243	65
10-14 "	1,015.3	284	129	123	32
15-29 "	385.3	71	35	30	6
CATHOLIC					
TOTAL	912.3	640	473	120	47
0-4 years	434.9	403	324	45	34
5-9 "	302.1	161	110	42	9
10-14 "	127.5	63	32	27	4
15-29 "	47.8	13	7	6	0
JEWISH					
TOTAL	4,658.6	1,958	1,347	438	173
0-4 years	2,000.9	1,229	946	182	101
5-9 "	1,565.8	492	295	152	45
10-14 "	792.5	184	81	82	21
15-29 "	299.4	53	25	22	6
PROTESTANT AND OTHER					
TOTAL	849.0	473	303	127	43
0-4 years	437.9	311	224	62	25
5-9 "	277.7	120	60	49	11
10-14 "	95.3	37	16	14	7
15-29 "	38.1	5	3	2	0

¹ Exclusive of 35 pre-marital conceptions which terminated as follows: live births, 33; stillbirth, 1; illegal abortion, 1.

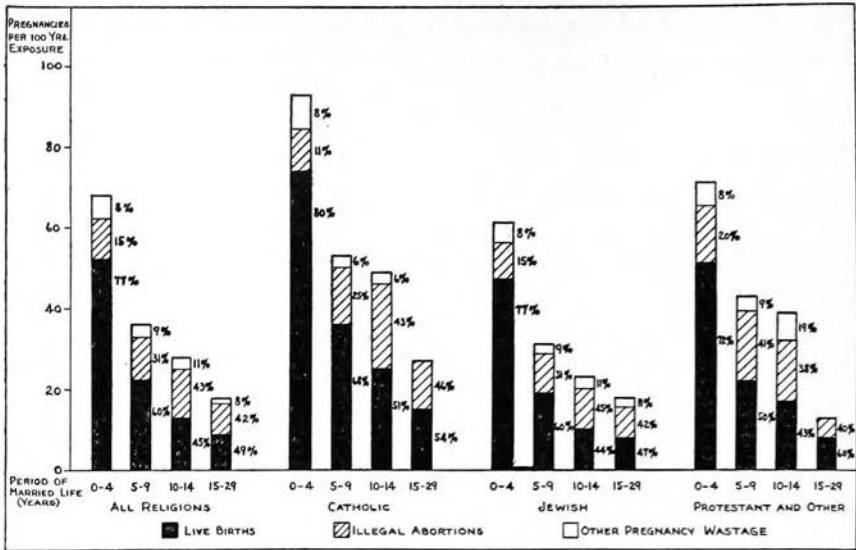


Fig. 1. Comparison of pregnancy rates per 100 person-years exposure to pregnancy, and distribution of pregnancy terminations by type in specified periods of married life, for each religious group.

sulting pregnancies aborted. However, there were not more abortions per woman in the later age periods than in the earlier. Actually the number of pregnancies was so much reduced by the use of contraceptives that the number of abortions was small, though the proportion of pregnancies aborted was large.

The use of induced abortion as a secondary rather than a primary method of birth control is shown more clearly in Table 5. Nearly 40 per cent of the accidental pregnancies (pregnancies experienced while contraceptives were being used) were terminated by illegal abortion, while less than 4 per cent of those pregnancies experienced when no contraceptives were used were so terminated. There was no significant change in the per cent of pregnancies terminated by wastage other than illegal abortion with increasing length of marriage, and the per cent of such loss in accidental pregnancy was essentially the same as in pregnancy occurring when no contraceptives were used.

Kopp's material shows the increase in abortion with increasing

TYPE OF PREGNANCY TERMINATION	DISTRIBUTION OF PREGNANCY TERMINATIONS			
	Per Cent		Number	
	No Contra- ceptive Used	Contracep- tives Used	No Contra- ceptive Used	Contracep- tives Used
TOTAL	100.0	100.0	1,438	1,633
Live births	88.1	52.4	1,267	856
Illegal abortions	3.5	38.9	50	635
Other pregnancy wastage	8.4	8.7	121	142

¹ Exclusive of 35 pre-marital conceptions which terminated as follows: live births, 33; stillbirth, 1; illegal abortion, 1.

Table 5. Distribution of pregnancy terminations by type for pregnancies conceived when contraceptives were used and when none was used.¹

order of pregnancy.¹³ Only 10 per cent of first pregnancies in her series were aborted, but the proportion rose sharply with succeeding pregnancies. After the sixth pregnancy nearly 50 per cent of all pregnancies were terminated by abortion.

The rise in the illegal abortion rate with increasing length of marriage, as shown in Table 3, represents a composite picture of the performance of women of various ages. A more detailed analysis is presented graphically in Figure 2, which shows the distribution of pregnancy terminations in corresponding periods of married life for women married different lengths of time. Of the four groups of bars, that at the top relates to the most recent marriages, which were contracted in the years 1927-1931; that at the bottom to those which date back to the years 1905 to 1916. In each of the four groups, the individual bars represent the experience during each five-year period of married life, showing the proportion of pregnancies terminated by live birth, illegal abortion, and other pregnancy wastage.

Two definite trends appear: (1) Comparison of the bars for the different periods of married life of women married in the same group of years shows that the longer the women were married, the larger the proportion of pregnancies which were terminated by illegal abortion, and the smaller the proportion ter-

¹³ Kopp, Marie: *Op. cit.* Table VIII. This includes all types of abortion.

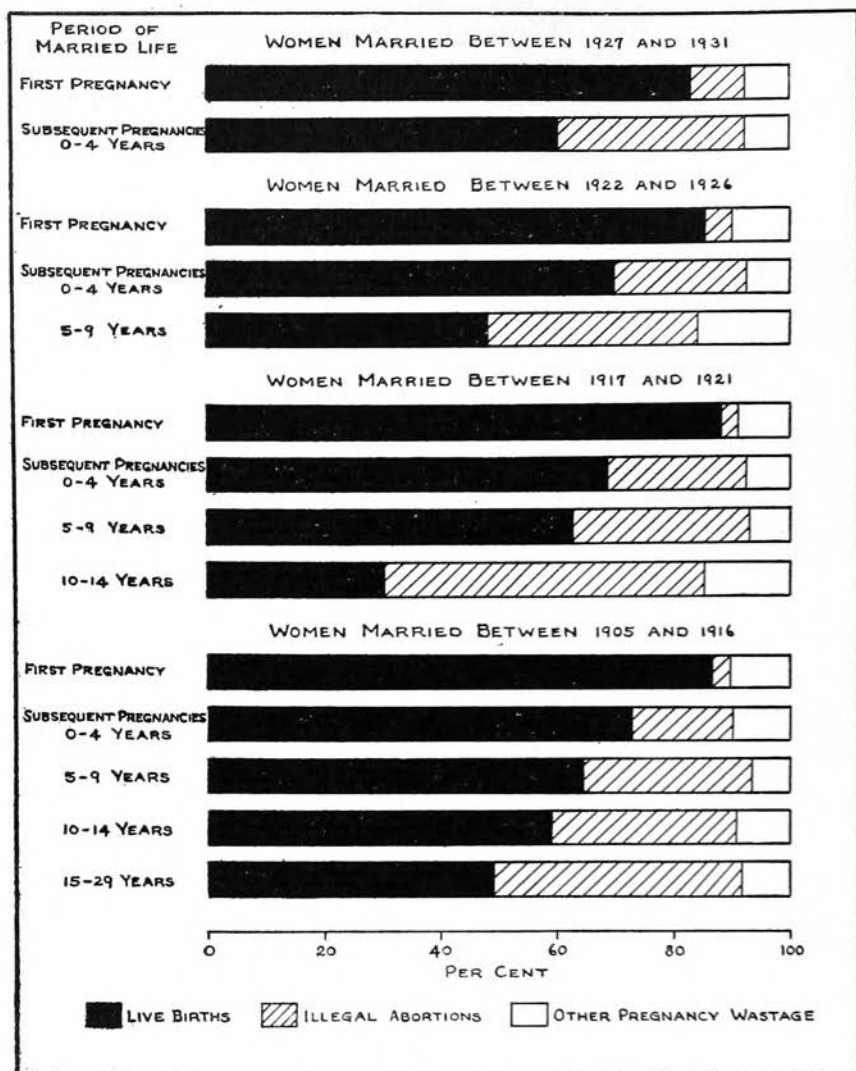


Fig. 2. Per cent of pregnancies terminated by live birth, illegal abortion, and other pregnancy wastage in each period of married life, for women married different lengths of time.

minated by live birth; (2) comparison of the bars for corresponding periods of married life of women married at different dates shows that during the past 25 years there has been a marked increase in the proportion of pregnancies terminated by illegal abortion.

So far as the group under consideration is concerned, apparently the younger generation has a changed attitude toward abortion. The early abortions in the youngest group of women were frequently followed by planned pregnancy. In many cases the patient went to an abortionist because she was the bread-winner in the family and could not afford to lose her job, much less produce another mouth to feed. A year or two later, if her husband was working, she gave up her job and planned a baby or two. In comparing the same periods of married life throughout it is apparent that the younger the women the larger the proportion of pregnancies illegally aborted. This trend is particularly striking when the lowest bar in each group is compared with the bar for the same period in the next older group. Since each lowest bar represents the period which includes the years 1929-1931, the sharp rise in abortion rates may be somewhat influenced by the depression, a factor which did not enter into the corresponding experience of women for whom the same period of married life came earlier.

The incidence of pregnancy wastage other than illegal abortion appears to be practically unchanged throughout the twenty-five-year period. Such slight differences as appear in Figure 2 are doubtless due to variations arising from the small number of cases. The consistency of this finding under all types of analysis may be of considerable importance in interpreting other data on pregnancy terminations in which the manner of abortion may be in question.

A detailed study of the methods by which abortion was obtained, and the complications incidental to abortion, may throw more direct light on the public health aspects of the problem. In appraising this portion of the report, the reader should remember that the only source of material is the patient, and that when she said that a "doctor" performed an abortion, she may have been referring to someone who was unlicensed or not a physician

RELIGION	TOTAL ILLEGAL ABORTIONS	PER CENT			
		Total	Physician	Midwife	Self
ALL RELIGIONS	686	100.0	74.2	19.7	6.1
Catholic	121	100.0	48.8	41.3	9.9
Jewish	438	100.0	87.9	7.5	4.6
Protestant and Other	127	100.0	51.2	40.9	7.9

Table 6. Distribution of illegal abortions by agents inducing abortion, for each religious group.

at all. Similarly, information regarding complications was not taken from hospital records, but was the statement of the patient concerning what she thought was wrong with her or what she had been told was wrong with her.

Since induced abortion is illegal in the United States excepting under conditions strictly defined by law, it is important to know who induces non-therapeutic abortions. Analysis of all illegal abortions by agent of termination (Table 6) shows that nearly 75 per cent of abortions in this group were induced by physicians, about 20 per cent by midwives,¹⁴ and the remainder by the woman herself.¹⁵ When the group is subdivided by religion, interesting differences appear. Jewish women had 88 per cent of their abortions induced by physicians, and less than 5 per cent were self-induced. In the other two religious groups, only about 50 per cent of the illegal abortions were induced by physicians and nearly 10 per cent were self-induced. Of all the self-induced abortions, about one-fourth were due to instrumental interference, and the remainder were induced by abortifacient drugs. In a few of these cases, the diagnosis of pregnancy had been made by the patient's family physician, and the remainder were incomplete abortions followed by curettage.¹⁶

¹⁴ These include one abortion performed by a neighbor of the patient.

¹⁵ For reasons discussed above, Kopp's study shows a much higher proportion of self-induced abortions (Kopp, *op. cit.*, Table XXX). When this difference is taken into account, the proportions of abortions performed by doctors and midwives are about the same as those found in the present study.

¹⁶ About twenty women were asked the price of induced abortion at interview, and
(Continued on page 361)

Nearly 90 per cent of the illegal abortions were induced before the third month of pregnancy, and less than 1 per cent terminated after the fourth month. On the other hand, less than half

Table 7. Relative frequency of curettage in various types of abortion.

Type of Abortion	Number of Abortions	Frequency of Curettage (Per Cent)
Spontaneous	171 ¹	52.0
Therapeutic	30 ²	90.0 ⁴
All Illegal Abortions	674 ³	86.1
By physician	509	95.9
By mid-wife	123 ³	58.5
Self-induced	42	47.6

¹ 15 unknown.

² Exclusive of 7 ectopic pregnancies.

³ 12 unknown.

⁴ Remaining cases: 2 induced labor, 1 X-ray.

of any kind is less dangerous before the third month, the fact that the illegal abortions were induced very early may account for the relatively few complications in this series of cases.

Table 7 shows the incidence of curettage in all types of abortion. About half the spontaneous abortions were followed by curettage. Of the illegally induced abortions a large proportion either included or were followed by curettage. It accompanied almost all of the abortions induced by physicians but a relatively small proportion of those induced by midwives. Nearly half the midwife-induced abortions were spontaneously delivered following instrumental dilatation. Of the self-induced abortions, 48 per cent were followed by curettage, and all of these were incomplete. Each patient was asked specific questions about the instrumental

the range of answers may be of some interest. The highest price was \$200, and the lowest \$2.00, with about \$60 as the average. In three cases the charges were by midwives and were, respectively, \$35, \$40, and \$60. The two-dollar abortions were done by a man described by the patient as a doctor. She assured the author that his patients were given slips of paper with numbers on them and waited in line. She also said she thought his instruments were rusty. The patient had returned to this "doctor" a number of times, in spite of having had one abortion followed by severe septicaemia and two by serious hemorrhage.

the spontaneous abortions took place before the third month, and 11 per cent terminated after the fourth month. Therapeutic abortions were undergone relatively late in pregnancy, nearly 17 per cent being induced after the fourth month and only 57 per cent before the third. Since abortion

TYPE OF ABORTION	TOTAL NUMBER	PER CENT			
		No Complications	Hemorrhage	Infection	Other Pathology
Spontaneous	186	75.8	22.0	2.7	0.5
Therapeutic	30 ²	90.0	3.3	0.0	6.7 ³
All Illegal Abortions	686	86.0	7.9	3.4	5.5
By physician	509	91.2	4.7	2.8	2.9
By midwife	135	85.9	10.4	4.4	0.7
Self-induced	42	23.8	38.1	7.1	52.4 ⁴

¹ Two types of pathology occurred simultaneously in a number of cases.

² Exclusive of 7 ectopic pregnancies.

³ 3.3 per cent (1 case) probable sterility following X-ray abortion.

⁴ 47.6 per cent incomplete.

Table 8. Incidence of complications in various types of abortion.¹

procedure, and the patients' replies were the source of the recorded data.

It is difficult to estimate the effect of this very large number of abortions on the health of a group of women who by the process of selection must have been among those least injured by the procedure. Table 8 shows the distribution of complications following all types of abortion. From this tabulation it appears that therapeutic abortion is one of the least dangerous of all types of abortion. This is in spite of the fact that in 37 per cent of the therapeutic abortions, the patient was ill at the time of the abortion and a bad surgical risk because of toxæmia or severe systemic disease¹⁷ while less than one per cent of all other types of abortion occurred during the illness of a patient.

Infection appears to have been comparatively rare in this group of women. This may be because slight infection was overlooked and therefore not reported by the patient, or it may be because one could not expect to find a high incidence of pelvic infection in a group as fertile as this one. Not one of the therapeutic abortions was reported as followed by infection, and the next lowest

¹⁷ The remainder of the therapeutic abortions were done because of previously complicated pregnancy or arrested tuberculosis, and these patients did not therefore present serious surgical risk at the time of abortion.

incidence, as might be expected, was among spontaneous abortion. The highest incidence was found in self-induced abortion, and the next highest among abortions induced by midwives.

Hemorrhage appears to have been a much more frequent complication than infection. Here again, as might be expected, the self-induced abortions showed the highest incidence. The only case of therapeutic abortion complicated by hemorrhage was one interrupted in the fifth month because of placenta praevia. The high incidence of hemorrhage in spontaneous abortion (22 per cent) may be partly due to the exclusion of doubtful pregnancies which may have been uncomplicated early spontaneous abortions. It was assumed that unless there was unusual bleeding, diagnosis by a physician, or dilatation and curettage, there had been no pregnancy, since there was no other adequate evidence on which to base a diagnosis of pregnancy.

The significance of these figures from the standpoint of public health cannot easily be determined. On the surface it appears that illegal abortion performed by a physician is not a very serious danger to life and health, and that therapeutic abortion performed under proper conditions is as little dangerous as an operative procedure can be. It must be emphasized, however, that, just as the study of maternal mortality following abortion is a pessimistic approach to the question, so the study of a selected, fertile group of survivors is a sanguine one. Until we know the actual incidence of abortion in a community, morbidity and mortality statistics have little meaning; and until we know the incidence of serious complications and subsequent sterility or death in a given group in which the number of abortions is known, our answer must be equally incomplete.

In this particular group of women, the incidence of illegal abortion before attendance at a birth control clinic was high and had increased during the past twenty-five years. However, abortion was seldom the sole means of curtailing the size of their families.

On the contrary it appears to have been, in the main, the last resort of women who wanted no more children, who had tried by the best means they knew to prevent further conceptions, and failed.

SUMMARY

This study deals with a selected group of women who lived in the Borough of the Bronx and were patients of a birth control clinic in New York City. The material presented relates exclusively to the experience of the patients prior to their first visit to the clinic. No claim is made that the experience of this group of women is typical of that of any other population. Indeed, it is altogether likely that a similar study of women differently selected would yield different results. The findings are as follows:

1. Seventy per cent of pregnancies terminated in live births, 20 per cent in illegal abortions, and the remaining 10 per cent in spontaneous abortions, therapeutic abortions, ectopic pregnancies, and stillbirths.

2. Catholic women had a higher percentage of live births and a lower percentage of illegal abortions than did the other religious groups, but there were more illegal abortions per woman among Catholics than among Jews.

3. The per cent of pregnancies illegally aborted increased as marriage lengthened, though because of increased use of contraceptives the actual number of abortions was not higher in the later than in the earlier periods of married life.

4. The proportion of pregnancies terminated by illegal abortions increased rapidly during the past twenty-five years.

5. The per cent of pregnancies terminating in stillbirth, spontaneous abortion, and therapeutic abortion was not significantly different in the different religious groups, nor did it change with increasing length of marriage. There was also no significant change in the proportion of pregnancies thus terminated within the twenty-five year period studied.

6. About 75 per cent of the illegal abortions were induced by persons designated by the patients as doctors; only 6 per cent were self-induced, and the remainder were induced by midwives. The proportion of abortions induced by midwives was much higher among Catholics and Protestants than among Jews.

7. The incidence of complications in all types of abortion except those induced by the patient herself was relatively low. Therapeutic abortions were free from complication, considering the fact that the patients undergoing abortion were poor surgical risks. The study deals with the records of living fertile women and for this reason can contain no data concerning complications leading to sterility or death.