INDUCED ABORTIONS IN JAPAN IN 1953–1954

A DEMOGRAPHIC ANALYSIS OF REPORTS FROM DESIGNATED PHYSICIANS

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THE increase in the number of induced abortions in Japan in recent years has raised serious questions among those concerned with maternal health in its physical and social aspects. In order to assess the situation, the Maternal Health Committee of the Imperial Aid Society for Mother and Child cooperated with the Maternal and Child Health Section of the Welfare Ministry of Japan in a survey of the frequency of induced abortions, their characteristics, and the characteristics of the women who had them.[1] Questionnaires were mailed to each of the designated physicians in Japan, with the request that they be filled in and returned to the Committee. A preliminary report on some 5,200 cases has been presented from the health point of view.[2] The present report is based on about 7,000 questionnaires, and the approach is demographic. The

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[1] The Eugenic Protection Law (Law No. 156 of July 13, 1948) had as its major initial purpose the prevention of increase in the descendents of persons with hereditary deficiencies and abnormalities. In the successive modifications the objective of protecting the life and health of the mother became increasingly significant. In the earlier years, it was necessary to apply to a local official committee for authorization to perform an induced abortion for health reasons. This requirement was eliminated in May of 1952. There remain specific legal provisions limiting the persons who are permitted to perform abortions in accord with the law. The physicians who are legally permitted to perform abortions are referred to officially as "designated physicians." In Article 14 of the Eugenic Protection Law, the designated physician is defined as follows: the physician designated for the Law by the Medical Association, which is a corporate juridical body established in the prefectural district as a unit. From the legal point of view, only these designated physicians can perform artificial interruptions of pregnancy, and then only within the restrictions of the law.

[2] Nakatsu, Y., et al.: A Survey of Public Health Aspects of Induced Abortion. *Japanese Journal of Obstetrics and Gynecology,* 1956, 23, No. 1, pp. 27–37. Fifth International Conference on Planned Parenthood. *Report of the Proceedings.* Tokyo, Japan. pp. 234–235.

schedules were handled, coded, and tabulated by a member of the technical staff of the Institute of Public Health of the Welfare Ministry.

Since the survey of the designated physicians was carried out between December of 1953 and about August of 1954,[3] the results may be compared with the reported vital statistics for the calendar year 1954. The summary of vital statistics presented here is intended to define the problem of abortions and show something of its magnitude. As we shall show later, direct comparisons with the reports of the designated physicians to the Welfare Ministry must be made with care.

Live Births and Abortions in 1954

In Japan in 1954, the 1.1 million registered induced abortions were almost two-thirds as numerous as live births. As the data of Table 1 indicate, more than 91 per cent of all induced abortions were performed prior to the fourth month of gestation. Fetal deaths in the fourth month of gestation and above were about equally divided between induced and spontaneous. All fetal deaths taken together were less than one-fifth as numerous as the induced abortions registered as having been performed prior to the fourth month of gestation.

Table 1. Live births and abortions in Japan, 1954.

Variable	Number	Per 1,000 Women Aged 15–49[a]
Live Births	1,769,580	77.2
Registered Induced Abortions[b]	1,143,059	49.9
Less than 4 Months Gestation	1,042,910	45.5
Fetal Deaths[c]	187,119	8.2
Induced	99,918	4.4
Spontaneous	87,201	3.8

[a] Japanese nationals only, since reported vital statistics pertain only to them.
[b] Induced abortions performed prior to the seventh month of pregnancy must be reported under the authority of the Eugenic Protection Law.
[c] Fetal deaths are limited to those occurring in the fourth month of gestation or later. An induced fetal death is defined as a fetal death in the fourth month of gestation or later that is due to the induced expulsion of the fetus from the body of the mother. Such induced abortions in the fourth and later months must be reported to the legal authorities according to the Law of the Welfare Ministry.

[3] The survey was terminated in August, 1954 because of lack of funds. Also, some physicians objected to the burden of data collection. Actually, 19.4 per cent of the questionnaires pertain to the year 1953 and 80.6 to the year 1954. Only one case in the records is reported as having occurred in 1955.

In 1954, there were 232,879 live births that occurred with a physician in attendance. This is about 13 per cent of all live births. More than half the spontaneous fetal deaths involved cases in which there was a physician in attendance. All cases involving induced abortions of four months' gestation or more were attended by physicians. Since the registered induced abortions are those reported by designated physicians, it is obvious that these cases involved attendance by physicians. The live births and spontaneous abortions attended by physicians numbered 278 thousand; the induced abortions performed by physicians and reported as such numbered 1.1 million. Since there were 9,597 designated physicians as of August 1, 1954, the average number of reported induced abortions per designated physician was 119.

Data and Biases

The questionnaires that were mailed to the designated physicians required detailed records for each abortion performed, including the previous reproductive history of the woman and her statements concerning the reasons why she had the abortion. The survey was carried out from December, 1953 to August, 1954, though some cases were reported after that time. In all, 6,932 questionnaires were returned.[4]

The data that were requested were complex, and the cooperation of the physicians in securing and transmitting the information was voluntary. It is understandable, therefore, that detailed questionnaires were returned for only a small proportion of the total number of abortions performed and reported to the Welfare Ministry. As we have noted, there were almost 96 hundred designated physicians in Japan in the middle of the

[4] The questionnaires were mailed to each of the designated physicians through the prefectural Maternal Health Association, which is the association of the physicians designated by law to perform abortions under the provisions of the Eugenic Protection Law. The prefectural Associations did not report on how they distributed the questionnaires to the physicians in the various prefectures. There was information on the type of institution that returned questionnaires. Approximately 550 designated physicians or institutions returned a total of 6,932 questionnaires. Some 300 individual practitioners sent from two to ten questionnaires each. The cooperating university or municipal hospitals sent 30 to 100 questionnaires each.

year 1954. And, during the period of the survey, about 900 thousand abortions were reported by the designated physicians to the appropriate governmental agency. The total number of questionnaires returned was less than seven thousand. These returns cannot be assumed to be a sample of all abortions performed during the period with reference to geographical location, type of area of residence, type of medical facility used, characteristics of the women, or reproductive histories of the women.

It is understandable, also, that there were divergences in the completeness and consistency with which the information was secured and reported. A classification of the questionnaires by the sole criteria of adequacy of data yielded the following groups:[5]

A. *Adequate,* 4,320 cases. Here the forms were filled in carefully, with full information on previous pregnancies. These adequate reports came from many hospitals and clinics throughout Japan. In order not to bias the materials, the poor questionnaires reported from these clinics and hospitals, where reporting was generally good, were retained in Group A.

B. *Intermediate,* 1,854 cases. These questionnaires were not well filled out, but they did give information on previous abortions. In general, they came from several hospitals in large cities.

C. *Unsatisfactory,* 758 cases. There were 564 of these reports that mentioned only the induced abortion that was performed at the time of survey, or that were compiled erroneously in other ways. Exclusions numbered 148 for women who had remarried, and have pregnancies of previous marriage, and 17 because women were widowed or divorced. Twenty-nine were excluded as reports on spontaneous fetal deaths.

The problems of selection here are intricate ones. Even in the

[5] In the previous report (Nakatsu, Y., *op. cit.*) the material was classified by region and type of medical institution. The regional distribution was as follows: Hokkaido, 39; Tohoku, 468; Kanto, 1,911; Chubu, 757; Hokuriku, 735; Kinki, 704; Chugoku and Shikoku, 93; and Kyushu, 502. The distribution by type of medical institution was as follows: University hospital, 409; municipal hospital, 2,284; private hospital, 552; private clinic, 1,263; and unknown, 701.

hospital records that were prepared most carefully, information was rather poor for women who had frequent abortions or who had large families.

The frequency of abortions of higher orders was greatest in Group C, intermediate in Group B, and least in Group A. There were also systematic differences in the ages of the women.

In the present exploratory analysis, Groups A and B were combined, without weighting. No analysis of the data of Group C is presented here.

The evidence is substantial that there are biases in the questionnaires returned by designated physicians. Such biases are derived from the selectivities among the designated physicians who cooperated with the study through filling out schedules and the selectivities among the abortions that were reported on the inquiry forms. The problem of measurement of the total bias is a difficult one. The major recourse is a comparison of the information on abortions as derived from the survey of 1953–1954 with that derived from the official reports to the Welfare Ministry for the year 1954.

There are many questions about the registration data, for factors of taxation and legal or social acceptability are believed widely to be factors that influence reporting. The percentage age distributions of the women whose induced abortions were reported in the survey differ somewhat from those of the women whose abortions were registered in the year 1954.

Age	Survey, 1953–1954		Registration, 1954	
	Number	Per Cent	Number	Per Cent
All Ages	6,174	100.0	1,143,059	100.0
Below 20	57	0.9	15,714	1.4
20–24	739	12.0	180,432	15.8
25–29	1,678	27.2	305,362	26.7
30–34	1,685	27.3	299,833	26.2
35–39	1,262	20.4	219,362	19.2
40–44	649	10.5	109,004	9.5
45 or Over	97	1.6	12,315	1.1
Unknown	7	0.0	1,037	0.1

It might be argued that the survey failed to secure complete reporting for younger women, or, perhaps more plausibly, that physicians failed to register higher order abortions to older women. This latter interpretation is reenforced by the distributions of the abortions in the survey and the national registration by the month of gestation in which they were performed.

Month	Survey, 1953–1954		Registration, 1954	
	Number	Per Cent	Number	Per Cent
All Months	6,174	100.0	1,143,059	100.0
First	71	1.1	—	0.0
Second	2,068	33.5	528,631	46.2
Third	2,774	44.9	514,279	45.0
Fourth	650	10.5	36,019	3.2
Fifth	166	2.7	31,764	2.8
Sixth	146	2.4	23,162	2.0
Seventh	73	1.2	8,793	0.8
Eighth	23	0.4	—	—
Ninth	6	0.1	—	—
Unknown	197	3.2	411	0.0

There is the further point that the confidential research survey is more likely to secure accurate reporting than the official registration. However, the universe of induced abortions and the characteristics of the women who have them are unknown.

The Abortions of the Survey Period

The reports of the designated physicians that are analyzed here concern 6,174 women who had induced abortions during the survey period. More than half of these women, 54.5 per cent of the total, were in the central childbearing ages from 25 to 34. Only 12.9 per cent were below age 25, while 12.1 per cent were aged 40 or above. Since 28.4 per cent of live births occur to women below age 25 and 2.3 per cent to women aged 40 or above, induced abortions were proportionately few during the younger childbearing ages, proportionately many during the terminal years of the childbearing period.

Most of the women who had induced abortions were living in marriages of less than ten years' duration. The percentages by duration of marriage were as follows: Less than 5, 23.8; 5 to 9, 29.8; 10 to 14, 23.0; 15 to 19, 13.1; 20 or more, 7.2; and 3.1 unspecified. It is probable that many of those who did not specify marriage duration were young and unmarried. If these unspecified cases are included with the marriages of less than ten years' duration, the percentage of abortions occurring to women whose marriages had lasted ten years or less becomes 56.7.

It is already apparent that relatively few of the abortions terminated pregnancies of very high orders. The percentage distribution of abortions by order of pregnancy was as follows:

Order of Pregnancy	Abortions	
	Number	Per Cent
Total	6,174	100.0
First	510	8.3
Second	787	12.7
Third	905	14.7
Fourth	1,118	18.1
Fifth	990	16.0
Sixth	741	12.0
Seventh to Ninth	974	15.8
Tenth or Over	149	2.4

The major concentrations were the third, fourth, and fifth pregnancies, with secondary concentrations for the second and the sixth. It is significant that 8.3 per cent of the induced abortions terminated first pregnancies.

The resort to induced abortions by women with relatively few children is also seen in the distribution of the women having abortions reported in the 1953–1954 survey by the number of living children. Some 11 per cent had no living children, while 17.1 per cent had only one child. Almost three-fourths of all the women that had induced abortions had three or fewer children. The precise percentages were as follows: None through three, 72.9; four, five, or six, 23.7; seven or more, 3.5.

The abortion reported in the survey was the first abortion for almost two-thirds of the women, the second for another fourth (Table 2). Only 1.2 per cent of the women reported that this was the fifth or higher order abortion. If the percentages are computed for abortions that followed each other without intervening live births or spontaneous fetal deaths, the percentages in the lower orders are higher. For almost one-third of the women, though, the immediately preceding pregnancy termination had been an induced abortion. More than three per cent of the women had had four or more consecutive pregnancies terminated by induced abortion.

The relation of the abortion to the type of termination of the previous pregnancy suggests both the limited use of abortion and the tendency toward recurrent use of this means of avoiding another child. Some 8.3 per cent of the women were ending a first pregnancy with the induced abortion that was reported, while 55.7 per cent were using abortion after a previous pregnancy that has ended in a full-term live birth. For 4.7 per cent of the women, the previous pregnancy had ended in a fetal death. But almost a third of the women, 31.4 per cent of the total, had also terminated the immediately preceding pregnancy with an induced abortion.[6]

Table 2. Per cent distribution of abortions by order, survey of 1953–1954.

Order of Abortion	All Abortions		Consecutive Abortions[a]	
	Number	Per Cent	Number	Per Cent
All Orders	6,174	100.0	6,174	100.0
First	3,896	63.1	4,234	68.6
Second	1,515	24.5	1,324	21.5
Third	511	8.3	413	6.7
Fourth	175	2.8	140	2.3
Fifth or Higher	77	1.2	63	1.0

[a] Abortions that follow previous pregnancy terminations by abortion, i.e., without a live birth or a spontaneous fetal death intervening. Thus the 4,234 abortions included as first order in the column for consecutive abortions include the 3,896 first abortions plus 338 abortions of second or higher order that follow live birth or some pregnancy termination other than induced abortion.

[6] The percentage distribution by weeks of gestation at abortion were as follows: 6 or less, 8.0; 7 to 10, 54.5; 11 to 14, 24.6; 15 or more, 9.7; unknown, 3.2.

The Order of Abortion

The previous analysis showed the differences in the characteristics of women and of abortions in the 1953–1954 survey.

In this analysis, the abortions performed during the survey period were differentiated by the order of the abortion reported in the survey. Average values by order and proportionate frequency among all abortions of specified orders are given in Table 3.

Table 3. Changes in characteristics by order of abortion.

Characteristics	Order of Abortion				
	1	2	3	4	5 and Over
	Averages[a]				
Age	31.4	32.8	33.9	34.1	36.1
Duration of Marriage	9.1	11.0	11.6	12.5	14.0
Order of Pregnancy	3.8	5.2	6.3	7.6	9.3
Week of Gestation	10.6	9.8	9.7	8.9	9.1
Number of Living Children	2.4	2.8	2.9	3.1	3.1
Time Between Previous and Present Pregnancies[b]					
First Pregnancy	0.9	—	—	—	—
Full Term Birth	2.6	1.6	1.9	0.9	—
Spontaneous Fetal Death	1.7	0.9	1.0	1.5	—
Induced Abortion	—	1.2	1.1	0.8	0.8
Total	2.4	1.2	1.2	0.9	0.8
	Per cent, total cases in order as 100				
Consecutive Abortions Performed	—	82.1	77.1	76.0	73.9
Women With No Living Children	14.3	6.6	3.8	4.0	2.7
Month of Gestation, Sixth or Over	5.2	2.4	2.6	1.2	1.3
Termination of Previous Pregnancy					
First Pregnancy	13.1	—	—	—	—
Full Term Birth	81.0	14.9	9.4	3.4	—
Spontaneous Fetal Death	5.9	3.0	2.0	2.3	—
Induced Abortion	—	82.1	88.6	94.3	100.0

[a] Arithmetic mean. The numbers of women having abortions of the specified orders were: First, 3,896; second, 1,515; third, 511; fourth, 175; and fifth or over, 77.
[b] In years, by kind of termination of previous pregnancy.

The average age at first abortion was 31.4 years, and there was a progressive increase to an average age of 36.1 at the fifth or higher order of abortion. Average duration of marriage increased similarly with advancing order of abortion.

The mean order of pregnancy was 3.8 for the first abortion, 5.2 for the second, 6.3 for the third, 7.6 for the fourth, and 9.1 for the fifth and higher orders. The intervals between the average number of pregnancies at the successive abortion orders from one through six were 1.4, 1.2, 1.2, 1.2 and 1.1, respectively. These differences in averages should be interpreted cautiously. Since each abortion reported by any woman in the surveyed group was treated as a separate event, the differences between averages do not represent the experience of a group of women all of whom progressed from the lower to the higher order of induced abortion. It may be noted, though, that an average of about 1.2 pregnancies separated the successive average values.

The increase in the average number of living children with successive orders of abortion is far less steep than that in average orders of pregnancy. The association of induced abortion with higher orders of pregnancies would itself operate to reduce the numbers of living children with advancing abortion order.

It should also be noted that the average week of gestation at the time the abortion was performed declined from the first to the fourth abortion.

The interval between the termination of previous pregnancy and the date of the induced abortion declined with the advancing order of the abortion. Average intervals were substantially longer in cases where the previous pregnancy had terminated in a full-term live birth than in those where the previous pregnancy had also ended in fetal death, whether spontaneous or induced. The interval of approximately a year between the termination of a pregnancy in spontaneous or induced abortion and another induced abortion is consistent with the results of medical research on pregnancy rates after induced abortion.[7]

[7] Koya, Y. and Muramatsu, M.: Survey of Health and Demographic Aspects of

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The proportion of pregnancies terminated by induced abortion increased with the order of the pregnancy and the order of the induced abortion. The probability of a consecutive abortion increased with the order of the previous abortion. Consideration of maternal health or other factors may have retarded some women from terminating pregnancies in second or third abortions. However, in 95 per cent or more of the cases, the pregnancies terminated by fourth or higher order abortions followed pregnancies that had also been terminated by abortion. Three-fourths of the women having third or higher order abortions had records of continuous terminations of pregnancies by abortion.

Abortions in the Reproductive Histories

The experiences utilized in the last two analyses were those of the survey period in 1953 and 1954. Many of the women reported previous abortions, however, and so it is possible to contrast the current characteristics of women and abortions with the characteristics at the time of the preceding abortions.

The reproductive histories of the women permit comparable tabulations for the present and the earlier abortions by age, duration of marriage, order of pregnancy, number of living children, and order of gestation (Table 4).[8]

The earlier abortions occurred sometime in the period between 1940 and 1953, the current abortions in the months of the survey in late 1953 and 1954. In most of the characteristics, the differences were small but consistent. It is obvious that age and duration of marriage at the time of the earlier abortions were

Induced Abortion in Japan. Special Report, No. 4. *Bulletin of the Institute of Public Health* 1955, 4, No. 3, p. 1. This report indicates that the median interval between an induced abortion and a pregnancy is 8.0 months less than that between a normal birth and a pregnancy.

[8] All induced abortions reported by the women as having occurred prior to the survey period are included as earlier abortions, without regard to the specific time when the abortions were performed. The various abortions occurring to an individual woman are included as separate cases. This means that each woman having an induced abortion reported as a first abortion is included only in the analysis of current abortions. Each woman having a second or higher order abortion is included not only in the current abortion group but in the earlier abortion group, and she is included in the latter once for each order of abortion below the terminal one that secured her inclusion in the survey.

somewhat lower than in the current abortions. It should be noted, however, that the current abortions occurred at lesser average months of gestation than the earlier ones.

It is in the relation of induced abortions to fertility that the

Table 4. The characteristics of women and abortions, current and earlier abortions reported by women in the 1953–1954 survey.

Characteristic at Time of Abortion	Order of Abortion				
	1	2	3	4	5 and Over
	NUMBER OF WOMEN				
Current Abortions	3,896	1,515	511	175	77
Earlier Abortions	2,278	763	252	77	47
	AVERAGES				
Age of Women					
At Earlier Abortion	31.1	32.0	33.2	34.2	32.5
At Current Abortion	31.4	32.8	33.9	34.1	36.1
Duration of Marriage					
At Earlier Abortion	9.1	10.2	11.5	12.3	10.6
At Current Abortion	9.1	11.0	11.6	12.5	14.0
Order of Pregnancy					
Earlier Abortion	4.0	5.2	6.5	7.6	8.6
Current Abortion	3.8	5.2	6.3	7.6	9.3
Month of Gestation					
Earlier Abortion	2.9	2.7	2.6	2.7	2.4
Current Abortion	2.7	2.4	2.4	2.2	2.3
Number of Living Children					
At Earlier Abortion	2.6	2.9	3.1	3.1	2.6
At Current Abortion	2.4	2.8	2.9	3.1	3.1
	PER CENT, TOTAL CASES IN ORDER AS 100				
Women With No Living Children					
At Time of Earlier Abortion	9.3	5.2	4.4	3.9	2.1
At Time of Current Abortion	14.3	6.6	3.8	4.0	2.7
Month of Gestation, Sixth or Over					
Earlier Abortion	4.5	2.3	2.3	3.0	—
Current Abortion	5.2	2.4	2.6	1.2	1.3

major differences appear. The average number of living children was greater at each order of abortion in the earlier than in the current series. The per cent of the women having abortions who reported no living children was substantially greater for first order abortions in the current series than in the earlier series.

Reasons for Abortions as Given by the Women

The reasons why women have induced abortions involve complex social and psychological motivations. The reasons involved in the decision and the reasons reported immediately prior to the performance of the operation may differ. In a general questionnaire, it was possible to list only some objective conditions or factors and to ask the woman to circle the one or more that was applicable. The reasons as offered included those specified in the Eugenic Protection Law. They also included such things as the lack of desire for a child, difficulties in the economy of the home or in housing, illness or disease on the part of wife or husband, fear of poor heredity, conception while single or legally unmarried, and conception under conditions of force.

About 28 per cent of the women checked duplicate reasons. In these cases, the most frequent combinations were "no desire for child," "ill health," and "economic difficulties in home." After an analysis of these duplicate entries, uniform rules for the determination of a single reason were adopted. In general, priority was given to the more specific independent reason.[9]

The numbers and percentage distributions of reasons given for the abortions reported in the 1953–1954 survey were as given on the next page.

The reasons given for having abortions changed as the orders of the abortions increased. Induced abortions that were procured because another child was not wanted increased with the order of the abortion. The giving of the illness specified in the

[9] There was a formal allocation of priorities among joint reasons. Priority was given to the more independent factors. This means that fairly low priorities were assigned to health and economic reasons.

Reason	*Number*	*Per Cent*
All Abortions	6,174	100.0
Did Not Want Child	371	9.0
Too Many Children	1,416	22.9
Last Child Too Young	888	14.4
Economic Difficulty	773	12.5
Housing Difficulty	96	1.6
Hyperemesia	754	12.2
Tuberculosis, All Forms	383	6.2
Sickness, Eugenic Law	411	6.6
Other Specific Disease	315	5.1
Sickness of Husband	101	1.6
Protection, Maternal Health	250	4.1
Hereditary Disease	16	0.3
Not Yet Married	129	2.1
Conception by Force	8	0.1
Special	181	2.9
Unspecified	82	1.3

Eugenic Protection Law and the justification on the basis of the protection of the health of the mother decreased as the order of the abortion increased.

An analysis of the "special reasons" for women giving them for first abortions indicates the multiplicity of the occurrences that lead women to seek abortions.[10] In the 99 cases analyzed, there was a major predominance of family problems. "Family troubles" were reported by 23, the desire to plan family size by 15. Troubles with other children were frequent, for 15 women mentioned children who were crippled or suffering from severe disease. In 13 cases, the family union was being broken. Four women had just been widowed. Ten reported that they had been seriously ill. Seven said that they feared childbirth. Nine were professional prostitutes. Three wanted to terminate a first pregnancy at an advanced age.

Major differences in reasons or in the selection of reasons

[10] The 99 cases analyzed here are all from the Group A schedule, while only 24 cases in Group B reported special reasons.

characterized the women of various ages and with varying sizes of families (Tables 5 and 6). Younger women and those with small families used such reasons as the following: The last child is too young; the woman is not yet married; tuberculosis; an ill husband; and hyperemesia according to the Eugenic Law. In more than 90 per cent of the cases, the illness of the husband was tuberculosis.

Most of those reporting themselves as not yet married were cases in which there was a *de facto* marriage that had not been registered. However, some cases were the results of temporary affairs.

Those who gave economic and housing difficulties, other unspecified reasons, and protection of mother's health were about average in age and in family size. Those giving the types of special reasons noted earlier had smaller numbers of living children than the average for women of the same age. Since

Table 5. Average age of women and average weeks of gestation at abortion, by reason and order of abortion.

Reasons for Abortion	Average Age of Woman			Average Weeks of Gestation		
	First	Second	Third and Fourth	First	Second	Third and Fourth
Did Not Want Child	33.1	33.5	33.6	10.1	8.9	10.0
Too Many Children	37.3	37.1	36.7	10.1	9.6	8.9
Last Child Too Young	26.2	28.3	28.9	11.0	9.7	9.2
Economic Difficulty	31.1	32.2	33.3	10.8	9.8	9.7
Housing Difficulty	29.0	32.0	33.1	10.2	9.8	7.7
Hyperemesia	30.4	31.4	32.4	9.4	9.4	9.1
Tuberculosis, All Forms	29.3	28.7	31.7	11.2	10.9	9.7
Sickness, Eugenic Law	31.0	32.8	33.7	13.0	10.1	11.5
Other Specific Disease	32.6	32.9	35.4	11.5	10.7	11.2
Sickness of Husband	30.8	31.2	30.0	10.8	9.6	10.4
Protection, Maternal Health	33.0	31.9	32.8	10.2	9.0	9.4
Hereditary Disease	29.0	—	—	18.4	—	—
Not Yet Married	22.8	25.3	—	13.2	12.4	—
Conception by Force	22.5	—	—	9.9	—	—
Special	29.8	32.3	33.8	11.7	10.2	9.2
Unspecified	31.2	30.9	32.5	10.0	9.4	8.2
Total	31.4	32.8	34.0	10.6	9.8	9.5

women who claimed protection of mother's health as a reason included women suffering from chronic diseases, the average number of living children was small compared with the average for all women of the same age.

The lack of desire for a child and the diseases of the Eugenic Protection Law were alike used by older women. Here family size is above the average. The reason called "lack of desire for a child" is a weighted mixture of those who report that they have too many children and those who say that the last child is too young. This reason has a pattern similar to that of the protection of the health of the mother. Heart disease, beri-beri, acute or chronic nephritis, the anemias, and similar illnesses are among the diseases commonly mentioned in relation to the Eugenic Protection Law. The women giving these reasons

Table 6. Average number of living children by order of abortion and type of termination of previous pregnancy, by reason.

Reasons for Abortion	Average Number of Living Children			Termination of Previous Pregnancy Per Cent			
				First Abortion[a]		Second Abortion[b]	
	First Abortion	Second Abortion	Third and Fourth Abortions	First Pregnancy	Live Birth	Live Birth	Induced Abortion
Did Not Want Child	2.8	2.6	2.6	6.0	90.4	12.5	87.5
Too Many Children	4.4	4.3	3.9	—	93.8	12.1	82.6
Last Child Too Young	1.8	2.0	2.2	—	98.6	43.4	56.6
Economic Difficulty	2.2	2.5	2.7	16.3	76.7	11.1	87.1
Housing Difficulty	1.9	2.6	3.1	33.3	59.7	13.3	73.3
Hyperemesia	2.0	2.3	2.3	17.9	74.8	12.7	85.5
Tuberculosis, All Forms	1.4	1.4	1.9	26.9	67.3	8.9	85.6
Sickness, Eugenic Law	2.1	2.6	2.6	17.2	74.5	14.3	83.7
Other Specific Disease	2.3	2.5	2.4	10.2	79.6	4.8	95.2
Sickness of Husband	2.0	2.3	1.8	9.7	83.9	8.7	87.0
Protection, Maternal Health	2.3	2.2	1.6	7.4	82.8	13.6	86.4
Hereditary Disease	0.5	—	—	50.0	40.0	—	—
Not Yet Married	0.0	0.2	—	98.1	0.9	5.0	95.0
Conception by Force	0	—	—	100.0	0.0	—	—
Special	1.4	2.3	2.5	37.1	54.3	14.5	78.2
Unspecified	2.1	2.4	3.3	11.1	82.2	32.0	68.0
Total	2.4	2.8	3.0	13.1	81.0	14.9	82.1

[a] These columns concern the immediately preceding pregnancy of women whose first induced abortion was included in the 1953–1954 survey.
[b] These columns concern the immediately preceding pregnancy of women whose second induced abortion was included in the 1953–1954 survey.

carried their pregnancies to higher months of gestation prior to induced abortion.

The statement that children were already excessive was used by older women. As would be expected, the average size of family was already large.

The women who had induced abortions for first pregnancies offered housing difficulties and tuberculosis as reasons, in addition to various special reasons. Such reasons as "not yet married," "conceived through assault," or "fear of heredity" were used primarily by those who were terminating first pregnancies in induced abortion. When the abortion was a second one, other reasons predominated, including the statement that the previous child was too young, tuberculosis, other diseases, and the illness of the husband.

In an earlier field study, Dr. Koya and his collaborators reported the reasons for induced abortions among the women included in their study.[11] Their conclusion was that the underlying reasons for not wanting more children, as for wishing to postpone having another child, were economic. Although it was usually not possible to assess the seriousness of the health reasons given by the women in the course of the interviews, it was believed that most of the reasons were valid.

The percentage distribution by major groups of reasons in the study by Dr. Koya and his collaborators was as follows:[12]

Reason	*Percentage*
Principally Health	17.1
Primarily for Spacing	16.6
Mainly Economic	50.5
Primarily Lack of Desire for More Children	13.3
Other	2.5

The present writer retabulated the material from the earlier

[11] Koya, Y., et al: Preliminary Report of a Survey of Health and Demographic Aspects of Induced Abortion in Japan. *Archives of the Population Association of Japan,* 1953, No. 2, pp. 3–5. *Also* A Survey of Induced Abortion in Japan and Its Significance. Milbank Memorial Fund *Quarterly,* July, 1954, XXXII, No. 3, pp. 282–293.

[12] Koya, Y., and Muramatsu, M.: *op. cit.* This tabulation refers only to the first abortion that the woman had.

study of Dr. Koya and his colleagues according to the codes used in this survey. The results are given in Table 7. Dr. Koya's study secured information on abortions performed from August, 1949 to July, 1950. It is natural, therefore, that the women were older and the families larger than those of the present survey. These factors may account for the greater predominance of health reasons in Dr. Koya's study than in ours. The striking thing, though, is the general similarity of reasons in the two surveys.

It seems that perhaps 15 to 20 per cent of induced abortions are desired principally for health reasons. Economic reasons are direct principal reasons only in about 15 per cent of the cases. Child spacing is a major factor in about 15 per cent of the cases.

The fact remains that Dr. Koya's interviewers believed that economic factors were predominant in more than half of the cases. Dr. Sutter's analysis of induced abortions in a district of Paris may help to clarify the situation.[13] Dr. Sutter found that economic and psychological motivations were combined in 51 per cent of the cases, whereas only 11 per cent were for economic reasons only. It may be possible to interpret the emphasis on the priority of economic difficulties by Dr. Koya and his colleagues in a similar way, that is, that motivations were interlocked. The classification rule that we used selected out only what seemed to be pure economic reasons.

Conclusions

Questionnaires mailed to designated physicians and returned by them provided reproductive histories of 6,174 women who had an induced abortion in the survey period, the majority of them between December, 1953, and August, 1954. Although there are biases in region, type of institution, and perhaps in type of case reported, the data are more detailed and probably more representative than those of the official registration reports.

Abortion was not an aberrant phenomenon, for most of the

[13] Sutter, J.: Results d'une enquete sur l'avortement dans la region parisienne. *Population* 1950, 5, No. 1, pp. 77–102.

Table 7. Reasons for induced abortions by order, reports of designated physicians and Dr. Koya's study. Per cent distributions.

Reasons	Order of Induced Abortion[a]							
	First		Second		Third and Fourth		Total	
	Dr. Koya's Study	Designated Physicians	Dr. Koya's Study	Designated Physicians	Dr. Koya's Study	Designated Physicians	Dr. Koya's Study	Designated Physicians
Spacing	18	18	15	10	9	7	17	15
Too Many Children	27	25	29	32	41	43	28	29
Economic Difficulty	14	13	24	17	12	15	16	14
Health	23	17	20	17	17	15	22	17
Special	3	3	3	4	7	3	3	3
Other Reasons[b]	15	24	9	19	14	16	15	21
Unspecified	—	1	—	2	—	2	—	1
Total	100	100	100	100	100	100	100	100

[a] This tabulation includes the first to the fourth abortions in the reports of the designated physicians (this study), and all induced abortions in Dr. Koya's study.

[b] Other combinations of reasons in Dr. Koya's study, and other reasons in our material. They both exclude special reasons stated explicitly by the woman.

women terminating pregnancies in this way in 1953 and 1954 were in the central childbearing years from 25 to 34 and in the first decade of their marriages. Most pregnancies were third to fifth, though one-fifth were first or second pregnancies. Almost two-thirds of the induced abortions were first order, while another one-fourth were second order. There were women who had repetitive abortions reported, but only 12 per cent of all abortions reported in the 1953–1954 survey were third or higher orders. However, in more than nine-tenths of the cases, the pregnancies terminated by fourth or higher order abortions followed pregnancies that had also been terminated by abortions.

Separate analysis of the current and the earlier abortions of the women in the survey showed general similarities in the characteristics of the women at the successive abortion orders and in the characteristics of the abortions in relation to the terminations of previous pregnancies.

The influence of the recent rapid diffusion of contraception on abortion is suggested by the fact that the average number of living children was greater at each order of abortion for the earlier abortions.

The reasons given by the women varied with age, marital status, previous pregancy record, and previous abortion experience. Reasons were interrelated, and no one was predominant. Health factors and economic difficulties were each predominant in about a sixth of the cases. A combination of the various reasons that said essentially that another child was not wanted accounted for about half the reasons given by the women having abortions in the 1953–1954 survey.

Comparisons with earlier studies by Dr. Koya and his associates corroborate the evidence from the present study that psychological and economic factors are related rather than alternative reasons.