# A STUDY OF INDUCED ABORTION IN JAPAN AND ITS SIGNIFICANCE

YOSHIO KOYA, M.D.[1]

## PART I: INTRODUCTION

SINCE promulgation of the Eugenic Protection Law in July, 1948, and the passage of liberalizing amendments in May, 1949, the number of induced abortions has increased greatly. Even if only the reported abortions were counted, the total number was 246,104 in 1949; 489,111 in 1950; 638,350 in 1951; and 805,524 in 1952. The recent figure would probably reach some one million several hundred thousand, if the "unreported, secretly performed" abortions were included.

This phenomenon is surprising and striking not only to the Japanese people but also to foreigners. The Japanese Government fearing its undesirable effects upon mothers' health among other things, decided upon a fundamental policy to replace this widespread resort to abortion with the practice of contraception as far as possible. This policy is based on the decision made in the Cabinet Council of October 26, 1951, which since then has been implemented by various measures toward this aim.

Can we, then, expect successful results out of these Government measures? In this respect, I am not necessarily optimistic, because, there has been no evidence as yet which indicates a decline in the number of induced abortions performed.

Under such circumstances, there has appeared a group of people recently which criticizes these measures claiming that they have brought about more induced abortions rather than a suppression of them. Also, there are some other groups with different opinions. For instance, some say that it is due to the

[1] Prepared in collaboration with Minoru Muramatsu, M.D., Sakito Agato, M.D., and Tomohiko Koya, M.D. Dr. Yoshio Koya is Director, and his collaborators are on the staff of, the Department of Public Health Demography, Institute of Public Health, Tokyo, Japan.

*Note:* The original Japanese article on this subject appeared in the *Japanese Medical Journal* (*Nihon-iji-shimpo*), No. 1539, October 24, 1953. This English translation is based upon that article, but it does not correspond to the original precisely.

tendency among practicing gynecologists to want to earn more money these days, or others want to interpret the situation as a manifestation of moral decay in the Japanese society.

The author himself, however, does not consider these things so simply. Of course, there must be a number of cases where the above-mentioned reasons hold true, and yet he does not believe that they precisely represent the real explanations as to the most deeply underlying reasons for the continued increase in abortions. More fundamentally there must exist some socio-economic or ideological reasons. In any event, this phenomenon requires more thorough investigation, because, it is through such means that we can bring these differing opinions on this point along the right direction, and also that we may be able to find out better measures for preventing the further increase of abortions. Furthermore, such investigation and analysis will undoubtedly contribute to the progress of demography peculiar to Japan since this is an extraordinary phenomenon which has abruptly appeared in modern Japanese society.

These considerations were the main motivation which led us to attempt to conduct the present study since January, 1952. Consequently, our survey was bound to be intensive and of small coverage rather than extensive and of large coverage. For that reason, the districts surveyed were confined only to Keihin and Tokai regions (regions including such prefectures as Tokyo, Kanagawa, and Shizuoka), and the contents of the questionnaire used were so detailed that there were about several dozens items questioned. The samples of the questionnaire were sent to the United States before the final printing was made in order to secure opinions from two specialists in this field so that it might be as complete as possible.

What is particularly important to mention here, in the next place, is the methods employed in our house-to-house interviews. In the present survey, no other persons, such as public health nurses, were relied upon. Only the three medical doctors on the staff of the Department of Public Health Demography (two were gynecologists) conducted the personal interviews.

The districts surveyed were all in Keihin and Tokai regions, and approximately 500 families were interviewed in each of three geographical groups—large cities, medium-sized cities, and rural areas. When the analysis of data was made, however, the number of families tabulated was reduced to 462 in large cities, 464 in medium-sized cities and 456 in rural areas (1,382 families in all) because of the necessary omission of some ineligible families from each of the three groups. The survey was limited to those women who had their first induced abortion approved by a local Eugenic Protection Committee under Article 13 of the Eugenic Protection Law during the period August 1, 1949, to July 31, 1950. In the main, this article of the law permitted induced abortion with approval when "pregnancy or delivery might markedly injure the health of the mother because of her physical or financial condition".[2]

## Part II

What I am intending to describe in the present report is somewhat of a preliminary, generalized nature, but it is of great importance if viewed from the motivation and purpose whereby the present study was started. The results of the detailed analyses of data will be published later.

The first thing we should like to know is in which of the different communities, large cities, medium-sized cities, or rural areas, induced abortion is most prevalent, and what the differences are in magnitude among the three groups. Although the data from our survey are not appropriate to answer these questions, some interesting information was obtained in this respect. That is the information which can be derived from Table 1, which represents the distribution of 1,382 wives by the number who had repeated abortions.

In rural areas, 86.0 per cent had induced abortion only once, whereas in medium-sized cities the figure is 77.4 per cent and in large cities, 69.1 per cent; thus, the proportion decreases step-

[2] In May, 1952, the Eugenic Protection Law was amended in regard to the procedure for obtaining an abortion, but not significantly in regard to the reasons.

| Size of Community | Number of Induced Abortions Experienced | | | | | |
|---|---|---|---|---|---|---|
| | Total | One | Two | Three | Four | Five |
| | Percentage distribution | | | | | |
| Total | 100.0 | 77.4 | 18.5 | 3.4 | 0.6 | 0.1 |
| Large Cities | 100.0 | 69.1 | 24.4 | 5.2 | 1.1 | 0.2 |
| Medium-Size Cities | 100.0 | 77.4 | 17.9 | 4.1 | 0.4 | 0.2 |
| Rural Areas | 100.0 | 86.0 | 12.9 | 0.9 | 0.2 | 0.0 |
| | Number of wives | | | | | |
| Total | 1,382 | 1,070 | 225 | 47 | 8 | 2 |
| Large Cities | 462 | 315 | 113 | 24 | 5 | 1 |
| Medium-Size Cities | 464 | 359 | 83 | 19 | 2 | 1 |
| Rural Areas | 456 | 392 | 59 | 4 | 1 | 0 |

Table 1. Distribution of 1,382 wives with history of induced abortions, by number of induced abortions experienced.

wise. For the more general observation, the average number of induced abortions per woman has been calculated as follows:

| | |
|---|---|
| Large Cities | 1.4 times |
| Medium-Sized Cities | 1.3 times |
| Rural Areas | 1.2 times |

The fact that the rate of repetition goes up from rural areas to large cities can be considered an indication that the total number of women who perform induced abortion increases from rural areas to large cities.

Table 2. Age distribution of wives in the survey.

| Age Group | Number | Per Cent |
|---|---|---|
| Less than 20 | 7 | 0.5 |
| 20–24 | 125 | 9.0 |
| 25–29 | 305 | 22.1 |
| 30–34 | 388 | 28.1 |
| 35–39 | 369 | 26.7 |
| 40–44 | 177 | 12.8 |
| 45–49 | 11 | 0.8 |
| Total | 1,382 | 100.0 |

In what age group of women is induced abortion most likely to be resorted to? This is another question we want to answer. The 1,382 women were distributed by five-year age group on the basis of age at the time of abortion as is shown in Table 2.

Those women aged between 30 and 35 give the highest pro-

| Age Group | Basic Age Distribution Per Cent (a) | Age Distribution in Our Survey (b) | Corrected Age Distribution Per Cent $\left(\frac{b/a}{\Sigma b/a} \times 100\right)$ |
|---|---|---|---|
| Less than 20 | 8.8 | 0.5 | 0.9 |
| 20–24 | 14.6 | 9.0 | 10.0 |
| 25–29 | 19.1 | 22.1 | 18.7 |
| 30–34 | 17.3 | 28.1 | 26.3 |
| 35–39 | 15.8 | 26.7 | 27.3 |
| 40–44 | 13.2 | 12.8 | 15.7 |
| 45–49 | 11.2 | 0.8 | 1.1 |
| Total | 100.0 | 100.0 | 100.0 |

Table 3. Correction of age distribution of wives in the survey on the basis of the age distribution of all wives in the districts surveyed.

portion and the next group is 35–39 years of age, five years older than the first, and the third is 25–29 years of age which is younger than both of the above two groups.

It must be considered in this connection, however, that the fact that there were many women who performed induced abortion in particular age groups in a selected community may be merely the result of accidental concentration of women in those age groups in that community, or that the contrary may be true. In order to generalize this finding, the actual age distribution of women in that given community must be known. In our study, however, this information was not available.

Fortunately, however, the information as to the percentage distribution of the age of wives in 119 districts, including large cities, medium-sized cities and rural areas, was available from another survey we have conducted. On the basis of this distribution, our age composition was corrected as is shown in Table 3.

When such manipulation was done, the order of the first and second age groups was reversed, but the third has remained the same; in other words, it was found out that those who are most likely to resort to induced abortion are the wives between 35 and 40 years of age, the wives 30 to 35 years of age follow them, and that those wives aged 25 to 30 retain the rank of third.

Regardless of the reversal in the order between the first and

| No. of Living Children | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 7+ | Total |
|---|---|---|---|---|---|---|---|---|---|---|
| No. of Women | 37 | 201 | 245 | 270 | 227 | 178 | 118 | 72 | 35 | 1,382 |
| Per Cent | 2.7 | 14.6 | 17.7 | 19.5 | 16.4 | 12.9 | 8.5 | 5.2 | 2.5 | 100.0 |

Table 4. Distribution of wives in the survey by number of living children.

the second, it is to be noted that the women in the first and second groups, when summed up, represent approximately 54 per cent of the entire body. In other words, we may say that the majority of induced abortions in this survey were performed in relatively older wives, 30 to 40 years of age.

If it is assumed that this observation can be applied to the country as a whole, it is of great interest to note that it is women of middle age who are really responsible for the marked increase of induced abortions in Japan. This finding can, at least, indicate the fallacies involved in the observations that induced abortion has been mainly resorted to by extremely young women, or younger wives, as have been frequently claimed by various groups.

Incidentally, how many living children did these middle-aged women have at the time of abortion or last abortion? The answer is given in Table 4.

According to Table 4, the group of women with three children is largest, followed by the group of women with two children. This result agrees with the aforementioned distribution of women by age. Of course, these two distributions do not necessarily relate to the same individuals, but even so it is valid at least to say that women who are especially inclined to resort to induced abortion are those 30 to 40 years old, the age of mature discernment, having two or three children.

## Part III

All of the women included in this study must have had a strong reason to limit the number of their children, or otherwise they would not have had an induced abortion. In this connection, it is interesting to ascertain the proportion of

women who at one time or another had practiced contraception prior to having an induced abortion. Only 372 or 27 per cent had done so. This figure is an indication of the amount of knowledge about contraception which prevailed in the group of women in the study. However, since this classification does not take into account "faithfulness" of use, it cannot be used as an indication of the effectiveness of contraceptive methods. Also, there were some women who deliberately stopped contraceptive measures in order to become pregnant and then later, because of changed circumstances, had an abortion.

Much information was obtained concerning such things as reasons for practicing or not practicing contraception and sources of information. Detailed analyses of these data will be published later. Suffice it to say now that for those who did not practice contraception, indifference and lack of sufficient knowledge were the most important reasons for not doing so. For those who did practice contraception, magazines and newspapers were the most common source of information. These findings emphasize the need for more extensive and more authoritative educational measures to promote contraception.

## Part IV

Briefly speaking, the main reason for the great increase of abortions in Japan is the family economy. In other words, it is nothing but a reflection of the national economic situation on the individual household economy. This is the most essential finding obtained in the present survey, and there are a good many facts which endorse the validity of this understanding. For example, we made an exceedingly detailed questioning as to the direct motives which led these women to perform induced abortion. In relation to their first induced abortion, there were only 237 wives out of 1,382, or 17 per cent, who stated the reasons of abortion as principally health reasons; all other reasons given were related to the *fear* of difficulties in household financing in one sense or another.

In addition to these socio-economic reasons, there is a factor

of the sex of the living children which can also constitute a motive concerning the performance of induced abortion. Is there perhaps a tendency for a woman to be more willing to have an induced abortion when she has at least one male child among the children ever born to her and living at the time of abortion?

In a foregoing section it was shown that among the wives with induced abortions the group with three children was largest and the group with two children was next largest. In the distribution of the families by sex of children, can we find out any influence of selection? In today's Japan where the predominance of man over woman mostly still exists in her traditional family system, it may, probably, be pertinent to look into this particular aspect.

Of the 1,382 families in our study, there are 201 with one child, 245 with two children and 270 with three children. If these families are classified by the combination of sex of children, the results are those given in Table 5.

It can be noticed readily from this table that in each case, there are more families with only male children than those with only female children, and that, furthermore, there are more families with two boys and one girl than those with one boy and two girls in the case of three-child families.

Table 5. Distribution of wives with one, two, and three living children, by sex of children.

| Number of Living Children, By Sex | Number of Couples |
|---|---|
| *One-Child Families, Total* | *201* |
| Male Child | 108 |
| Female Child | 93 |
| *Two-Child Families, Total* | *245* |
| Two Males | 69 |
| One Male and One Female | 129 |
| Two Females | 47 |
| *Three-Child Families, Total* | *270* |
| Three Males | 39 |
| Two Males and One Female | 105 |
| Two Females and One Male | 91 |
| Three Females | 35 |

These differences, however, may or may not be due to mere sampling errors, and hence a more detailed statistical process is required to clarify this relationship. As one method of reasoning, it is to be expected that the observed number of families with male children would be higher than the theoretically expected number from the law of probability, if the selection because of this particular desire for male child is actually working. The theoretically expected number of families can be derived from the binomial expansion of $(p+q)^n$, where $n$ is the number of children, $p$ is the probability of a child being born as a boy and $q$ that as a girl. According to the statistics of the country as a whole, the values of 0.51 and 0.49 should be given to $p$ and $q$ respectively.

The author has thus made a comparison between the observed frequency distribution and the expected distribution by means of curve fitting, but the differences between the two did not prove to be significant, and chi-square test in each case turned out as follows:

| | |
|---|---|
| In the case of three-child families | P = 0.70 |
| In the case of two-child families | P = 0.21 |
| In the case of one-child families | P = 0.43 |

Can we, then, conclude from these results that the easy feeling of having had already at least one male child is not working at all in the motivation leading to family limitation? The answer is probably no. In spite of these relatively large values of $p$, the author wants to emphasize the fact that the distribution is weighted toward male children in each of these cases, which are the families where induced abortion is highly prevalent. If more families were included in our study, then the tendency for a greater number of abortions to occur in families with a male child probably would be statistically significant. However, since the difference is not great, the desire for a male child cannot be considered an important influence on the behavior of present-day Japanese parents in limiting the size of their families. Economic considerations are much more im-

portant. A great many social changes have occurred in the postwar period of Japan which have exerted strong influences in various respects, but what we can state definitively is that the common desire *not to lower even a little bit the present level of living* has been strengthened. In cities, in particular, there have appeared many temptations of a post-war nature. Moreover, in rural areas, they are beginning to be seriously concerned about the newly adopted system of equal inheritance. Under such conditions, it is quite natural for the people considering their own incomes to pay attention to the limitation of the number of children which is something in their own control.

The author believes firmly that here lies the greatest and deepest cause of the recent sharp rise in the number of induced abortions in Japan.

## Part v

Thus far considerations have been made on the causes and motivations of the tremendously widespread prevalence of induced abortion recently occurring in Japan. In the following paragraphs, let us make some observations on the influences of induced abortion.

The first problem to be discussed is the effect of induced abortion on the so-called family limitation, and the second is the effect it has upon mothers' health. The former presents further questions which are of great interest and are closely related to it—for instance, the influence of the induced abortion upon the reproductive process of Japan's population and the measurement of its magnitude—but only the factual analysis of the materials in respect to how soon pregnancy took place after the induced abortion will be touched upon here.

Of the 1,382 families surveyed, women who became pregnant again after abortion numbered 679, or 49.1 per cent. The classification of these women is given in Table 6.

The number of pregnancies would certainly continue to increase after the date of our interview, but the rate of increase would diminish acceleratively, as is indicated in the table, and

| Length of Time | No. of Women | Per Cent |
|---|---|---|
| Less Than 6 Months | 294 | 43.3 |
| 6–11 Months | 209 | 30.8 |
| 12–17 Months | 134 | 19.7 |
| 18–23 Months | 31 | 4.6 |
| 24 Months or Above | 11 | 1.6 |
| Total | 679 | 100.0 |

Table 6. Distribution of 679 wives in the survey who became pregnant after abortion, by length of time between abortion and the following pregnancy.

so, for the sake of discussion, it will be disregarded. From this table it is seen that almost half of the women in the survey became pregnant again within eighteen months after the induced abortion, and, moreover, approximately 43 per cent of those women who became pregnant again conceived within six months after the abortion. This fact certainly serves as advice which should go to the heart of the average woman who is likely to overestimate the effect of induced abortion on family limitation.

What are the effects of induced abortion, in the next place, upon mothers' health? In this respect there have been a few observations made to date, but the materials presented here are highly reliable and valuable in that they were collected by the three medical doctors through the detailed personal interview. One drawback with this survey is, however, that no fatal cases due to induced abortion were included, since we could only visit the women who were living at the time of interview.

The number of induced abortions tabulated in this respect was 1,712. Of this total, 903 cases were reported to have experienced no post-operative complications, whereas the remaining 809 (47.3 per cent) were reported to have had abnormal conditions of one kind and/or another. The figures are given in Table 7, classified according to order of abortion.

Aside from those who died after the abortion, it is to be noted that the number of women who experienced complications, severely or slightly, is much greater than was expected and that

| Order of Abortion | No. Without Complications | No. With Complications | Per Cent of Those With Complications |
|---|---|---|---|
| First Abortion | 731 | 620 | 45.9 |
| Second | 144 | 152 | 51.4 |
| Third | 25 | 30 | 54.5 |
| Fourth | 3 | 5 | |
| Fifth | — | 2 | |
| Total | 903 | 809 | 47.3 |

Table 7. Post-operative complications in relation to order of induced abortions among women in the survey.

the proportion of post-operative undesirable experiences increases with the number of abortions experienced.

An investigation has been made as to the kinds of these complications classified by the complaints made, but the detailed information will be given later in another publication. In any event, these figures tell us that induced abortions are being performed at a considerable risk of harmful after-effects. It is considered to be of urgent necessity to enlighten the general public of this fact, especially those who believe induced abortion to be a far simpler method of family limitation than contraception.

Acknowledgments

We are sincerely grateful to the Rockefeller Foundation for financial assistance in supporting this study. Also, acknowledgment must be made to Dr. O. R. McCoy of the Rockefeller Foundation who has given valuable advice and suggestions to us in the actual conduct of this survey, and to Dr. M. C. Balfour of the Rockefeller Foundation as well as Dr. I. B. Taeuber of Princeton University for their cooperation in reviewing the questionnaire used in the present study.

In addition, we are greatly indebted to the following health centers of Tokyo, Kanagawa and Shizuoka Prefectures for their incalculable assistance, without which our survey could not have been made: Nakano, Fukagawa, Shibuya, Tsurumi, Yokohama-Naka, Yokohama-Nishi, Yokosuka, Odawara, Atsugi, Hiratsuka, Shizuoka, Numazu, Yoshiwara, Fujinomiya, Shimizu, Kawasaki-machi and Mishima.